EXECUTIVE SUMMARY

Photo: T Kyker-Snowman, Quabbin Reservoir

MDC/DWM
Watershed Protection Plan Update
Quabbin Reservoir Watershed and Ware River Watershed

For Metropolitan Boston Water System and Chicopee Valley Aqueduct Communities
December 2000

**

Prepared by
Metropolitan District Commission/Division of Watershed Management

December 2000

Commonwealth of Massachusetts
Argeo Paul Cellucci, Governor

Executive Office of Environmental Affairs (EOEA)
Robert Durand, Secretary

Metropolitan District Commission (MDC)
David B. Balfour, Commissioner

Samantha Overton Bussell, Deputy Commissioner

Joseph M. McGinn, Esq., Division Director

Principal Authors:
MDC/DWM Quabbin Section

William E. Pula, P.E. Superintendent

Lisa C. Gustavsen, AICP, Regional Planner

MDC/DWM WPP Core Working Group

Acknowledgements:

MDC/DWM Senior Staff:
Patricia Austin
Ron Sharpin
John Scannell
Jeanne Wildman
Peter Church

MWRA:
John Gregoire
Steve Estes-Smargiassi

MDC/DWM GIS:
Paul Penner
Craig Fitzgerald
Phil Lamothe

MDC/DWM, Quabbin Section WPP Core Working Group:
Bob Bishop
Scott Campbell
Joe Cebula
Dan Clark
Peter Deslauriers
Jim French
Matt Hopkinson
Thom Kyker-Snowman
Jeff Lacy
Clif Read
Dave Small
Bruce Spencer

MDC/DWM, Quabbin Section WPP Core Working Group (continued):
Dave Supczak
Dave Worden
Dave Zaganiacz

MDC/DWM, Quabbin Section Contributors:
Paul Reyes
Peter Izyak

MDC/DWM Administrative Staff:
Linda Boulette
Donna Holden

UMass – Amherst , Department of Civil and Environmental Engineering:
Elisa Garvey
Dr. John Tobiason

Water Supply Citizen's Advisory Committee (WSCAC)

Quabbin Watershed Advisory Committee (QWAC)

Ware River Watershed Advisory Committee (WRWAC)

Editors:
Tamara Crocker
Joel Zimmerman

Contents

List of Figures i

List of Tables i

Acronyms iii

Executive Summary ES-1

Appendix A **MA DEP's Programmatic Milestones and Measures of Success vs. MDC/DWM's Watershed Protection Plan's Accomplishments and Activities**

Appendix B **MDC Watershed Protection Regulations (350 CMR 11.00)**

List of Figures

Figure	Title	Page
1-1	General Plan of the MDC-DWM/MWRA Water Supply System	ES-13
2-1A	MDC/DWM Quabbin Reservoir Watershed Sanitary Subdistricts	ES-15
2-1B	MDC/DWM Ware River Watershed Sanitary Subdistricts	ES-17
2-2	Land Use/Land Cover Classifications	ES-19
2-3	MDC/DWM Holdings and Other Protected Open Space Reflecting MDC/DWM Acquisitions Through January 2000	ES-21
6-1	MDC/DWM Bird Control Zone, 1999	ES-23
6-2	MDC/DWM Aquatic Wildlife Pathogen Control Zone, 1999	ES-25

List of Tables

Table	Title	Page
ES-1	MDC-DWM's Updated Priority Ranking of Potential Water Quality Impairment Sources	ES-4
ES-2	MDC-DWM Owned Land and Other Protected Lands	ES-5
ES-3	Selected MA Laws, Regulations, and Policies Providing Watershed Protection	ES-7

Acronyms

AMWD	Apparent Molecular Weight Distribution
APA	American Planning Association, the primary professional planners' organization
APR	Agricultural Preservation Restriction, a form of conservation restriction held by DFA
ASCS	Agricultural Stabilization and Control Service, an outreach office of USDA
AST	Above-ground storage tanks
ATV	All-terrain vehicles
AWWA	American Water Works Association, a professional water suppliers' organization
BCB	Boston City Base, a datum reference
BDOC	Biodegradable Organic Carbon
BMP	Best Management Practices, including source and treatment controls on non-point source pollution
BOH	Board of Health, a board of local governments
CCR	Consumer Confidence Report
CDM	Camp Dresser & McKee Inc., an engineering consulting firm
CE	Civil Engineering, a section of the MDC Division of Watershed Management
CEI	Comprehensive Environmental Inc., an environmental consulting firm
CERO	DEP Central Regional Office, located in Worcester
CFI	Continuous Forest Inventory
CFR	Code of Federal Regulations
CFU	Colony forming units
Ch. 61	Chapter 61, part of the Massachusetts law that addresses taxes for forest and agricultural land
CMR	Code of Massachusetts Regulations
CR	Conservation Restriction
CVA	Chicopee Valley Aqueduct
DEM	Massachusetts Department of Environmental Management
DEP	Massachusetts Department of Environmental Protection
DFA	Massachusetts Department of Food and Agriculture
DFW	Massachusetts Division of Fisheries and Wildlife, part of the Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement
DOC	Dissolved Organic Carbon

DPW	Department of Public Works, part of town and city governments
DWM	Division of Watershed Management, the Division of the MDC that is responsible for watersheds
DWS	Division of Water Supply, a Division of DEP
EAP	Emergency Action Plan
EIR	Environmental Impact Report
EOEA	Executive Office of Environmental Affairs
EPO	Environmental Police Office
EP	Environmental Planning, a section of the MDC Division of Watershed Management
EPA	Environmental Protection Agency
EQ	Environmental Quality, a section of the MDC Division of Watershed Management
ERP	Emergency Response Plan
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FTE	Full-time employee
FTN	FTN, an environmental modeling firm
FY	Fiscal Year
GIS	Geographic Information Systems
HHW	Household Hazardous Waste
ICR	Information Collection Rule
ICS	Incident Command System
IFA	Immunofluorescence assay
IPM	Integrated Pest Management
LAPP	Land Aqusition Policy Panel
LSP	Licensed Site Professional
LTBI	List of Sites to be Investigated
MASSGIS	A division of EOEA that manages state GIS data

MCP	Massachusetts Contingency Plan
MDC	Metropolitan District Commission
MDPH	Massachusetts Department of Public Health
MEMA	Massachusetts Environmental Management Agency
MEPA	Massachusetts Environmental Policy Act Unit
MGD	million gallons per day
M.G.L.	Massachusetts General Laws
MHD	Massachusetts Highway Department
MOU	Memorandum of Understanding
MWRA	Massachusetts Water Resources Authority
NALMS	North American Lakes Management Society
NOM	Natural Organic Matter
NPDES	National Pollutant Discharge Elimination System
NR	Natural Resources, a section of the MDC Division of Watershed Management
NRCS	Natural Resources Conservation Service, a federal agency under the USDA
NURP	National Urban Runoff Project, a study of stormwater pollutants
NQRLP	North Quabbin Regional Landscape Partnership
OAG	Office of Attorney General
O&M	Operations and Maintenance
PILOT	Payments in Lieu of Taxes
PCB	Polychlorinated biphenyl, a contaminant
PHC	Petroleum Hydrocarbons
QA/QC	Quality Assurance/Quality Control
QWAC	Quabbin Ware Advisory Committee
RAO	Risk Assessment Office
ROW	Rights of Way
SAGEE	Secretary's Advisory Group on Environmental Education

SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SWAP	Source Water Assessment Program
SWTR	Surface Water Treatment Rule
THM	Trihalomethane
TOC	Total Organic Carbon
TRCS	Transportation Release Controls Study
TSS	Total suspended solids
UIC	Underground Injection Control
USDA	U.S. Department of Agriculture
USFWS	US Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VMP	Vegetation Management Plan
WAC	Watershed Advisory Committee
WET	Water Education for Teachers
WPP	Watershed Protection Plan
WREEN	Worcester Regional Environmental Educator's Network
WRPP	Watershed Resource Protection Plan
WSC	DEP Bureau of Waste Site Cleanup
WsPA	Watershed Protection Act
WWTP	Wastewater Treatment Plant
YOP	Yearly Operating Plan

Executive Summary

Purpose of this Update

This document represents an update to the *Watershed Protection Plan for Quabbin Reservoir Watershed and Ware River Watershed*, developed in 1991 by the Metropolitan District Commission Division of Watershed Management (MDC/DWM) and the Massachusetts Water Resources Authority (MWRA). The Update summarizes MDC/DWM's comprehensive watershed protection program, highlights program accomplishments since 1991, presents additional watershed and reservoir data that are now available, and presents an action plan for the next five years. Watershed protection is the first of the fundamental elements of the MWRA Drinking Water Quality Improvement Strategy. Ensuring the best source of water quality is the foundation of this strategy, followed by major distribution system and storage facility improvements, and phased treatment improvements.

History of Watershed Protection

1908: Wachusett Reservoir constructed and filled. MDC makes initial watershed land acquisitions and begins water quality monitoring and forest management

1984: Division of Watershed Management (MDC/DWM) created within the Metropolitan District Commission

1980 - 1990s:
DWM expands professional staff and watershed programs.

1991: MDC/DWM and MWRA develop Watershed Protection Plans (WPPs)1991- present MDC/DWM implements WPPs

1998: MDC/DWM and MWRA update the WPP for Wachusett Reservoir Watershed

2000: MDC/DWM and MWRA update the WPP for Quabbin Reservoir Watershed and Ware River Watershed

MDC - a History of Protecting the Reservoirs

The MDC has been responsible for protecting the Metropolitan Boston water supplies, which are the Quabbin and Wachusett Reservoirs, since their construction. Historically, MDC has managed, operated, and maintained the water supply system, including its dams and transfer mechanisms, bridges, buildings, and other facilities. A map of the MDC/DWM-MWRA Water Supply System is shown in **Figure 1-1**.

In 1984, the former MDC Water Division was divided into the Division of Watershed Management (MDC/DWM) and the Massachusetts Water Resources Authority Waterworks Division. Under the DWM organization, the capabilities for watershed protection and management were expanded. The DWM has received significant financial and legislative support for its watershed protection activities. The DWM staff has increased in terms of numbers and disciplines (professional engineers, foresters, biologists, certified planners, etc.); and the staff compose a professional, trained team dedicated to watershed protection.

In 1991, DWM and MWRA prepared the Watershed Protection Plans (referred to as 1991 Plans or WPPs) for Quabbin Reservoir/Ware River Watersheds and for Wachusett Reservoir Watershed. These were the first formal written plans for management of the watersheds. This document, along with the 1998 Update for the Wachusett Reservoir watershed, represents a comprehensive update of the 1991 Plans.

Implementation of the 1991 Plans

Throughout the 1990s, DWM fully implemented the 1991 Plans, expanding its watershed protection program to control pathogens and other contaminants, addressing issues such as increasing recreational pressures for access on water supply lands and waters, wildlife, construction, on-site septic systems, agriculture, spills, and other issues. Comprehensive watershed sanitary surveys were conducted for each basin, forming the foundation for many of DWM's remediation and planning efforts. From a history of forestry and management of its own land holdings, DWM has grown into a steward of the entire watershed system. As a major watershed steward, DWM plays a positive role in controlling the land cover, land uses, and activities of significance for watershed protection.

Characteristics of Reservoirs and Watersheds

The Quabbin Reservoir contributes more than 50% of the Wachusett Reservoir's annual inflow. Quabbin Reservoir's elongated shape and large size result in long detention times, and significant dilution and settling of tributary inflows. This long reservoir has two main longitudinal sections linked by a narrow channel, the Enfield Channel. The Quabbin Reservoir's volume capacity is 412 billion gallons, and its surface area is 39.4 square miles. The Quabbin reservoir's watershed area is 187 square miles. The maximum depth in the reservoir is 151 feet. The mean depth is 45 feet. Water quality of the Quabbin Reservoir is excellent. The reservoir has very crystalline water with low turbidity, bacterial counts, algal densities, and nutrients. The detection of the pathogens *Giardia* and *Cryptosporidium* at the reservoirs' intakes has been very low, with no confirmed *Cryptosporidium* or confirmed *Giardia* samples.

The Ware River and its tributaries also have good water quality. All tributaries exhibit more variation in water quality compared to reservoirs and aqueduct intakes. Generally, reservoirs and lakes often have "cleaner" water quality than their tributaries since the water bodies provide settling. Turbidity levels and fecal coliform bacteria concentrations in the tributaries and in the Ware River fluctuate in response to storm flows and other conditions. Water quality in this watershed is typical for tributaries in sparsely developed areas of New England.

The two typical land cover types in the watersheds of the Quabbin Reservoir and Ware River are forests and wetlands, collectively totaling 87% of the Quabbin Reservoir watershed (excluding the reservoir surface area), and 75% of the Ware River watershed. The largest remaining land use classes are residential use and agricultural use. Residential land use is generally low density. Commercial and other land uses are less significant in the watersheds. Although the watershed system is sparsely developed, the level of developed land is lowest in the Quabbin Reservoir watershed, and becomes more developed and populated eastward to the Ware River watershed. **Figure 2-2** shows the land use classifications throughout the Quabbin Reservoir watershed and Ware River watershed.

The Role of the Plan Update

In the years since the 1991 Plan, DWM has progressively increased its knowledge of the Quabbin Reservoir, Ware River, and their watersheds. During this time, concern over and understanding of health risks from water supplies has also increased within the water supply industry. Over the past decade, DWM completed many studies, increasing the available body of watershed and reservoir data. DWM and MWRA completed a hydrodynamic study for the Quabbin Reservoir. DWM has also conducted expanded water quality monitoring including pathogens, and has conducted studies of other indicator organisms in both the Quabbin Reservoir watershed and Ware river watershed. In addition, MDC/DWM has conducted biomonitoring, initiated various pilot projects such as stormwater Best Management Practices (BMPs), funded an agriculture inventory, developed a geographic information system (GIS) coverage at a parcel level of detail for all three watersheds, completed in-house wildlife surveys, and conducted watershed sanitary surveys.

The Plan Update uses this knowledge to provide a framework for prioritizing and implementing the complement of watershed protection activities through the definition of water quality goals (see box), articulated watershed protection goals, and defined geographical protection zones. The Plan Update meets the Federal and State requirement of minimizing the potential for contamination by *Giardia* cysts and *Cryptosporidium* oocysts in the source water.

DWM has defined zones for its watershed protection practices in all three watersheds. MDC/DWM has historically used four Sanitary Districts in each watershed. Each District is comprised of tributary sub-basins (**Figure 2-1A & B**). MDC/DWM also has intake protection zones around the Ware River intake and Chicopee Valley Aqueduct in which unauthorized access is prohibited.

Water Quality Goals

Primary Goals:

- To prevent waterborne disease
- To meet the source water coliform criterion
- To maintain a high quality source water

Secondary Goals:

- To reduce/control nutrient inputs to the reservoirs
- To reduce the risk of a chemical or hazardous material spill
- To control general pollutant transport into the reservoir

Assessment and Prioritization of Potential Water Contamination Threats

The 1991 Plan included an evaluation and ranking of water quality contamination sources. This Plan Update presents an assessment and threats ranking based , in general, on MA DEP's Source Water Assessment Program (SWAP) guidance. This Plan's threats rankings are based, in particular, on DWM's experience, studies concerning contamination sources completed in the last five years, and defined water quality goals.

The MDC/DWM's ranking, summarized in **Table ES-1**, shows some changes reflecting the shift of the water supply industry, and Federal and State drinking water regulations towards concern for waterborne microbial contaminants that can cause acute illness. While MDC/DWM and MWRA remain committed to reducing all potential contaminants into the reservoir and its watersheds, it is clear from drinking water industry research that control of microbial pathogens must be a top concern. Therefore, those activities involving potential exposure of human or animal wastes are high priority for control. Conversely, other types of pollution threats, such as underground fuel storage tanks are highly regulated by Massachusetts Department of Environmental Protection (DEP) and typically pose a low-level risk to large surface water sources.

Table ES-1
MDC/DWM's Updated Priority Ranking of Potential Water Quality Impairment Sources
January 2000

Potential Source of Contamination	*MDC/DWM Quabbin Section Priority 2000*
Wildlife - Birds	High
Wildlife - Aquatic Mammals	High
On-Site Septic Systems	Moderate
Agriculture	Moderate
Highways and Railways	Moderate
Stormwater Runoff	Moderate
Recreation/Public Access on Water supply Lands and Waters	Moderate
Local Land Uses/Activities	Moderate
Private Forestry (under approved Forest Cutting Plan)	Low
Unauthorized Activities	Moderate
State Regulated Sites/Activities	Low
Habitat Modification (erosion)	Low

Source: (MDC/DWM, 2000)

Effectiveness of MDC/DWM Watershed Protection Program

MDC/DWM and MWRA are committed to a strong watershed protection program for the MDC/DWM Quabbin Reservoir/Ware River/ Wachusett Reservoir watersheds (regardless of what treatment system is used). DWM has adopted a three-tiered approach to watershed protection:

1. Protect the most sensitive watershed areas through land ownership or agreements with landowners;

2. Work with watershed communities to protect resources while accommodating community needs; and

3. Correct existing sources that could cause or have caused contamination of any waters in the system.

Direct Control through Land Ownership – Protected Lands

Direct ownership of critical land in the watersheds ensures maximum control over land cover and land use, and provides the best protection of water quality.

DWM has in place an aggressive land acquisition program to add to its existing protected acreage. MDC/DWM's GIS-based land acquisition model was developed to determine and prioritize which remaining undeveloped parcels in the watersheds might offer the greatest protection to water quality. Annual land acquisition priorities are based, in part, on the results of this model. Since 1991, 14,637 acres of land have been added to MDC/DWM holdings to increase protection. The percentage of MDC/DWM-owned land in the Wachusett Reservoir watershed has increased from 7.9% in 1985, to 25.5% in 1998, or 29.6% if the reservoir's surface area is included. MDC/DWM currently owns 42% of the total land area of the three active watersheds: Quabbin Reservoir, Ware River, and Wachusett Reservoir. These MDC/DWM owned lands include all the high-risk lands which are directly surrounding the reservoirs. **Figure 2-**3 shows the distribution of MDC/DWM holdings as of January 2000.

In addition to the land held by MDC/DWM, over 17,000 acres in the Quabbin Reservoir watershed and over 13,000 acres in the Ware River watershed are protected from development by many other organizations and government agencies which own and maintain land as open space (**Table ES-2**). This includes other state agencies, notably the Massachusetts Department of Fisheries and Wildlife (MDFW), town conservation land including other water suppliers, privately owned lands in Chapter 61, 61A, and 61B status, and parcels held by land trusts and conservation groups.

Table ES-2 summarizes the MDC/DWM-owned and other protected lands in the watersheds. The sum of MDC/DWM-owned and other protected lands totals over 75% of the Quabbin Reservoir watershed lands, excluding reservoir surface area, and about 57% of the Ware River watershed.

Table ES-2

MDC/DWM Owned and Other Protected Lands

Watershed	*MDC/DWM-Owned as a % of the Watershed**	*Other Protected Lands as a % of the Watershed***	*Total Protected Lands as a % of the Watershed****
Quabbin Reservoir	57%	18%	75%
Ware River	37%	20%	57%
Wachusett Reservoir	26%	26%	52%

Source: (MDC/DWM - GIS, 2000)
* % of watershed area excluding reservoir surface.
** Includes lands owned by other State agencies, local government, and private entities.
*** Approximately 11.5% of public and private lands in the Quabbin Reservoir watershed is regulated by the Watershed Protection Act. In the Ware River watershed, approximately 17.5% of the watershed's private and public lands are regulated by the Act. In the Wachusett Reservoir watershed, approximately 17% of the watershed is regulated by the Act. These WsPA percentages exclude MDC/DWM owned lands including the reservoir surface areas.

In the next five years, DWM objectives are to continue acquiring lands with the $8 million available per year in Watershed Protection Act funds, applying FY2001 to purchases among the three watersheds. DWM will maintain, and improve, the methods and processes it has developed for the identification and prioritization of parcels, as well as for surveys, legal aspects, and transfers of the parcels.

Currently, the *MDC/DWM Quabbin Reservoir Watershed Land Management Plan – 1995-2004* is in full implementation on MDC/DWM owned lands. DWM has begun to prepare a 10-year Land Management Plan addressing all MDC/DWM-owned lands in the Ware River watershed, including forest and non-forest components. The Land Management Plan will document the foresters' inventory of forest composition and condition on MDC/DWM lands, and detail the schedule for needed management actions (such as regeneration, cutting, reforestation, and fire access roads) to establish and maintain a diverse, multi-layered forest which will promote long-term water quality protection. MDC/DWM's Land Management Plan will address vegetation management policies and practices on non-forested land, such as fields. The plan will spell out mowing frequency and grass height for various areas, a policy for reforestation of newly acquired parcels, and monitoring of conservation restrictions.

DWM will continue the Watershed Ranger program to patrol, educate, and enforce its policies in the watersheds and near the reservoir. Watershed Rangers will continue to implement the *Quabbin Reservoir Watershed Public Access Management Plan Update* (MDC/DWM, 1998) and MDC/DWM's *Public Access Management Plan Update for the Ware River Watershed* (MDC/DWM, 2000). MDC/DWM's Watershed Rangers will improve the tools for public access control, including installing additional easy-to-understand signs throughout the watershed and developing brochures.

DWM will continue and expand its contact with other owners of protected open space, including maintaining an up-to-date inventory of such lands and their management practices. DWM will continue to provide assistance to keep Chapter 61 lands in that protected status and work with owners of forested tracts of land to develop professional forest management plans.

Regulatory Control Through MDC's Watershed Protection Regulations and Public Education

The Quabbin Reservoir watershed and Ware River watershed have been protected for many years by general prohibitions on the taking or degradation of the waters of the watershed. In 1992, a more specific set of protections was passed by the Massachusetts legislature.

The Watershed Protection Act (WsPA) was passed in 1992, providing unique protection to the watersheds of the Quabbin Reservoir, Ware River, and Wachusett Reservoir (M.G.L. Chapter 36 of the Acts of 1992). The WsPA has been fully implemented since early 1995. The Act and its regulations (350 CMR 11.00) regulate land uses and activities in two critical areas. Within 400 horizontal feet of the reservoirs and 200 horizontal feet of tributaries and surface waters (the Primary Protection Zone), any alteration is prohibited. Note that MDC/DWM owns nearly 100% of the lands within 400 horizontal feet of the reservoir, and much of the tributary buffers as well. Between 200 and 400 horizontal feet of tributaries and surface waters and on certain other lands (the Secondary Protection Zone), specific activities are prohibited, and all development is scrutinized. Through the Act, MDC/DWM regulates 11,011 acres in the Quabbin Reservoir watershed and 10,824 acres in the Ware River watershed.

DWM staff work to administer the WsPA and its regulations, ensuring a protection buffer area between future development and waters of the watershed and prohibiting land uses of concern within the protective zones. From 1997 to 1999, DWM received and acted on 243 WsPA applications in the Quabbin Reservoir watershed and Ware River watershed. Approximately one-half of the applications are for accessory uses, additions, or redevelopment; one-quarter of applications are for new construction; and approximately one-fifth are requests for opinions on how a property is affected, with no activity proposed.

DWM has found the WsPA to be a strong tool to manage development and prevent improper activities in the most sensitive lands buffering water resources, i.e., the Primary and Secondary Protection Zones. In the next five years, DWM's primary objective pursuant to the WsPA, is to continue to implement, enforce, and uphold all provisions of the WsPA and its regulations.

Maximize Protection Provided by Body of State/Local Regulations

MDC/DWM and MWRA have developed a watershed protection strategy which supplements the direct ownership of the most sensitive lands by working with State agencies, communities, and individual landowners to ensure that the strong protection afforded by State and local environmental regulation is fully utilized. With this philosophy, MDC/DWM is at the forefront of a new approach to watershed management: forming true partnerships with watershed communities and using incentives and technical assistance to accomplish effective water quality protection.

Enforcement of State Regulations

State laws and regulations apply throughout the Quabbin Reservoir watershed and Ware River watershed. They serve as a significant control of potentially polluting activities on private lands. Selected Massachusetts environmental regulations are listed in **Table ES-3** below:

Table ES-3
Selected Massachusetts Laws, Regulations, and Policies Providing Watershed Protection

Act-Regulation-Policy	*Activity - Relevance*
Title 5	Regulates the siting, design, and inspection of on-site systems; provides a means for attaining adequate function from existing systems (via inspection at property transfer).
MEPA	Requires comprehensive environmental assessments and public review of major projects.
Wetlands Protection Act	Restricts the alteration and/or filling or wetlands; requires review of all projects within 100 feet of wetlands or within floodplains.
Rivers Protection Act	Establishes buffer zones around rivers and streams; within these buffers, development criteria apply.
Stormwater Policy	Address stormwater from development projects under the existing WPA Notice of Intent process.
Forest Cutting Practices Act Regulations	Requires filing of a cutting plan; mandates unaltered buffer strips; provides operational standards including stream crossings.

In addition to the Acts, regulations, and policies listed above, state agencies regulate activities and facilities that have potential to introduce contaminants to the environment through other measures, such as Pesticide

Regulations, Solid Waste Regulations and Massachusetts Contingency Plan (hazardous materials spill sites). MDC/DWM and DEP work together closely; in 1999 a protocol between MDC/DWM and DEP-CERO was signed to formalize the procedures that cooperatively ensure compliance with these environmental regulations. DWM is on site in the watershed, and can act as the "eyes and ears" for DEP to provide field visits to properties and facilities, guidance to landowners on how to comply with the regulations, and enforcement documentation to DEP.

Over the next five years, DWM aims to implement the enforcement protocol with MA DEP, to assist other agencies in fact gathering, to exchange information, and to expedite enforcement where needed.

Watershed Community Technical Assistance

DWM's ongoing program of watershed community technical assistance and outreach program to watershed town boards, who oversee many land use regulations, includes many elements:

- Review, revision, and/or development of by-laws, subdivision and other regulations;
- Presentation of workshops on planning topics to local boards and the public;
- Attendance at Board of Health and Conservation Commission meetings for the watershed towns and attendance at meetings of other boards (e.g., Selectmen, Planning Board upon request or when there is an agenda item important to DWM; and

Development of a grant program to sponsor projects such as growth management planning and land use studies.

Over $150,000 in direct funding and many hours of DWM staff time have been committed to technical assistance. These resources have affected every town in the watersheds of the Quabbin Reservoir and Ware River. Over the next five years, DWM will continue to provide direct technical assistance and comment on proposed developments at town board meetings, and will continue to develop and provide training workshops. Also, DWM will continue administering existing planning grants as well as developing and implementing a formal grants program to maximize watershed benefits from these funds.

Public Education

DWM conducts various educational and outreach efforts aimed at the watersheds schools, watershed residents, visitors, and the general public. DWM's Director is the state coordinator of Water Education for Teachers, or Project WET, a program to train teachers in environmental curricula. DWM's Interpretative Services staff conduct education programs in local schools, and interpretive programs for adults in the field. From 1996 to the present, 600 educational/interpretive programs have been held in the watersheds, with an estimated 33,000 participants.

In the next five years, DWM will continue its array of educational programs, increase the interpretive and on-site educational programs, and develop informational materials.

Controlling Potential Pathogen Sources – Pathogen Prevention Programs

MDC/DWM's top water quality goal for the metropolitan Boston water supply system is to minimize the risk of waterborne disease from pathogens. DWM has prioritized the control of land uses and conditions that may represent pathogen sources. Generally, potential sources of waterborne disease include human waste (e.g., sewage discharges, recreation), and animal populations (e.g., wildlife, farm animals, and domestic animals). DWM is actively participating in controlling these sources by minimizing potential for deposition of wastes in the watersheds, and then minimizing their transmission to the reservoir.

DWM has successfully developed the Bird Harassment Program, now viewed as a model for other water supply managers. Prior to 1992, roosting gulls were causing elevated fecal coliform concentration levels in water samples taken from the reservoir. DWM's program has dramatically reduced the fecal coliform bacteria counts at the Chicopee Valley Aqueduct (CVA) intake. MDC/DWM's Bird Harassment Program uses a variety of noise makers, distress calls, and visual objects to disturb birds landing or roosting on the reservoir. The harassment focuses on the defined MDC/DWM's Bird Control Zone, covering the area of the reservoir from the CVA intake to the Boat Mooring (Fishing Area #1/MDC/DWM Gate 8; see **Figure 6-1**). In addition to harassment, DWM biologists have successfully reduced the attractiveness of certain areas as habitat for birds, food sources, and nesting populations of geese and gulls.

DWM has defined an Aquatic Wildlife Pathogen Control Zone (see **Figure 6-2**), in which DWM conducts surveys for and removes animals of concern (e.g., beaver and muskrat). DWM is also modifying habitat to reduce attraction of the species to the area.

Within the next five years, DWM will continue to control the occurrence of gulls, geese, and other waterfowl in the Bird Control Zone through a combination of harassment, nest disturbance, and removal; and will expand its use of habitat modification methods. DWM will survey for and remove muskrat and beaver within the Aquatic Wildlife Pathogen Control Zone. Also, DWM biologists and engineers will continue to study the prevalence of pathogens in wild species, develop and use methods to identify pathogens as either human or non-human, and continually reassess the risk posed by wildlife sources and methods to control them.

Agriculture

DWM recently completed a review of agricultural sites in the watersheds and identified potential BMPs that could be implemented. DWM staff will address site-specific problems with smaller farms through the watershed sanitary survey process. In the next five years, DWM aims to implement agricultural BMPs at the high priority sites in the watershed, in cooperation with the Massachusetts Department of Food and Agriculture (DFA), the federal NRCS, DEP, and landowners. DWM's role will include participation on an Agricultural Advisory Group. DWM will also develop and implement an approach to assess and remediate, if needed, water quality issues from small-sized animal operations (e.g., backyard horse paddocks).

Wastewater Disposal

The watersheds have no point sources of wastewater, such as industrial or wastewater treatment plants, but areas of on-site septic systems were identified in the 1991 Plans as concerns that could impact water quality. MDC/DWM quickly focused resources on these areas, and has begun to implement remediation measures. In addition, DWM has several on-going projects to aid Boards of Health and DEP in addressing the remaining localized problems with on-site systems. These projects include beginning development of an on-site septic system database. DWM plans on continuing to develop more information concerning the condition of on-site systems and approaches to remediation, expand public education, and evaluate the agency's role in long-term management of on-site systems.

Stormwater

Stormwater is not a contamination source itself, but is a conduit for pollutant and sediment transport to tributaries and reservoirs. DWM recognizes stormwater management as an opportunity to use physical barriers and processes to provide pre-treatment of watershed flows prior to water entering the main body of the reservoir, supplementing the previously described source controls. DWM is completing the Wachusett Reservoir Stormwater Management Study, including modeling of subbasin stormwater loads and evaluation of stormwater BMPs. DWM has installed or implemented several BMPs to control stormwater throughout the watersheds. DWM is assessing the possibility of using wetland treatment cells for highway stormwater discharges.

The DWM's primary objective for the stormwater program in the next five years is to prepare an annual watershed based Stormwater Project List, bringing all the elements together in the context of monitoring and modeling results, and prioritizing the projects with an implementation schedule. The List will include stormwater BMPs on MDC/DWM property and priority BMPs organized by subbasin. Additional elements of DWM's approach to stormwater include encouraging town-wide stormwater management plans and conducting future studies and mapping initiatives necessary to support stormwater controls.

Visitor Sanitation

Since 1991, DWM has increased its capacity to manage visitor sanitation issues within its water supply lands open to the public, by installing approximately 22 portable sanitary toilets in high use areas. In the next five years, DWM staff will monitor and adjust its visitor sanitation program according to shifting visitor patterns and toilet functionality. In addition, DWM staff will continue its public education and outreach activities on visitor sanitation.

Watershed Protection Controls for Site-Specific Threats

Since 1991, DWM has enhanced its watershed controls over five categories of site-specific water quality threats.

Highways, Railways, and Utility Rights-of-Way

DWM's Transportation Release and Control Study surveyed the risks of stormwater runoff and accidental spills from roads and railways. MDC/DWM monitored the development of Vegetative Management Plans (VMPs) for rights-of way and monitored the resulting implementation of the rights-of-way Yearly Operational Plans (YOP). In the next five years, DWM will increase its involvement with YOP development, and will closely monitor activities in rights-of-ways.

Landfills and Underground Storage Tanks: Construction/Suspected Sites

DWM monitored closed landfills, investigated all known Underground Storage tanks, monitored construction and investigated other suspected sites in the watersheds through the sanitary survey process and the implementation of the WsPA. DWM will continue site inspections to monitor underground storage tanks, tank pulling, and closed landfills.

Emergency Planning and Response

MDC/DWM considers emergency planning and response to be a tool to minimize the threat of accidental spills, particularly in the watersheds' transportation corridors. DWM's Hazardous Materials Emergency Response (HMER) Study developed recommendations for the watershed communities' Emergency Response Plans. In the next five years, DWM plans to implement the HMER study's recommendations and foster increased training and equipping of local responders in the watershed communities.

Building and Road Construction

DWM increased its ability to control development impacts through the passage of the Watershed Protection Act (WsPA) and the consolidation of MDC's Watershed Protection regulations (350 CMR 11.00). In the next five years, DWM will continue to implement its regulations and foster interagency partnerships (e.g., MDC/DWM and MassHighway Department), as well as continue to monitor construction sites in the watersheds.

Infrastructure Inspection and Maintenance

MDC/DWM conducts systematic inspections and maintenance activities throughout its infrastructure (e.g., Winsor Spillway, the Goodnough Dike, MDC/DWM bridges and dams). In the next five years, DWM will monitor, inspect, maintain, repair, and improve its infrastructure as necessary for watershed protection.

MDC/DWM's Monitoring Programs

Water Quality

MDC- DWM conducts extensive routine water quality monitoring in the reservoirs and watershed locations, and collects non-routine samples to support research and enforcement actions. Data collected include physical parameters, chemical parameters such as nutrients, and microbiological parameters. MWRA's Deer Island laboratory provides low-level nutrient analyses for DWM watershed samples. These methods have not been readily available through commercial laboratories, and are essential for long-term understanding of nutrients in the system.

DWM Monitoring and Research

- Routine watershed stations and reservoir sites
- Pathogen monitoring
- Algae
- UMass study evaluating methods to differentiate the origin (e.g., human or animal) of microorganism
- Nutrient-algae studies

DWM also monitors for pathogens and algae. Several years ago, DWM began to supplement water quality monitoring with biomonitoring to better understand water quality of tributaries. These results show that the tributaries' biota are indicative of good water quality.

DWM has also initiated research that may prove to be very important to the understanding of the watershed and water system. DWM funded the University of Massachusetts to test the application of various analytical methods and parameters to differentiate between contamination from humans and contamination from animals. Initial reports have been promising. The work is focused on three tests: *Bifidobacteria*, *Rhodococcus coprophilus*, and *F specific RNA coliphage*.

Flows

Streamflow gages, stormwater flows, reservoir hydrodynamics, and watershed hydrology are part of DWM's flow monitoring program. An up-to-date understanding of reservoir hydrodynamics and watershed hydrology is important to the overall effectiveness of MDC/DWM's watershed protection program. In the next five years DWM seeks to further its understanding of streamflow gages, stormwater flows, reservoir hydrodynamics, and watershed hydrology.

Watershed Sanitary Surveys

DWM has been conducting sanitary surveys in the watershed since 1988. In 1997, DWM refined its survey approach to conduct a very comprehensive survey at the subbasin level. DWM developed an expanded method, pulling in data from field surveys, other DWM staff, other agencies, and town records. The watershed surveys are important to understand the significance of potential sources of contamination and to set priorities among and within the various watershed protection programs.

In the next five years, DWM will continue its routine monitoring which will be planned annually and includes: pathogen monitoring; algae monitoring; and special studies. DWM's special studies include any additional water quality sampling needed to investigate and/or document water quality issues throughout the watershed, such as a long-term study of the impact of sewering on tributary fecal coliform, and studies of stormwater quality from different land uses. DWM will conduct its expanded watershed sanitary surveys on a rotating schedule so that there is a complete investigation of every sub-basin every five years.

Action Plan

The MDC/DWM's Action Plan for the Quabbin Reservoir watershed and Ware River watershed lists DWM's anticipated watershed management activities for the next five years. These activities are presented in more detail in Sections 4 through 8 of this report. The Action Plan also shows key sections responsible for the general activities. During the five-year period covered by this plan update, DWM is likely to make adjustments to the Action Plan in response to any shifts in priorities, external factors such as actions by other agencies, and additional knowledge concerning the Reservoir and the effectiveness of watershed management methods.

Additional References

This plan update provides summary information of MDC/DWM's watershed protection program, including history, current status, goals, and activities planned for the next five years. More detailed information on a particular topic mentioned above may be obtained from MDC/DWM studies in the reference section of the complete WPP.

MDC/DWM's Commitment to Water Quality Protection

This Plan, together with professional staff and financial resources, represents a state-of-the art watershed protection program. DWM has an advanced understanding of the water quality, hydrology and hydrodynamics of the reservoir, potential pollution sources in the watershed, stormwater loads, and processes affecting tributary importance to the reservoir. With this on-site knowledge of the watershed system, DWM has crafted a program that meets the specific needs of the Quabbin Reservoir watershed and Ware River watershed. The Plan Update effectively protects and preserves the water quality of Quabbin Reservoir

GENERAL PLAN of the MDC-DWM/MWRA WATER SUPPLY SYSTEM

WATERSHEDS, RESERVOIRS, INFRASTRUCTURE and USER COMMUNITIES

Statute Miles

0 5 10 15 20 25

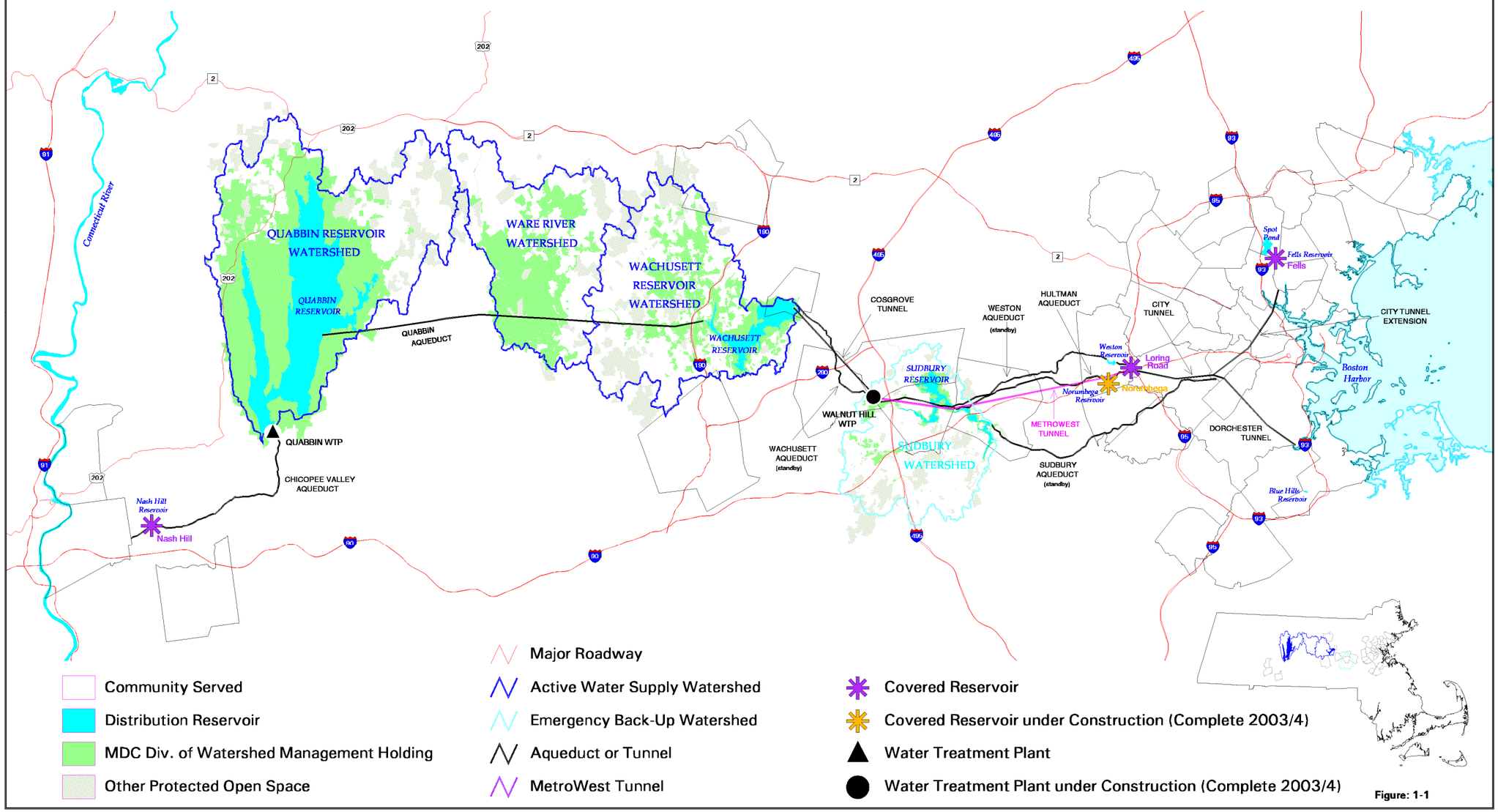


Figure: 1-1

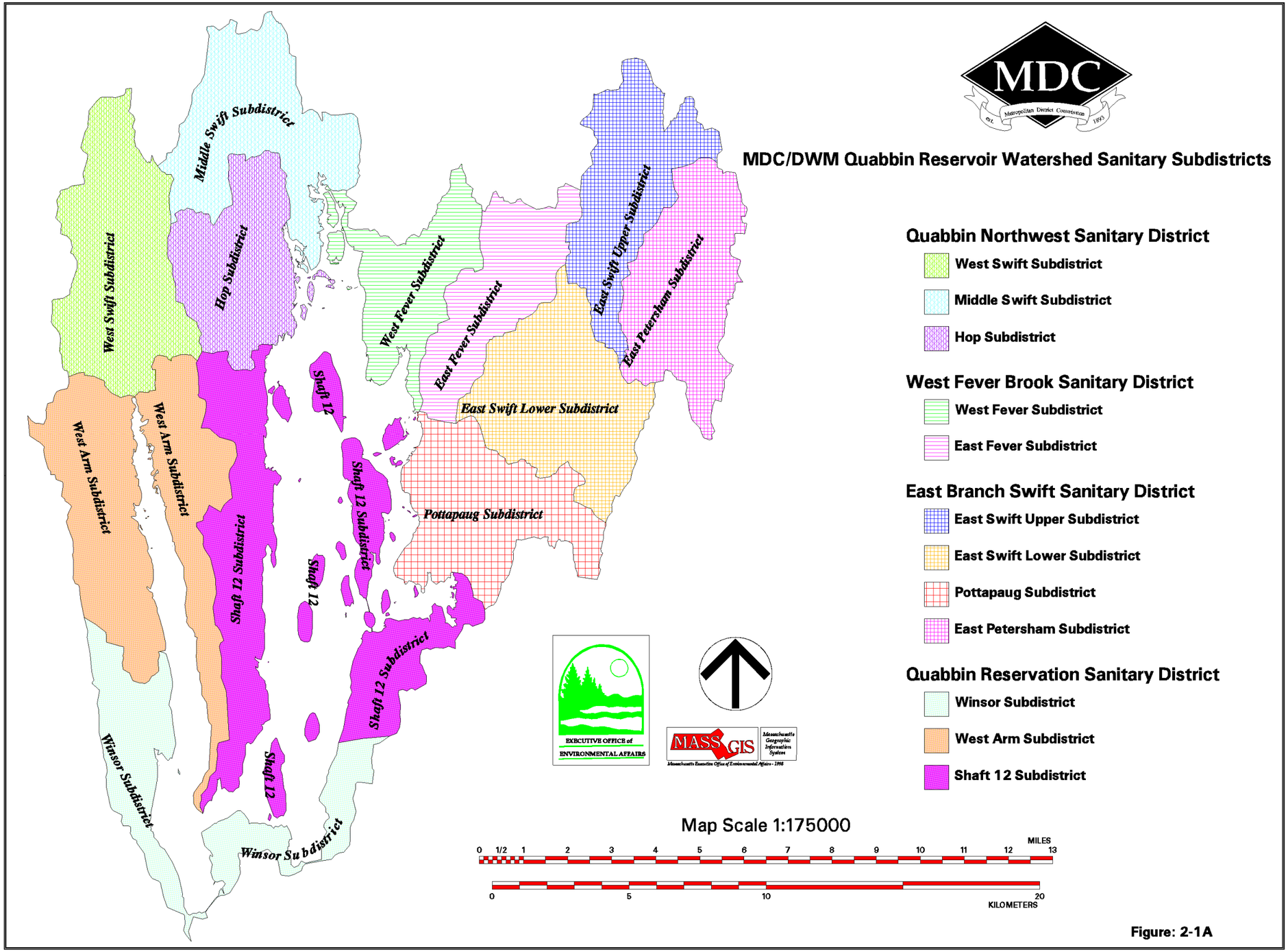

MDC
Metropolitan District Commission
est. 1895
MDC/DWM Quabbin Reservoir Watershed Sanitary Subdistricts
Quabbin Northwest Sanitary District
West Swift Subdistrict
Middle Swift Subdistrict
Hop Subdistrict
West Fever Brook Sanitary District
West Fever Subdistrict
East Fever Subdistrict
East Branch Swift Sanitary District
East Swift Upper Subdistrict
East Swift Lower Subdistrict
Pottapaug Subdistrict
East Petersham Subdistrict
Quabbin Reservation Sanitary District
Winsor Subdistrict
West Arm Subdistrict
Shaft 12 Subdistrict
Middle Swift Subdistrict
West Swift Subdistrict
Hop Subdistrict
West Fever Subdistrict
East Fever Subdistrict
East Swift Upper Subdistrict
East Petersham Subdistrict
East Swift Lower Subdistrict
Pottapaug Subdistrict
West Arm Subdistrict
West Arm Subdistrict
Shaft 12
Shaft 12 Subdistrict
Shaft 12 Subdistrict
Shaft 12
Shaft 12 Subdistrict
Shaft 12
Winsor Subdistrict
Winsor Subdistrict
EXECUTIVE OFFICE of ENVIRONMENTAL AFFAIRS
MASS GIS
Massachusetts Geographic Information System
Massachusetts Executive Office of Environmental Affairs - 1996
Map Scale 1:175000
0 1/2 1 2 3 4 5 6 7 8 9 10 11 12 13 MILES
0 5 10 20 KILOMETERS

Figure: 2-1A

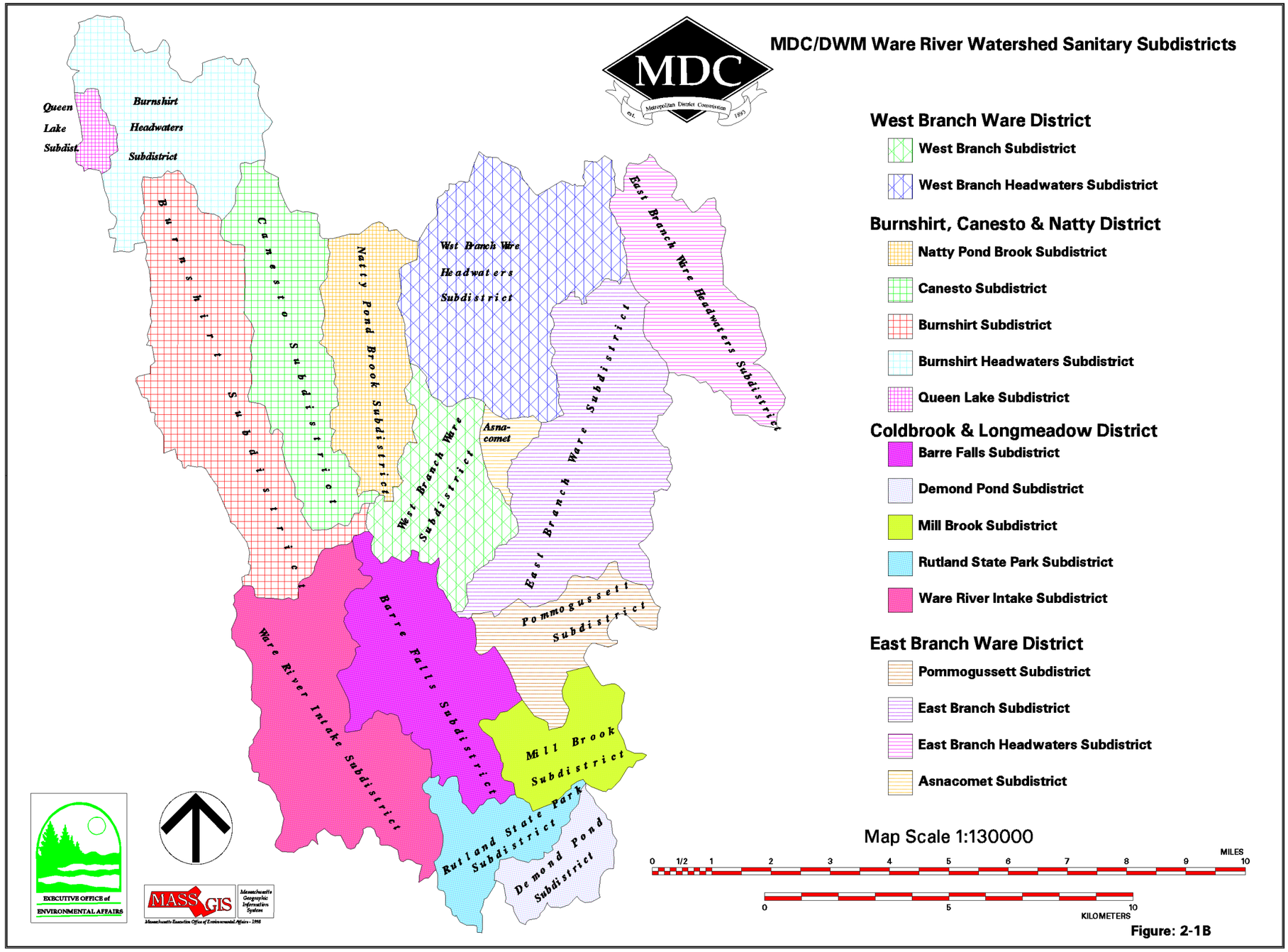

MDC/DWM Ware River Watershed Sanitary Subdistricts
MDC
Metropolitan District Commission
est. 1895
West Branch Ware District
West Branch Subdistrict
West Branch Headwaters Subdistrict
Burnshirt, Canesto & Natty District
Natty Pond Brook Subdistrict
Canesto Subdistrict
Burnshirt Subdistrict
Burnshirt Headwaters Subdistrict
Queen Lake Subdistrict
Coldbrook & Longmeadow District
Barre Falls Subdistrict
Demond Pond Subdistrict
Mill Brook Subdistrict
Rutland State Park Subdistrict
Ware River Intake Subdistrict
East Branch Ware District
Pommogussett Subdistrict
East Branch Subdistrict
East Branch Headwaters Subdistrict
Asnacomet Subdistrict
Queen Lake Subdist.
Burnshirt Headwaters Subdistrict
Burnshirt Subdistrict
Canesto Subdistrict
Natty Pond Brook Subdistrict
West Branch Ware Headwaters Subdistrict
East Branch Ware Headwaters Subdistrict
West Branch Ware Subdistrict
Asna-comet
East Branch Ware Subdistrict
Pommogussett Subdistrict
Barre Falls Subdistrict
Ware River Intake Subdistrict
Mill Brook Subdistrict
Rutland State Park Subdistrict
Demond Pond Subdistrict
Map Scale 1:130000
0 1/2 1 2 3 4 5 6 7 8 9 10 MILES
0 5 10 KILOMETERS
EXECUTIVE OFFICE of ENVIRONMENTAL AFFAIRS
MASS GIS
Massachusetts Geographic Information System
Massachusetts Executive Office of Environmental Affairs - 1998

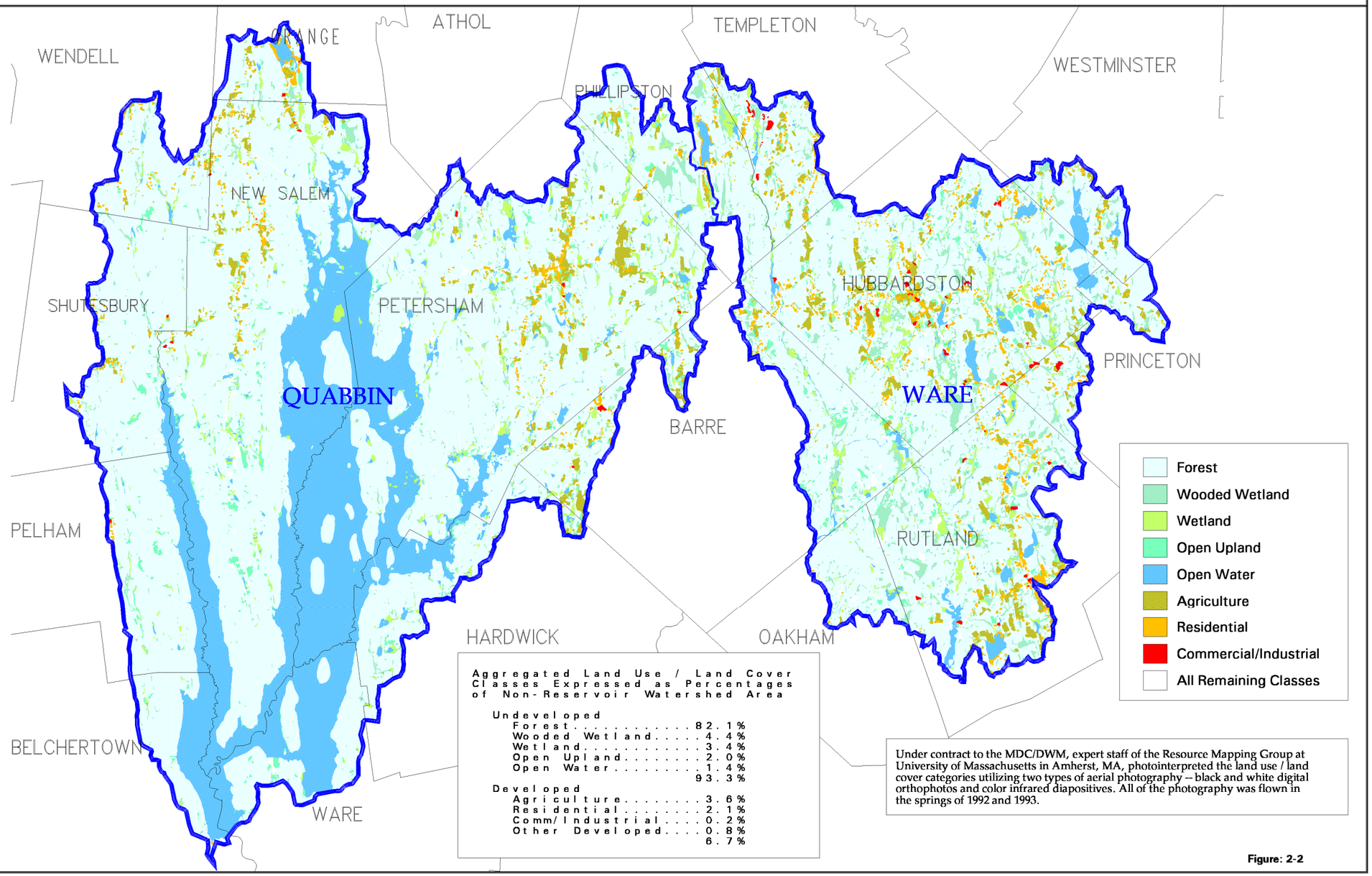
Figure: 2-1B

Land Use / Land Cover Classifications

Aggregated into Major Categories

Statute Miles

0 1 2 3 4 5 6 7 8 9 10



Aggregated Land Use / Land Cover Classes Expressed as Percentages of Non-Reservoir Watershed Area

Undeveloped	
Forest	82.1%
Wooded Wetland	4.4%
Wetland	3.4%
Open Upland	2.0%
Open Water	1.4%
	93.3%
Developed	
Agriculture	3.6%
Residential	2.1%
Comm/Industrial	0.2%
Other Developed	0.8%
	6.7%

Under contract to the MDC/DWM, expert staff of the Resource Mapping Group at University of Massachusetts in Amherst, MA, photointerpreted the land use / land cover categories utilizing two types of aerial photography -- black and white digital orthophotos and color infrared diapositives. All of the photography was flown in the springs of 1992 and 1993.

Figure: 2-2

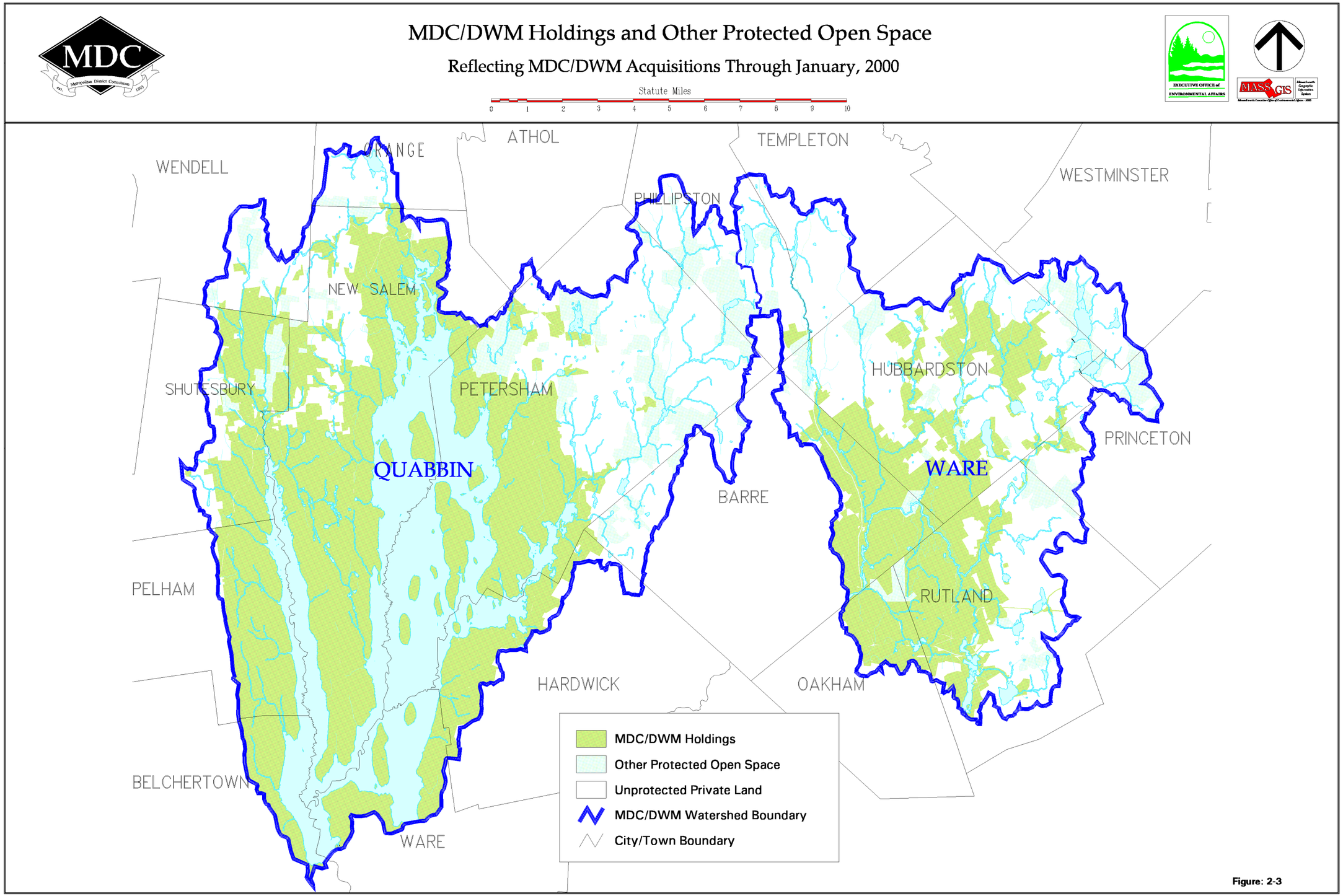

MDC/DWM Holdings and Other Protected Open Space
Reflecting MDC/DWM Acquisitions Through January, 2000
Statute Miles
0 1 2 3 4 5 6 7 8 9 10
WENDELL
ORANGE
ATHOL
TEMPLETON
WESTMINSTER
PHILLIPSTON
NEW SALEM
SHUTESBURY
PETERSHAM
HUBBARDSTON
PRINCETON
QUABBIN
WARE
BARRE
PELHAM
RUTLAND
HARDWICK
OAKHAM
BELCHERTOWN
WARE
MDC/DWM Holdings
Other Protected Open Space
Unprotected Private Land
MDC/DWM Watershed Boundary
City/Town Boundary

Figure: 2-3

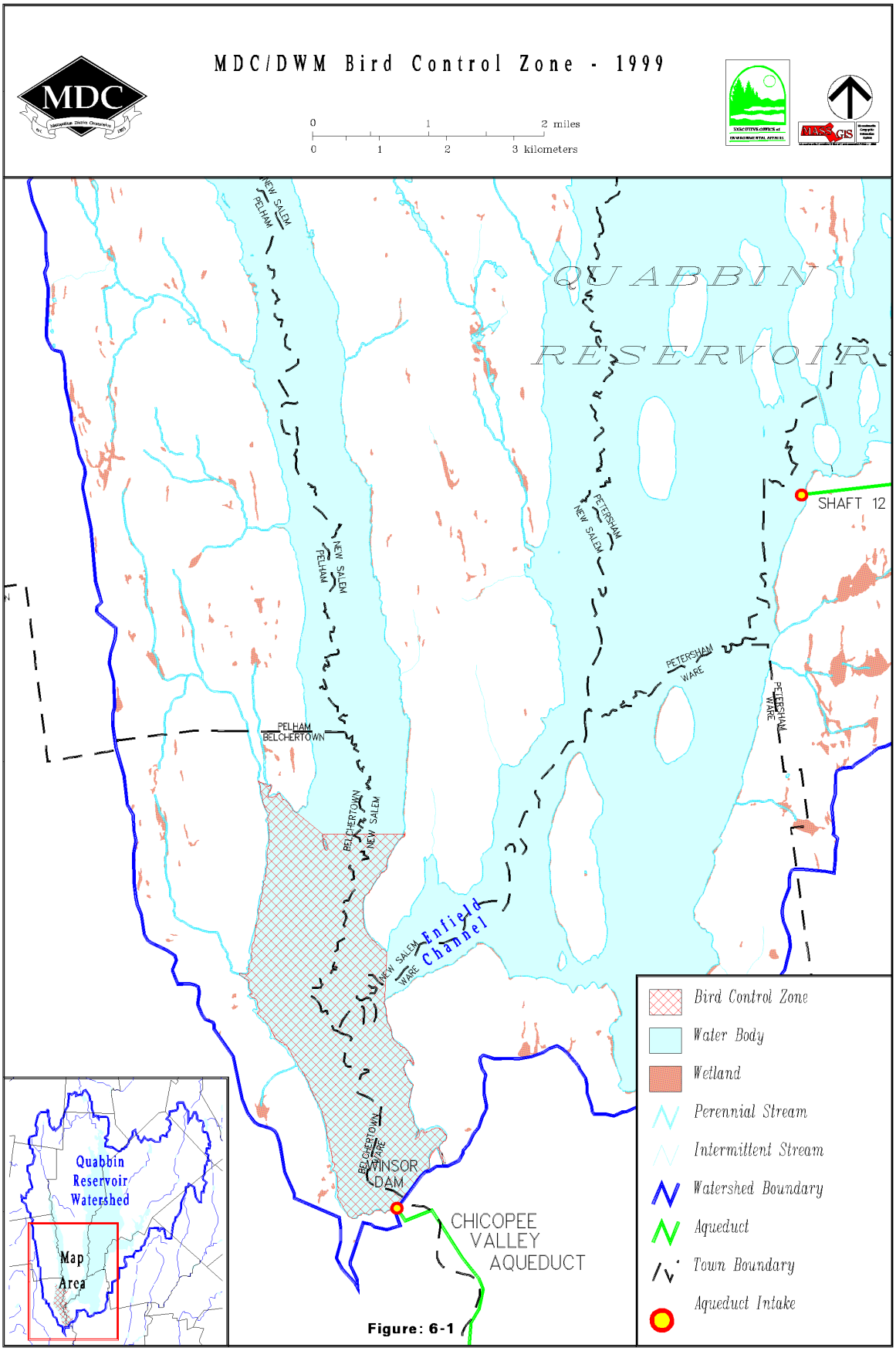

MDC/DWM Bird Control Zone - 1999
0 1 2 miles
0 1 2 3 kilometers
QUABBIN RESERVOIR
SHAFT 12
NEW SALEM
PELHAM
PETERSHAM
WARE
BELCHERTOWN
Enfield Channel
WINSOR DAM
CHICOPEE VALLEY AQUEDUCT
Quabbin Reservoir Watershed
Map Area
Bird Control Zone
Water Body
Wetland
Perennial Stream
Intermittent Stream
Watershed Boundary
Aqueduct
Town Boundary
Aqueduct Intake

Figure: 6-1

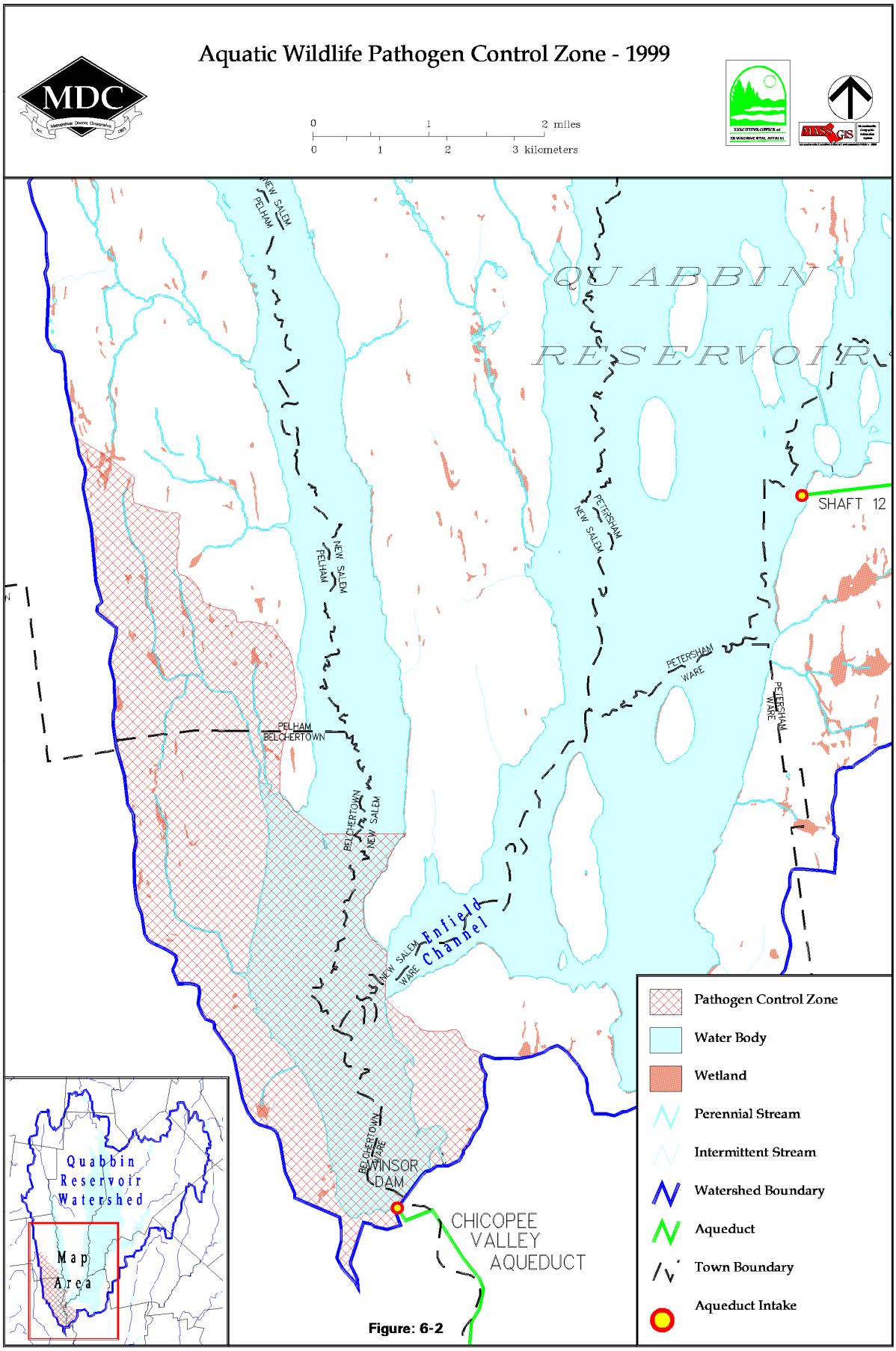

Aquatic Wildlife Pathogen Control Zone - 1999
MDC
0 1 2 miles
0 1 2 3 kilometers
QUABBIN
RESERVOIR
SHAFT 12
NEW SALEM
PELHAM
PETERSHAM
WARE
BELCHERTOWN
Enfield Channel
WINSOR DAM
CHICOPEE VALLEY AQUEDUCT
Quabbin Reservoir Watershed
Map Area
Pathogen Control Zone
Water Body
Wetland
Perennial Stream
Intermittent Stream
Watershed Boundary
Aqueduct
Town Boundary
Aqueduct Intake

Figure: 6-2

Appendix A - 1

DEP's Programmatic Milestones and Measures of Success vs. MDC/DWM Watershed Protection Plan Accomplishments and Activities

Item	DEP's Measures of Success for each Programmatic Milestone[1]	Status	MDC/DWM's WPP Accomplishments and Activities (Summarized)	WPP Section
1. Watershed Control – Programmatic Milestone				
Measures to Obtain Waiver:				
a.	Own most sensitive land/or control through deeded restrictions, easements, etc., or provide evidence of efforts to provide long-term protection of these lands through the enactment on adequate local bylaws, BOH regulations, rezoning, etc.	Meet	MDC/DWM owns the most sensitive lands (all shoreline). DWM owns 56.8% of the Quabbin Reservoir Watershed – excluding the reservoir's surface area – and 37% of the Ware River Watershed (Section 4.1); controls through its WsPA regulations an additional 11% of the Quabbin Reservoir Watershed and 17.5% of the Ware River Watershed – including tributary buffers (Section 5.1). Other state agencies, conservation organizations, and private parties hold another 18% of the Quabbin Reservoir Watershed and 20% of the Ware River Watershed as preserved and protected lands (Section 4.4). In addition, DWM provides extensive community technical assistance and is directly involved with local boards (Section 5.3) by providing technical support.	4.1, 4.4, 5.1, 5.3
b.	Provide criteria used to prioritize parcels for control measures (criteria to be considered, at a minimum, shall include historical, existing, or potential detrimental land uses prioritized according to risks, distance to intake, source,… etc.)	Meet	DWM continues to buy additional lands for long-term preservation. Since 1991, DWM has purchased and additional 1,343 acres in the Quabbin Reservoir Watershed and 3,031 acres in the Ware River Watershed (Section 4.1). MDC/DWM developed the Ware River Watershed Acquisition model based on the land acquisition model developed for the Wachusett Reservoir Watershed (Section 4.1).	4.1
c.	Parcels prioritized as high risk within DEP's Zones A, B, & C should be owned and/or deed controlled… The water supplier shall show successful efforts to control activities on other parcels identified with risks through ownership, deed control, or a variety	Meet	MDC/DWM does own the "high risk" lands, defined as the lands surrounding the reservoir and also has significant holdings along tributary buffers and throughout the watersheds (Section 4.1). MDC/DWM owned lands and other protected open space total 74% of the Quabbin Reservoir and 57% of the Ware River Watershed (Section 4.4) and these numbers continue to increase with on-going land acquisition activities. The remaining lands are privately owned, yet protected by the MDC Watershed	4.1, 4.4, 5.1

[1] MA DEP DWS (April, 1996) "Program to Measure Success of Watershed Protection Efforts Conducted by Public Surface Water Suppliers to Obtain, and Maintain a Waiver from Filtration - Draft #5" This document specifies DEP's process for assessing requests for filtration waivers and criteria – termed "programmatic measures" – to measure the success of the water supplier's watershed efforts.

Item	DEP's Measures of Success for each Programmatic Milestone[1]	Status	MDC/DWM's WPP Accomplishments and Activities (Summarized)	WPP Section
	of other protection options such as local regulations, bylaws, rezoning.		Protection regulations (350 CMR 11.00). Local, state, and federal protection regulations also protect these watershed lands (Section 5.1).	
Measures to Maintain Waiver				
a.	Present evidence to DWS during annual inspection that land use protection measures which have been enacted to address HIGH, MEDIUM, LOW impact activities are working to reduce impacts (i.e., through a description of the regulatory authority's procedures for reviewing proposed developments; summary of projects approved since the last annual inspection, etc.)	Documentation available at DWM offices	DWM's implementation of the various land use controls in its Watershed Protection regulations (350 CMR 11.00) provides extensive watershed protection from certain land use activities within private lands and waters and on MDC/DWM managed lands and waters in the watersheds (Section 5.1). DWM staff specifically reviews all development activities falling within the WsPA's protection zones according to the regulations. DWM staff with local boards (e.g., Conservation Commission) to support local land use controls. DWM maintains a library of all watershed town bylaws and receives monthly updates.	5.1
b.	Provide evidence to water supplier input to local regulatory review processes.	Documentation available at DWM offices	DWM fund studies and contributes technical expertise to revise watershed town subdivision by-laws. DWM staff provide regulatory and technical input at local board meetings (e.g., BOH or Conservation Commission), as needed (Section 5.3).	5.3
c.	Provide copies of any changes in local zoning regulations affecting water supply protection to DWS during the annual on-site inspection.	Documentation available at DWM offices	DWM maintains an up-to-date library on all watershed towns' bylaws, with a focus on those related to land use activities such as subdivision/residential development and earth removal.	5.3
d.	Provide evidence that newly identified impacts have been adequately addressed through land acquisition, deed control, or other protection measures. Documentation available at DWM offices.	Documentation available at DWM offices	DWM's expansive water quality monitoring (Section 8.1) and watershed sanitary inspections (a.k.a. sanitary surveys) (Section 8.3) programs to monitor the effectiveness of the watershed protection program, existing land use controls, and to ensure that any new water quality impacts are quickly identified and remediated. DWM also conducts target monitoring aimed at assessing the effectiveness of specific protection measures.	8.1, 8.3
e.	Provide evidence that newly identified impacts have been adequately addressed through land acquisition, deed control, or other protection measures.	Documentation available at DWM offices	There are very few land use activity impacts in the Quabbin Reservoir watershed and Ware River watershed as evidenced by water quality data (Section 2.4). These are limited to roosting gulls, addressed by the gull control program (Section 4.2). DWM has various programs in place to adequately control newly identified impacts. These programs include land acquisition, where necessary to halt a significant problem (Section 4.1), as well as targeted areas such as development, public access, wildlife,	2.4, 4.2

Item	DEP's Measures of Success for each Programmatic Milestone[1]	Status	MDC/DWM's WPP Accomplishments and Activities (Summarized)	WPP Section
			agriculture, wastewater disposal, storm water, rights-of-way, contaminated site, emergency situations, construction, gravel mining (Sections 4-8).	

2. Public Access/Recreation – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Develop public access/recreation policies and plan to control public access on water supply and on water supplier owned lands; plan shall include, at minimum, provision for prohibiting bodily contact with source as required by 310 CMR 22.20(7) of the Massachusetts Drinking Water Regulations; allowed uses; mechanisms for control; provisions for regular inspections, enforcement, education, and posting of signs	Meet	DWM developed the Quabbin Reservoir and Ware River Public Access and Recreation Policy and Plan in 1988, including the required provisions. Also, DWM has promulgated and enforces it own watershed protection regulations concerning allowed, restricted, and prohibited activities on MDC/DWM lands (Section 4.3). All allowed activities have access controls (e.g., location, time of access, etc.).	4.3
b.	Identify problem use areas on water supplier-owned lands which may require more frequent inspections.	Meets	DWM Watershed Rangers provide surveillance of MDC/DWM-owned lands and waters, in both the Quabbin Reservoir watershed and Ware River watershed. Patrols emphasize the more popular access locations (Section 4.3). DWM water quality monitoring and watershed inspection surveys identify any problems on both private lands and waters as well as on MDC/DWM-owned lands and waters (Section 8.1 & 8.3).	4.1, 8.1, & 8.3
Measures to Maintain A Waiver:				
a.	Provide evidence of implementation of management plan.	Documentation available at DWM offices	DWM's current implementation of its updated Plans includes modification of allowed/restricted activities and areas (see Plans), expansion of the Watershed Ranger program, public education/outreach, installation of access barriers, and plan evaluation. Additional measures, such as improved signage (gate, trail, and informational kiosks), are underway.	4.3
b.	Provide evidence (logbook) of sufficient inspections on water supplier-owned lands to monitor public use; enforcement of rules and resolution of violations	Documentation available at DWM offices	Watershed Rangers keep daily logs of public's use and activities on DWM lands and waters. In partnership with State Police, EPOs, and local police departments. Rangers continue to enforce public access regulations. The Chief Ranger complies statistics from each ranger's logbook each month (Section 4.3).	4.3
c.	Show proper upkeep and management of water supplier-owned lands	Meet	DWM has an acclaimed forestry program, aimed at increasing forest diversity to protect long-term water quality (Section 4.2).	4.2
d.	Update public access/recreation plan as needed.	Meet	DWM updated its 1988 public access management plan for the Quabbin Reservoir Watershed System in 1998 and for the Ware River Watershed in 2000. MDC/DWM will update these plans as needed (Section 4.3).	4.3

3. Wildlife Management – Programmatic Milestone				
Milestone to Obtain A Waiver:				
a.	Conduct wildlife inventory; provide assessment of vulnerability of watershed to wildlife populations and identify impacts on source;	Meet	DWM conducts several wildlife-focused inventories within the White-tailed Deer Impact Management Program -Quabbin Reservation) (Section 4.2), Bird Harassment Program , Bird Population Controls, and Aquatic Wildlife Controls (Section 6.1). DWM Assessment of bird and mammal counts are reported annually.	4.2, 6.1
b.	Develop management plan/policies for control of existing and potential wildlife impacts	Meet	DWM's current Wildlife Management Program and updated WPP include activities in the Deer Impact, Bird Harassment, Bird Population Control, and Aquatic Wildlife Control programs (Sections 4.2 and 6.1)	4.2, 6.1
c.	Provide evidence of elimination of any existing wildlife impacts through inspection logs, wildlife counts and monitoring data	Documentation available at DWM offices	The dramatic decrease in fecal coliform bacteria levels at the Quabbin Reservoir's CVA intake with the initiation and operation of the Bird Harassment Program has been well documented (Section 2.4 & 6.1). Similarly, the dramatic increase in natural regeneration and forest diversity with the initiation of the Deer Impact Management Program has been well documented (Section 4.2). Wildlife counts are kept on file; all monitored and controlled wildlife populations have declined (Section 6.1).	2.4, 4.2, 6.1
d.	Develop and implement water quality monitoring program to assess wildlife impacts	Meet	DWM's water quality monitoring is designed to capture all potential pollution sources, including wildlife sources. Specifically, monitoring of tributaries and in-reservoir sampling within the Pathogen Control Zones, serve to identify possible wildlife impacts; in addition, research and development of emerging laboratory methods for analyses is being conducted by UMass for MDC/DWM (Section 8.1).	8.1
Measures to Maintain A Waiver:				
a.	Present evidence (logbook) of regular inspections for wildlife impacts and address/eliminate impacts as needed.	Documentation available at DWM offices	DWM's wildlife biologist maintains records of all sightings, surveys, and actions (including animal removals). (Section 6.1)	6.1
b.	Continue conducting water quality monitoring program to assess wildlife impacts.	Meet	See Item d above.	8.1
c.	Update management plan as needed.	N/A	DWM has just updated in this WPP. DWM will update its management goals, objectives, and activities as needed. (Section 6.1)	6.1
d.	No disease outbreaks associated with wildlife.	Meet	There are no known waterborne disease outbreaks associated with the Metropolitan Boston water system.	2

4. Infrastructure Improvements – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Inventory and map or summarize municipal activities and facilities in watershed.	Meet	There are no WWTP discharges in the watersheds (Section 6.3). There are no open landfills in the Quabbin Reservoir watershed or Ware River watershed. Three historic landfills in the Ware River watersheds have been closed and capped in accordance with DEP standards (Section 7.2). DWM coordinates directly with municipalities (Sections 7.1 & 5.3).	6.3, 7.2, 7.1, 5.3
b.	Identify impacts on source from municipal activities and facilities.	Meet	See item a (above).	6.3, 7.2, 7.1, 5.3
c.	Provide adequate guardrails or other safety & accident prevention barriers where a road or railroad passes over or through a public water supply or tributaries.	Meet	There are no railroads or state highways that cross the Quabbin Reservoir. DWM has and continues to work with responsible parties (e.g., MassHighway, DFA, Providence & Worcester Railroad) to ensure adequate safety measures are maintained along railroad rights-of-way and state highways crossing tributaries in the watersheds. DWM recently conducted a detailed study of additional needs on roads *near* the reservoir (Section 7.1)	7.1
d.	Develop goals and implement actions to eliminate/modify municipal activities and facilities with impacts.	Meet	See Item a. Also, DWM has recently completed the Transportation Release Controls Study which recommends specific improvements to/near state highways to minimize potential for impact. Other municipal facilities, such as salt storage sites, are now covered and one is being relocated (Section 7.1)	7.1
e.	Provide map or summary of eliminated/relocated activities and facilities.	Documentation is available at DWM offices	Three municipal landfills in the Ware River watershed have been closed and capped in accordance with DEP standards (Section 7.2). Other municipal facilities such as salt storage sites are now covered and one site is being relocated (Section 7.1).	7.2, 7.1
f.	Identify, with time-line, infrastructure maintenance/improvements related to municipal water distribution and sewer collection systems.	Meet	There are no municipal distribution and sewer collection systems in the Quabbin Reservoir watershed.	6.3
g.	Provide evidence that water supply intake and any dams are properly designed, constructed, inspected, protected, and maintained, that pump-house is secured against unauthorized entry, and that any barriers are installed, as deemed necessary by the Division of Water Supply.	Documentation available at the DWM and MWRA offices	MWRA maintains three secured intake stations – Chicopee Valley Aqueduct Intake station, the Quabbin Aqueduct Intake station, and the Ware River Intake station. DWM maintains and inspections the dams, dikes, and select bridges in the watershed system (Section 7.5).	7.5

Measures to Maintain A Waiver:				
a.	Verify no new impacts to source from municipal activities/facilities.	Meet	DWM's extensive water quality monitoring program (Section 8.1), watershed sanitary inspection program (Section 8.2), community technical assistance (Section 5.3), monitor and ensure no new impacts from municipal activities.	8.1, 8.3, 5.3
b.	Provide evidence that infrastructure maintenance and improvements are proceeding per schedule.	Documentation is available at the DWM and MWRA offices.	DWM makes regular and systematic infrastructure inspections (Section 7.5).	7.5
c.	Provide evidence of additions to schedule, as needed.	Meet	DWM will update schedules as needed (Section 7.5).	7.5
d.	Provide evidence of continued inspections, maintenance, and repairs to water supply intake and any dams, and that pump-house continues to be secured against unauthorized entry.	Documentation is available at MWRA offices.	MWRA and DWM have ongoing maintenance programs in place.	7.5

5. In-lake Problems – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Identify any problems related algae, macrophytic vegetation, bacteria, turbidity, seasonal problems, etc.; show actions to eliminate identified problems.	Meet	DWM conducts extensive water quality monitoring (Section 8.1). Quabbin Reservoir's water quality is excellent. Algae exist at low levels in the reservoir (Section 2.4). DWM monitors nutrients and NOM, as well as conducts biomonitoring, in watershed tributaries and in reservoir locations to detect seasonal fluctuations (Section 2)	8.1, 2.4, 2
b.	Provide evidence of regular inspections and water quality monitoring program to identify any new or recurring problems	Meet	DWM conducts weekly water quality monitoring at various locations in the watersheds and on the reservoir (Section 8.1). In addition, DWM conduct watershed sanitary inspections on a rotating basis (Section 8.3).	8.1, 8.3
c.	Develop action plan/procedures to address any future problems in a timely manner.	Meet	DWM's extensive programs provide staff resources and capability to respond to any future problems. For example, DWM effectively controlled the roosting birds that were previously a problem for in-reservoir bacteria (Section 6.1). Also, MWRA has capability for localized copper sulfate application to control algae in the intake.	6.1
Measures to Maintain A Waiver:				
a.	Maintain lake health; provide evidence of continued regular inspections and log of monitoring data.	Meet	DWM's water monitoring program is on-going (Section 2). DWM conducts annual planning of most programs (Section 8.1)	2, 8.1
b.	Provide evidence of addressing any new or recurring problems in a timely manner.	Meets	DWM was able to address in-lake impacts from roosting birds (Section 6.1).	6.1
c.	Adjust monitoring locations as needed.	Meets	DWM adjusts locations as needed, conducting annual planning of the monitoring program. In addition, special studies are done to supplement routine monitoring (Section 8.1).	8.1

6. Sampling – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Meet all sampling requirements outlined in 310 CMR 22.00 and in the Watershed Protection/Control Program.	Meet	MWRA conducts regulatory source water quality monitoring at the intakes in accordance with 310 CMR 22.00 and the IESWTR. DWM conducts routine regulatory water quality monitoring throughout the watersheds and reservoir (Section 8.1).	8.1
Measures to Maintain A Waiver:				
a.	Continue to meet all sampling requirements outlined in 310 CMR 22.00 and in the Watershed Protection/Control Program source sampling plan and schedule; and	Meets	MWRA and DWM water quality sampling is ongoing (Section 8.1).	8.1
b.	Show, through monitoring and trend analysis, no degradation of water quality.	Documentation is available at DWM offices.	Since DWM began extensive watershed protection program which included enhanced water quality monitoring, the data indicates that reservoir water quality has improved or stayed the same (Section 2). DWM publishes annual water quality reports to integrate the extensive data collected in the watersheds and reservoir.	
7. System Operation/Maintenance – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Provide a copy of management and operating procedures.	Documentation available at MWRA offices.	MWRA has Operation & Maintenance manuals at the CVA, Quabbin Aqueduct, and Ware River intake stations (Section 7.5).	7.5
b.	Provide a copy of adequate inspection and maintenance program for the system's equipment.	Documentation at MWRA offices.	MWRA maintains inspection and maintenance logs at the CVA, Quabbin Aqueduct, and Ware River intake stations (Section 7.5).	7.5
c.	Provide evidence of equipment repair log.	Documentation at MWRA offices.	MWRA maintains equipment repair logs (Section 7.5).	7.5
Measures to Maintain A Waiver:				
a.	Update management and operating procedures.	Documentation at MWRA offices.	MWRA updates its procedures as needed (Section 7.5).	7.5
b.	Update inspection and maintenance program as needed.	Documentation at MWRA offices.	MWRA updates its C & M program as needed (Section 7.5).	7.5
c.	Maintain repair log.	Documentation at MWRA offices.	MWRA maintains its repair log (Section 7.5).	7.5

8. Staffing – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Identify staffing needs (work to be accomplished and time needed to complete it) and evidence of sufficient staff, or a schedule for meeting staffing needs.	Meet	DWM expanded its staff significantly following the 1991 plan. Several additional positions (currently vacant or new) are planned in the 5-year period.	9
b.	Identify staffperson responsible for performing day-to-day watershed protection activities, conducting regularly scheduled inspections, and updating Watershed Resource Protection Plan.	Meet	Mr. Joseph McGinn, Esq., Director of the MDC-Division of Watershed Management, is responsible for the MDC/DWM's Watershed Protection Program and Plans. Mr. William Pula, P.E., Superintendent -Quabbin Section, is responsible for the day-to-day watershed protection activities and conducting regularly scheduled inspections. Both McGinn and Pula are responsible for updating the Watershed Protection Plan – Quabbin Reservoir Watershed and Ware River Watershed.	9
c.	Identify staff training needs and a schedule for meeting them.	Meet	DWM provides ongoing training for its staff.	9
d.	Show water supply operation and maintenance being carried out by qualified individuals per requirements.	Documentation available at MWRA offices.	MWRA operators at the Ware River, Quabbin Aqueduct, and Chicopee Valley Aqueduct Intake stations hold required certification and are well trained. DWM staff are well qualified, representing various professional degrees and certifications (Section 7.5 and 9.1).	7.5, 9.1
Measures to Maintain A Waiver:				
a.	Continue to show sufficient and qualified staff, or are on-schedule with meeting those needs.	Meets	See item a (above).	9
b.	Document that training schedule is being met.	Documentation available at DWM offices.	DWM provides ongoing training for its staff using conference seminar attendance, in-house training, and specialized training from other state agencies (e.g., DEP) (Section 9.1).	9.1
c.	Show that water supply operation and maintenance continues to be carrier out by qualified individuals.	Documentation available at MWRA offices.	See item d (above).	9
d.	Have provided water supply reference and training materials for staff use.	Meets	DWM has a large library of watershed protection and management documents. The MWRA library also serves as a reference resource for DWM staff.	9

9. Emergency Planning/Response – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Have emergency plan in effect which addresses, at minimum, response team and procedures, training, equipment, emergency communication network (including chain of command for the coordination and implementation of response actions across agency/municipal boundaries), drills.	Meet	DWM prepared an Hazardous Materials Emergency Response Study for the Quabbin Reservoir Watershed and Ware River Watershed in June 1998 (Section 7.3). This study includes coordination among watershed towns' Emergency Response Plans, equipment and training. DWM is implementing the study's recommendations.	7.3
b.	Map locations of catch basins which could discharge spilled materials into watershed of public surface water supply and distribute to emergency response personnel.	Meet	DWM has surveyed the roads near the reservoir and identified several areas of potential for spill transporting whether by overland or piped flows. DWM has conducted corrective actions to eliminate direct discharges of highway runoff into watershed tributaries (Section 7.1).	7.1
c.	Show successful completion of at least one water supply-related drill; address and correct any problems noted with procedures.	Meet	DWM staff completed an emergency response program with a related water supply related response drill in collaboration with local and state agency personnel (Section 7.3)	7.3
d.	Coordinate plan and drill with other watershed towns, if applicable.	Meet	See item c (above).	7.3
e.	Identify high impact land uses upstream and arrange for waer supplier to be included in communications network in case of a spill or other emergency situation which could affect source.	Meet	DWM has inventoried underground storage tanks (UST) – working with local fire departments during removal. DWM monitors DEP's database of hazardous materials generators and past releases. DEP and local fire departments notify DWM in case of a spill (Section 7..3).	7.3
f.	Identify, and make efforts to control, roadway hazards, vehicular routes (transporters of hazardous cargo via roads/railroads should be rerouted), municipal activities which could cause spills.	Meet	DWM prepared the Transportation Release Controls Study and is now prioritizing the recommendations and implementing strategies to reduce the risk of accident or spill (Section 7.1).	7.1
g.	Post signs at major roads in watershed and access point to water supply, noting "public surface drinking water supply".	Meet	DWM posts and maintains numerous MDC/DWM signs along property boundaries, access gates and barways, and popular stops throughout the watersheds. Additional new educational and information signs are being developed and installed (Section 4.3).	4.3

h.	Develop education program to address spill prevention issues with residents, school administrators, businesses, agricultural entities, etc.	Meet	DWM's Interpretative Services staff conduct in-school and on-site educational programs (Section 5.4). DWM's Watershed Rangers educate visitors on MDC/DWM property during their patrols. Also, various DWM personnel make watershed protection presentation to individual groups (Section 5..3).	5.4, 5.3
Measures to Maintain A Waiver:				
a.	Conduct annual water supply-related drill and provide write-up, noting problems and corrective actions (coordinate with other towns in watershed, if applicable).	Meet	See item c (above).	7.3
b.	Review and update plan annually.	Meet	DWM will update its response programs annually.	7.3
c.	Inspect watershed for conditions conducive to spills/accidents; remove or control problem where possible.	Meets	See item f (above).	7.3
d.	Maintain contact with high impact land users upstream.	Meets	See item e (above).	7.1, 7.3
e.	Maintain signs.	Meets	DWM maintains its educational and informational signs (Section 4.3)	4.3
f.	Conduct at least one emergency response-related event from educational program annually.	Meets	Education program incorporates many different elements, including spills/emergencies.	5.4

10. Education/Multi-town Coordination – Programmatic Milestone				
Measures to Obtain A Waiver:				
a.	Show efforts to develop educational programs to address water supply needs related to public relations for source, public access/recreation, wildlife/domestic animal management, support for infrastructure improvements, prevention of spills, control measures, underground storage tanks, septic systems, storm-water runoof, erosion, residential use of fertilizers, pesticides, monitoring results, etc. (develop for residents, other towns in watershed, where applicable, community groups, town officials, and staff, business and agricultural groups, schools, etc.)	Meet	DWM has several focused education efforts. Interpretative Services provide school-based education programs and interpretative programs for adults (Section 5.4). Watershed Rangers patrol, educate, and intervene throughout water-supply lands and waters (Section 4.3). DWM staff such as EQ, Planning, Natural Resources, and Forestry sections provide direct outreach to town boards, departments, and individuals. Staff give presentations to many different organizations, on request (Section 5.3). DWM staff from all sections often work one-on-one with residents, farmers, businesses, and town officials to understand the various environmental regulations and to identify and implement solutions.	5.4, 4.3, 5.3
b.	For multi-town watersheds: exchange copies of maps, local Watershed Resource Protection Plan, and any local bylaws and regulations related to water supply protection with other towns in watershed.	Meet	DWM has a complete library of local regulations (Section 5.3). Also, MDC/DWM has provided towns with various water supply maps (e.g., WsPA maps, MDC/DWM Public Access Maps) and copies of MDC's Watershed Protection regulations (Section 5.1).	5.3, 5.1
c.	For multi-town watersheds: show effort to develop a regional water supply protection committee to meet on a regular schedule to provide assistance to water supplier regarding base-line level of protection in each town, educational programs, etc.	Meet	The Water Supply Citizen's Advisory Committee (WSCAC), Quabbin Watershed Advisory Committee (QWAC), and the Ware River Watershed Advisory Committee (WRWAC) consist of representatives of the watershed communities and various user groups (e.g., ratepayers, conservation groups, recreational groups) and provide stakeholder input to DWM (Section 4.5).	4.5
d.	For multi-town watersheds: show effort to establish process for water suppliers to be notified, and provided with the opportunity to comment, about propsed projects in other watershed towns.	Meet	DWM comments on many proposed projects in the watershed area and covers Conservation Commission and Board of Health meetings in the watershed communities (Sections 5.1 and 5.3). Also, DWM receives copies of MEPA filing for larger projects in the watersheds (Section 5.2).	5.1, 5.3, 5.2

e.	For multi-town watersheds: show effort to improve watershed protection in other towns.	Meet	DWM provides significant educational, technical, and financial outreach and support to watershed town boards.	5.3
Milestone to Maintain A Waiver:				
a.	Provide evidence of implementation of educational programs, conduct at least one major educational seminar yearly.	Meet	DWM's Interpretative Services has conducted approximately 600 program for 33,000 participants since 1996.	5.4
b.	Review and update programs annually, at minimum.	Meet	DWM updates its education programs annually (Section 5.4)	5.4
c.	Provide evidence of continued exchange of maps, updated plans, and new/updated local regulations/bylaws, where applicable.	Documentation available at DWM offices.	DWM will provide updated WsPA and MDC/DWM Public Access maps to towns, individuals, and groups on request (Section 5.1 & 4.3).	5.1, 4.3
d.	Hold public forum for local officials and staff at least once per year to discuss water supply-related issues; for multi-town watersheds: invite local officials and staff from other towns also.	Meet	DWM holds annual public forums regarding its Land Management Plans (Section 4.2). DWM holds numerous public forums and public hearings, as needed. Monthly Advisory Committee meetings are open meetings for the public (Section 4.5).	4.2, 4.5
e.	Where regional water supply protection committees have been established, provide evidence of regular meetings and activities.	Documentation available at DWM offices.	WSCAC, QWAC, and WRWAC typically meet monthly at various locations in the watersheds.	4.5
f.	Where regional water supplier new project notification process has been established, provide evidence of project review.	Documentation available at DWM offices.	DWM has access to and utilizes the opportunity to comment on state and local permit applications (Section 5.2 & 5.3).	5.2, 5.3

WATERSHED PROTECTION REGULATIONS
350 CMR 11.00
Division of Watershed Management, Metropolitan District Commission

Section

11.01: Introduction and Purpose
11.02: General Provisions
11.03: Definitions
11.04: Jurisdiction
11.05: Exemptions
11.06: Procedures
11.07: Maps
11.08: Relationship of Act with other State and Municipal Statutes, Ordinances and Regulations
11.09: General Rules and Regulations for the Protection of Watersheds and the Watershed System
11.10: Enforcement
11.11: Miscellaneous
11.12: Severability
11.13: Forms

11.01: Introduction and Purpose

(1) Introduction - 350 CMR 11.00 is promulgated by the Commissioners of the Metropolitan District Commission pursuant to the authority granted under St. 1992 c. 36. St. 1992 c. 36, § 2 amends M.G.L. c. 92, § 104 by adding certain definitions which are used in 350 CMR 11.03; St. 1992 c. 36, § 3 adds M.G.L. c. 92, § 107A defining the jurisdiction and exemptions contained in 350 CMR 11.04 and 350 CMR 11.05, respectively; and St. 1992 c. 36, § 4 amends M.G.L. c. 92, § 108 by requiring the Division of Watershed Management, after consultation with the Department of Environmental Protection, to make rules and regulations for the protection of Watersheds as defined in St. 1992 c. 36.

In addition, St. 1992 c. 36 and M.G.L. c. 92 authorize the Metropolitan District Commission and the Division of Watershed Management to make rules and regulations to protect the Watersheds as defined in St. 1992 c. 36 and the Watershed System as defined in St. 1992 c. 36 and M.G.L. c. 92. The Department of Environmental Protection is also required under St. 1992 c. 36, § 14 to adopt rules and regulations for the prevention of pollution and securing the sanitary protection of all waters used as sources of water supply in the Commonwealth other than in the Watersheds as defined in St. 1992 c. 36. Regulations currently exist for: (a) the sanitary protection of waters used by the Metropolitan District Commission (310 CMR 23.00); (b) land within Watershed Reservations (350 CMR 8.00); (c) sanitary rules and regulations for the Metropolitan Water Supply (350 CMR 9.00); and (d) fishing in Wachusett and Sudbury Reservoirs (350 CMR 10.00).

(2) Purpose - The purpose of St. 1992 c. 36 is to improve the protection of the metropolitan water supply. St. 1992 c. 36 and 350 CMR 11.00 set forth a comprehensive scheme to regulate land use and activities within certain critical areas of the Watersheds and Watershed System. The purpose of 350 CMR 11.00 is to define and clarify the restrictions and prohibitions set forth in St. 1992 c. 36 by establishing standard definitions and procedures under which the Division of Watershed Management may carry out its responsibilities under St. 1992 c. 36. 350 CMR 11.00 shall complement St. 1992 c. 36 and shall have the force of law on March 31, 1994.

11.02: General Provisions

(1) Time Periods. Unless otherwise specifically provided in St. 1992 c. 36 or 350 CMR 11.00, computation of any time period referred to in 350 CMR 11.00 shall begin with the first day following the action which initiates the running of the time period. The last day of the time period so computed is to be included unless it is a Saturday, Sunday or legal holiday or any other day on which the office of the Division is closed, in which event the period shall run until the end of the next following business day. When the time period is less than seven days, intervening days when the Division is closed shall be excluded in the computation.

(2) Timely Filing. All Papers must be filed at the Division office or such other place as the Division shall specify in 350 CMR 11.00 within the time limits set forth herein.

Unless otherwise specifically provided in St. 1992 c. 36 or 350 CMR 11.00, Papers filed in the following manner shall be deemed to be filed as set forth herein:

(a) *Hand delivery during business hours*. By hand delivery during business hours shall be deemed filed on the day delivered.

(b) *Hand delivery during non-business hours*. By hand delivery at times other than during regular business hours shall be deemed filed on the next regular business day.

(c) *Mailing*. By placing in the United States Mail certified or registered mail, return receipt requested shall be deemed filed on the date received by the Division.

All Papers shall show the date received by the Division and the Division shall cooperate in giving date receipts to Persons filing Papers by hand delivery.

(3) Actions by the Division. Where St. 1992 c. 36 states that a particular action (except receipt of a request or notice) is to be taken by the Division, that action is to be taken by the person designated by 350 CMR 11.00 or, if by a committee, by more than half the members present at a meeting of at least a quorum. A quorum is defined as a Majority of the members then in office.

(4) Burden of Proof. Any Person who files a request for Advisory Ruling, a request for Watershed determination of applicability, an application for variance or a request for Exemption of a Tributary shall have the burden of producing credible evidence from a competent source in order to demonstrate to the Division or, in the case of an appeal, to the Commission, support for the position taken or the relief requested.

(5) Capitalized Terms. Any capitalized terms used in 350 CMR 11.00 shall have the meanings ascribed to such terms in 350 CMR 11.03.

11.03: Definitions

Advisory Ruling means a ruling issued by the Division pursuant to 350 CMR 11.06(1).

Agriculture, Land in Agricultural Use and Normal Maintenance or Improvement of Land in Agricultural Use shall have the meanings ascribed to such terms in 310 CMR 10.04.

Alteration means:

(a) draining, dumping, dredging, damming, discharging, excavating, filling or grading;

(b) the erection, reconstruction or substantial expansion of any buildings or Structures;

(c) the driving of pilings;

(d) the construction or reconstruction or paving of roads and other ways;

(e) the construction or reconstruction of utilities;

(f) the changing of run-off characteristics;

(g) the intercepting or diverting of ground waters, surface waters, reservoirs, tributaries, or aquifers; and

(h) the installation or substantial expansion of drainage, sewage and water systems.

Applicability Decision means the written decision issued by the Division pursuant to 350 CMR 11.06(2)(e).

Aquifer means a geological formation, group of formations, or part of a formation in the Wachusett Watershed that is capable of yielding a significant amount of water to a well or spring, as determined by reference to the Maps, 350 CMR 11.07. The land directly overlaying an aquifer shall be deemed to be part of said aquifer.

Authority means the Massachusetts Water Resources Authority.

Bank means the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a Bordering Vegetated Wetland and adjacent Flood plain, or in the absence of these, it occurs between a water body and an upland. A bank may be partially or totally vegetated or may be comprised of exposed soil, gravel or stone. The upper boundary of a bank is the first observable break in the slope or the mean annual flood level, whichever is lower. The lower boundary of a bank is the mean annual low flow level.

Bordering Vegetated Wetland means a wet meadow, except meadows used for the grazing of livestock, marsh, swamp, bog or other area, hydrologically connected to and bordering on a Tributary, Reservoir, Flood plain, or Surface Water, which supports at least 50% wetland species and as defined in the Wetlands Protection Act as defined herein.

Commission means the Metropolitan District Commission.

Commonwealth means the Commonwealth of Massachusetts.

Date of Issuance means the date a determination, order or decision is hand delivered or mailed as provided in 350 CMR 11.00.

Date of Submission means the date the Division assigns a file number to a request or application submitted pursuant to 350 CMR 11.06. Assignment of a file number shall not imply that a request, application or supporting documents have been determined adequate to support the relief requested, but only that the submission is complete in accordance with the requirements of 350 CMR 11.06.

Department means the Department of Environmental Protection of the Commonwealth of Massachusetts.

Discharge or Discharge of Pollutant means any addition of Pollutants or combination of Pollutants from any source including, but not limited to, discharges from surface runoff, which are collected or channelled by man and through pipes, sewers or other conveyances.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, incineration or placing into or on any land or water so that the matter disposed of may enter the environment or be emitted into the air or discharged into any waters, including Ground water.

Division means the Division of Watershed Management of the Commission.

Dwelling means any structure or building, or any portion thereof which is used, intended to be used, or designed to be occupied for human habitation purposes, including, but not limited to, houses, hotels, motels, apartments and condominiums.

Exemption Decision means a decision of the Division, in consultation with the Department, to exempt a Tributary from regulation under St. 1992 c. 36 issued pursuant to 350 CMR 11.06(4)(g).

Flood plain means the land adjoining a Tributary, Reservoir or Surface Water, which is subject to inundation from a flood having a 1% chance of being equalled or exceeded in any given year, commonly known as the 100 year flood plain, as determined by reference to the Maps, 350 CMR 11.07.

Generate or Generation of Pollutants means the origination, creation or production of Pollutants.

Ground water means water below the land surface in a saturated zone, including perched ground water.

Hazardous Material or Waste means any material or waste, in whatever form, which because of its quantity, concentration, corrosivity, flammability, reactivity, toxicity, or infectious, chemical or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Hazardous Material or Waste shall include those materials listed in 40 CFR 261, or 310 CMR 40.900 Appendix I.

Impervious means not allowing entrance or passage of water due to the presence on or above the ground of material having a percolation rate of greater than 30 minutes per inch, including, but not limited to, pavement, concrete, stone, peat, loam and other organic matter.

Leaching Field means a soil absorption system as such term is defined in Title 5 (350 CMR 15.00).

List of Affected Parcels means the list developed by the Division from maps prepared pursuant to M.G.L. c. 92 § 107A(q).

Lot means an area of land subject to St. 1992 c. 36 in one ownership with definite boundaries described in a deed or shown on a plan recorded in the registry of deeds or registered in the registry district of the land court.

Maps means the maps described in 350 CMR 11.07.

Majority means more than half of the members of any body making a decision pursuant to 350 CMR 11.00.

Natural Basin means an area bounded peripherally by a water parting and draining ultimately to a particular water course or body of water; the catchment area or drainage basin from within which the waters of a stream or stream system are drawn.

Owning an Interest in Real Property or Real Property Interest means having alone, or jointly or severally with others:

(a) legal title to real property;

(b) the care, charge or control of real property in any capacity including, but not limited to as agent, executor, executrix, administrator, administratrix, trustee, or guardian of the estate of the holder of legal title;

(c) lessee under a written lease; or

(d) an agent, trustee or other person appointed by the Courts of the Commonwealth.

Papers means all requests, documents, papers, notices, appeals and other written communications permitted or required by the regulations to be filed with the Division or the Commission.

Party Aggrieved means any Person who, because of an act or failure to act by the Division or the Commission under St. 1992 c. 36 or 350 CMR 11.00, may suffer an injury in fact which is different, either in kind or magnitude, from that suffered by the general public, and which is within the scope of the interests identified in St. 1992 c. 36. Such party must specify, in writing, sufficient facts to allow the Division or the Commission to determine whether or not the party is, in fact, aggrieved.

Person means an individual, partnership, corporation, firm, association or group, including a city, town, county, the Commonwealth or other governmental unit owning property or carrying on an activity regulated by St. 1992 c. 36.

Plans means such data, maps, engineering drawings, calculations, specifications, schedules and other materials, if any, deemed necessary by the Division to describe the Lot, portion of the Lot or the Alteration to determine the applicability of St. 1992 c. 36 or to determine the impact of the Alteration upon the interests identified in St. 1992 c. 36.

Pollutant means any substance, man-made or resulting from human activities, that can alter the biological, chemical, physical, or radiological character of water.

Reservoir means either the Wachusett or the Quabbin Reservoir.

Sewage Treatment Facility means any wastewater treatment facility used for treating, neutralizing or stabilizing sewage, including: treatment or disposal plants; the necessary intercepting outfall and outlet sewers; pumping stations integral to such facilities; and equipment and appurtenances related to the foregoing.

Sewer System means pipelines or conduits, pumping stations, force mains, and all other structures, devices, appurtenances, and facilities used for collecting and conveying wastes to a site or works for treatment or disposal.
Storage means the actual or intended containment on a temporary basis or permanent basis which does not constitute Disposal.

Structure means a combination of materials assembled at a fixed location to give support or shelter, such as, but not limited to, a Dwelling, a building, framework, retaining wall, tent, reviewing stand, platform, bin, fence over six feet high, sign, flagpole, recreational tramway,

mast for radio antenna or the like. The word "structure" shall be construed, where the context requires, as though followed by the words "or part or parts thereof."

Subsurface Waste Water Disposal System means an on-site subsurface sewage disposal system as defined in Title 5 (310 CMR 15.00).

Surface Water(s) means water in the Watersheds, including any lake, spring, impoundment, and pond, as determined by reference to the Maps, 350 CMR 11.07. Surface water shall include the land located thereunder and the Banks thereto. Surface water shall exclude all Reservoirs, Tributaries, Aquifers, Ground waters, and man-made farm ponds used for irrigation, as well as so-called great ponds of the Commonwealth which do not drain into a Tributary or a Reservoir.

Title 5 means Title 5 of the Massachusetts Environmental Code governing standard requirements for the siting, constructing, repair, replacement and maintenance of on-site sewage treatment and disposal systems, 310 CMR 15.00.

Treatment means any method, technique, or process, including neutralization, incineration, stabilization or solidification, designed to change the physical, chemical or biological character or composition of any Hazardous Material or Waste so as to neutralize such Material or Waste or so as to render such Material or Waste less hazardous, non-hazardous, safer to transport, amenable to storage, or reduced in volume, except such method or technique as may be included as an integral part of a manufacturing process at the point of generation.

Tributary means a body of running water, including a river, stream, brook and creek, which moves in a definite channel in the ground due to a hydraulic gradient and which flows ultimately into a Reservoir in the Watersheds or the Ware River above the Ware River intake, as determined by reference to the Maps, 350 CMR 11.07. A Tributary shall include the land over which the water therein runs and the Banks thereto.

Uses and Activities means those uses and activities described in M.G.L. c. 92, § 107A(a) and (b)(2) and 350 CMR 11.04(3).

Variance Decision means the written decision issued by the Division pursuant to 350 CMR 11.06(3)(g).

Waters of the Watershed System means all waters that in their natural course would flow into the Ware River above the Colbrook Diversion, the open channel of the Wachusett Aqueduct, the Quabbin, Wachusett, Sudbury and Foss reservoirs and any other lake, pond, reservoir, aqueduct, stream, ditch, watercourse or any other open water under the provision of M.G.L. c. 92, § 109.

Watershed Reservation(s) means land within the Watershed System and described in St. 1972 c. 737 as amended by St. 1990 c. 436.

Watershed(s) means the Natural Basin from within which water drains or in the natural course would drain into the Quabbin Reservoir, the Wachusett Reservoir, or the Ware River upstream of the Ware River intake.

Watershed System means:

(a) all real and personal property interests held by or on behalf of the Commonwealth immediately prior to the effective date of St. 1992 c. 36 in and for the Metropolitan District Commission water system which were part of or

appurtenant to the Quabbin Watershed, Quabbin Reservoir, Ware River Watershed, Wachusett Watershed, Wachusett Reservoir, North and South Sudbury watersheds, Sudbury Reservoir, Framingham Reservoirs 1, 2 and 3, Blue Hills Reservoir, Bear Hill Reservoir, Spot Pond Reservoir, Fells Reservoir, Weston Reservoir, Norumbega Reservoir, Chestnut Hill Reservoir, including land, easements, buildings, Structures, all equipment, machinery, vehicles and appliances, improvements, water rights and rights in source of water supply; and

(b) all enlargements and additions to the former Metropolitan District Commission water system acquired or constructed by the Division for the purpose of the Watershed System, including land, easements, buildings, Structures, equipment, machinery, vehicles, and appliances, improvements, reservoirs, dams, water rights and rights in sources of water supply, but excluding the Waterworks System of the Authority.

Waterworks System means waterworks system as defined in M.G.L. c. 92 App. and 360 CMR 10.00 et seq..

Wetlands Protection Act means the Wetlands Protection Act, M.G.L. c. 131, § 40 and regulations promulgated pursuant thereto, 310 CMR 10.00 et seq.

11.04: Jurisdiction

(1) *Areas Regulated*. Areas regulated by St. 1992 c. 36 and 350 CMR 11.00 include those portions of the Watersheds which lie:

(a) within 400 feet of the Bank of a Reservoir;

(b) within 200 feet of the Bank of a Tributary or Surface Waters;

(c) within the area between 200 and 400 feet of the Bank of a Tributary or Surface Waters;

(d) within the Flood plain of a Tributary or Surface Waters, including that flood plain;

(e) within Bordering Vegetated Wetlands that border on Tributaries or Surface Waters or Reservoirs;

(f) within land that overlays an Aquifer with a potential well yield of 100 gallons per minute or more as determined in accordance with St. 1992 c. 36 and 350 CMR 11.00; or

(g) within land that overlays an Aquifer with a potential well yield of one or more but less than 100 gallons per minute pursuant to a finding by the Division, in consultation with the Department, that regulation of said Aquifer is necessary for the protection of the quality of the water in the Surface Waters, Aquifers, Reservoirs or Tributaries.

(2) *Presumptions - Properties Identified in the List of Affected Parcels*. For purposes of 350 CMR 11.00, all properties identified in the List of Affected Parcels shall be presumed to be in an area regulated under 350 CMR 11.04(1)(a) through (g). Any property which is not identified in the List of Affected Parcels shall be presumed not to be in an area regulated under 350 CMR 11.04(1)(a) through (f).

(3) *Uses and Activities Regulated or Prohibited*.

(a) Any Alteration, or the Generation, Storage, Disposal or Discharge of Pollutants is prohibited within those portions of the Watershed that lie:

1. within 400 feet of the Bank of a Reservoir (350 CMR 11.04(1)(a)); or

2. within 200 feet of the Bank of a Tributary or Surface Waters (350 CMR 11.04(1)(b)).

(b) 1. Within those portions of the Watershed that lie:

a. within the area between 200 and 400 feet of the Bank of a Tributary or Surface Water (350 CMR 11.04(1)(c));

b. within the Flood plain of a Tributary or Surface Water (350 CMR 11.04(1)(d));

c. within Bordering Vegetated Wetlands that border on Tributaries or Surface Waters or Reservoirs (350 CMR 11.04(1)(e));

d. within land that overlays an Aquifer with a potential well yield of 100 gallons per minute or more as determined in accordance with St. 1992 c. 36 and 350 CMR 11.00 (350 CMR 11.04(1)(f)); or

e. within land that overlays an Aquifer with a potential well yield of one or more but less than 100 gallons per minute, pursuant to a finding by the Division, in consultation with the Department, that regulation of said Aquifer is necessary for the protection of the quality of the water in the Surface Waters, Aquifers, Reservoirs or Tributaries (350 CMR 11.04(1)(g)),

2. the following uses are prohibited:

a. the Disposal of Pollutants from either privately or publicly owned Sewage Treatment Facilities;

b. the placement of the Leaching Field of a Subsurface Waste Water Disposal System less than four feet above the maximum water table level as measured at the time of annual high water;

c. the storage of liquid petroleum products of any kind; provided, however, that an end user of such product, such as a resident in connection with normal residential use or a person responsible for supplying heat to a residence, may store a reasonable volume of such material so long as such storage is in a free standing container inside of the Structure, which Structure shall include at a minimum a foundation thereof with a poured cement slab floor or a concrete reservoir of sufficient volume to hold 125 percent of the tank's capacity;

d. the Treatment, Disposal, use, generation or Storage of Hazardous Material or Waste, except a reasonable volume of Hazardous Material or Waste incidental to normal residential use;

e. the Storage and the Disposal of solid waste other than a reasonable volume incidental to normal residential use;

f. the outdoor Storage of road salt or other de-icing chemicals; provided, however, that 350 CMR 11.00 shall not prohibit the outdoor Storage of sand, gravel or materials used in road construction which are not Hazardous Materials or Waste;

g. the outdoor Storage of fertilizers, herbicides and pesticides;

h. the use or Storage of pesticides or herbicides which carry a mobility rating as provided for by the United States Environmental Protection Agency or which have been determined by the Commonwealth using United States Environmental Protection Agency standards to pose a threat or potential threat to Ground water;

i. the outdoor, uncovered Storage of manure;

j. the servicing, washing or repairing of boats or motor vehicles other than as reasonably incidental to normal residential use;

k. the operation of junk and salvage yards;

l. the rendering Impervious of more than ten percent of any Lot or 2,500 square feet, whichever is greater;

m. the excavation of gravel and sand to a depth greater than six feet above the maximum water table, except where incidental to the construction of permitted Structures;

n. the Alteration of Bordering Vegetated Wetlands;

o. any other activity which could degrade the quality of the water in the Watersheds as determined by the Division after consultation with the Department; provided, however, that de-icing may be performed on a roadway under procedures approved by the Commonwealth's Secretary of Environmental Affairs; or

p. the construction of any Dwelling which exceeds a density of two bedrooms per acre or any use which may generate more than 220 gallons of sanitary sewage per acre per day.

(c) In addition to, and without limiting, the prohibitions contained in 350 CMR 11.04(3)(a) and (3)(b), within those portions of the Watersheds which overlay Aquifers with potential well yields of between 100 and 300 gallons per minute as determined by the Division, or land whose regulation has been determined to be necessary for the protection of the quality of the water in the Surface Waters, Aquifers, Reservoirs and Tributaries, pursuant to 350 CMR 11.04(1)(g), the construction of any Dwelling which exceeds a density of one and one-third bedrooms per acre and any use which may generate more than 147 gallons of sanitary sewage per acre per day are prohibited.

(d) In addition to, and without limiting, the prohibitions contained in 350 CMR 11.04(3)(a), (3)(b) and (3)(c), within those portions of the Watersheds that overlay Aquifers with potential well yields of over 300 gallons per minute as determined by

the Division, the construction of any Dwelling which exceeds a density of one bedroom per acre and any use which may generate more than 110 gallons of sanitary sewage per acre per day are prohibited.

(e) In making the calculation required under 350 CMR 11.04(3)(b)2.l. all contiguous real property within an area described in 350 CMR 11.04(1) owned by the same Person shall be used, in the aggregate; provided, however, that said area may be so used in making such calculation for only one Lot.

(f) In making the calculation required under 350 CMR 11.04(3)(b)2.p., all contiguous real property within an area described in 350 CMR 11.04(1) owned by the same Person shall be used, in the aggregate, to determine the total acreage for density purposes; provided, however, that said area may be so used for determining area density for only one Lot.

11.05: Exemptions

The provisions of 350 CMR 11.04 shall not apply to the following:

(1) *Uses, Structures or Facilities in Existence*. Uses, Structures or facilities lawfully in existence or for which all applicable municipal, state and federal permits and approvals, other than building permits and permits for septic systems, were obtained prior to July 1, 1992;

(2) *Reconstruction, Extension or Structural Change*. Any reconstruction, extension or structural change to any Structure lawfully in existence on July 1, 1992, provided that such reconstruction, extension or structural change:

(a) does not constitute a substantial change to or enlargement of that lawfully existing Structure; and

(b) does not degrade the quality of the water in the Watershed;

(3) *Lot in Existence*. The construction of one single-family Dwelling on any Lot existing as such prior to July 1, 1992, or the division of an owner occupied Lot existing as such as of July 1, 1992 into one additional Lot for a single family dwelling; provided that, wherever possible, there shall be no Alterations within the areas described in 350 CMR 11.04(1)(a) and 11.04(1)(b);

(4) *Construction - Sewer System*. The construction of any Dwelling described in 350 CMR 11.04(3)(b)2.p., 11.04(3)(c) or 11.04(3)(d) if a Sewer System existed prior to July 1, 1992 to which a direct connection shall be made without expansion of capacity and said connection is used for all sanitary sewage of any Dwelling or other Structure resulting from said construction;

(5) *Tributaries*. Tributaries, or portions thereof, which the Division, in consultation with the Department, has exempted pursuant to 350 CMR 11.00, upon a determination that such exemption will pose no significant risk to the quality of the water, after taking into account the rate of flow, slope, soil characteristics, proximity to a Reservoir or the Ware River above the Ware River intake, the current level of water quality and the current degree of development;

(6) *Work of the Division*. The Division, in the performance of its responsibilities and duties to protect the quality of the water in the Watersheds, or the Authority in the performance of its responsibilities and duties to maintain, operate and improve the Waterworks System;

(7) *Conversion of Land for Agricultural Use*. Conversion of Land for Agricultural Use or preparation of Land for Agricultural Use; provided, however, that such conversion shall be made under a plan approved by the United States Department of Agriculture, Soil Conservation Service and the Commission, in consultation with the Commonwealth's Department of Food and Agriculture;

(8) *Maintenance of Public Roadways in Existence*. The maintenance, repair, replacement or reconstruction of public roadways existing as of September 1, 1989 or railroad track and rail bed existing as of September 1, 1990, including associated drainage systems, that are necessary to preserve or restore the facility's serviceability for the number of travel lanes and uses existing as of September 1, 1990; provided, however, that in the case of any replacement the design is substantially the functional equivalent of, and is of similar alignments to that which is being replaced; provided, further, that design plans and specifications for said work on roadways, or railroad track and rail beds are provided to the Division prior to the work's commencement;

(9) *Maintenance or Improvement - Agricultural*. Activities relating to normal maintenance or improvement of Land in Agricultural Use; provided, however, that such activities do not impair the quality of the water;

(10) *Construction of Public Highways*. The construction of public highways, railroad track and rail beds and facilities directly related to their operation; provided, that the Commonwealth's Secretary of Environmental Affairs has determined that such highway or transportation service construction project requires direct access to or location in the lands described in 350 CMR 11.04(1) to avoid or minimize damages to the environment and that said Secretary and the Division have determined that such construction does not materially impair the quality of the water in the Watersheds;

(11) *Maintenance of Public Utilities*. The maintenance, repair or expansion of lawfully located Structures or facilities used in the service of the public to provide electric, gas, water, sewer, telephone, telegraph and other telecommunication services; provided, however, that such maintenance, repair or expansion activities, Structures, or facilities do not materially impair the quality of water in the Watersheds as determined by the Division after consultation with the Department;

(12) *Maintenance of Public Utilities - Wetlands*. The maintenance, repair or replacement, but not the substantial changing or enlargement of, an existing and lawfully located Structure or facility used in the service of the public and used to provide electric, gas, water, sewer, telephone, telegraph and other telecommunication services in Bordering Vegetated Wetlands; provided, however, that such maintenance and repair activities do not materially impair the quality of water in the Watersheds;

(13) *Clean up or Prevention of Releases*. The undertaking by any Person, municipality, the United States government or the Commonwealth of temporary operations to clean up, prevent or mitigate releases of Hazardous Material or Waste;

(14) *Changes in Agricultural Crops Produced*. Changes in agricultural crops produced;

(15) *Agricultural Technologies*. The use of new or existing agricultural technologies that do not degrade the quality of water in the Watersheds more than the present agricultural technologies that such new or existing agricultural technologies replace; and

(16) *Municipal Sewage Treatment Facility or Water System*. The construction of a new municipal Sewage Treatment Facility or new municipal water system if the Division determines that water quality will not be adversely impacted from said construction and provided that such new systems comply with all existing regulations and standards applicable to water pollution abatement districts.

11.06: Procedures

(1) Advisory Rulings

(a) *Request for Advisory Ruling*. Any person Owning an Interest in Real Property may, by written request to the Division at the addresses specified in 350 CMR 11.11 by certified mail or hand delivery, request an Advisory Ruling as to:

1. whether such Person's property is located within an area regulated by St. 1992 c. 36 or 350 CMR 11.00; or

2. whether existing or proposed Structures, Uses or Activities on such Person's property are permitted under St. 1992 c. 36 or 350 CMR 11.00 by virtue of the exemptions set forth in 350 CMR 11.05.

(b) *Information Required*. Such written request shall identify the property by street address and include:

1. a copy of the current Assessor's Map showing the location of the property or reference to the applicable Assessor's Map by sheet and parcel number;

2. a copy of (or reference to) the most recent edition of the Massachusetts Geographic Information System map based on the United States Geological Survey, 1 to 25,000 scale, quadrangle maps, showing the location of the property;

3. a copy of such Owner's deed as recorded in the applicable registry of deeds; and

4. copies of any plans, mortgage inspection plans and tape surveys of the property which are available.

(c) *Issuance of Advisory Ruling*. Within 30 days of the Date of Submission of a request for Advisory Ruling, the Division may issue a written ruling to the Person who submitted the request, or in its sole discretion, the Division may notify such Person that a request for Watershed determination of applicability is required pursuant to 350 CMR 11.06(2).

(d) *Remedy*. The Person to whom an Advisory Ruling is issued shall have no right to appeal such ruling, but may at such Person's election, submit a request for Watershed determination of applicability or an application for variance in accordance with 350 CMR 11.00. A Person who has not been issued an Advisory Ruling within 30 days may, at such Person's election, resubmit the request, or submit a request for Watershed Determination of Applicability or an application for variance in accordance with 350 CMR 11.06.

(e) *Authorization; limitations*. Any Advisory Ruling hereunder shall be issued by the Division pursuant to and subject to the limitations of M.G.L. c. 30A, § 8. (2)

Requests for Watershed Determinations of Applicability

(a) *Filing*. Any Person Owning an Interest in Real Property who desires a determination as to whether or not:

1. such Person's property is located within an area regulated by St. 1992 c. 36 or 350 CMR 11.00;

2. proposed Structures, Uses or Activities on such Person's property are permitted under St. 1992 c. 36 or 350 CMR 11.00;

3. a reconstruction, extension or structural change constitutes a substantial change or enlargement or one which will degrade the quality of water under 350 CMR 11.05(2);

4. Alterations within areas described in 350 CMR 11.04(1)(a) and 11.04(1)(b) in connection with construction permitted under 350 CMR 11.05(3) are possible;

5. the maintenance, repair or replacement activities described in 350 CMR 11.05(9), (10) or (11) will impair or materially impair the quality of the water in the Watersheds; or

6. a new municipal Sewage Treatment Facility or new municipal water system will have an adverse impact on water quality under 350 CMR 11.05(16),

may submit to the superintendent of the Reservoir of the Watershed in which such property is located at the address specified in 350 CMR 11.11, by certified mail or hand delivery, a request for Watershed determination of applicability (See 350 CMR 11.13).

(b) *Land Surveyor Determination*. Any request for Determination under 350 CMR 11.06(2)(a)1. shall be accompanied by a written determination of a land surveyor registered with the board of registration of professional engineers and land surveyors of the Commonwealth as to whether such Person's real property interests are located within areas regulated by St. 1992 c. 36.

(c) *Related Statement*. Requests for Watershed Determinations other than those in 350 CMR 11.06(2)(a)1. shall include a detailed description of the Structures, Uses and Activities which are proposed.

(d) *Additional Materials*. All surveys and additional materials or studies required to make a determination, whether or not requested by the Division, shall be prepared and delivered at the sole cost of the Person desiring the determination.

(e) *Issuance of Applicability Decision*. Within 60 days of the Date of Submission of such request for Watershed Determination, the Division shall issue a written Applicability Decision to the Person who submitted such request, in form suitable for recording in the registry of deeds or registration in the registry district of the land court where the property is located (See 350 CMR 11.13), which shall contain a brief statement of the reasons for the Decision. If the Division fails to issue the

Applicability Decision within such 60 day period, the Division shall be deemed to have:

1. concurred with the land surveyor's determination set forth in a request for Determination under 350 CMR 11.06(2)(a)1.; or

2. determined that the proposed Structures, Uses and Activities on such Person's property described in the request for Determination are permitted by St. 1992 c. 36 and 350 CMR 11.00; or

3. determined that such Structures, Uses and Activities will not impair or materially impair the quality of water in the Watersheds.

(f) *Appeal*. A Person to whom the Division's Applicability Decision has been issued, who seeks to appeal such Decision, shall file a Notice of Claim for an Adjudicatory Proceeding with the Commission at the address specified in 350 CMR 11.11 within 21 days from the Date of Issuance of the Decision by the Division. The procedures for appeal before the Commission shall be as set forth in 801 CMR 1.00 et seq. At the time of filing of such Notice of Claim, a copy shall also be filed with the Division.

(3) Variances

(a) *Variances*. The Division may grant a variance from the provisions of St. 1992 c. 36 and 350 CMR 11.00 with respect to particular Structures, Uses and Activities, and shall grant, upon request, a variance with respect to crossings of Tributaries and Bordering Vegetated Wetlands, where the Division specifically finds that owing to circumstances relating to the soil conditions, slope, or topography of the land affected by such Structures, Uses or Activities, desirable relief may be granted without substantial detriment to the public good and without impairing the quality of water in the Watersheds.

(b) *Presumptions and Standards for Required Findings*.

1. There shall be a presumption that granting a variance from the applicability of St. 1992 c. 36 and 350 CMR 11.00 to specific Structures, Uses and Activities is contrary to the achievement of the purpose of St. 1992 c. 36. This presumption may be rebutted only by the submission of credible evidence by the Person submitting the application for variance to establish that such variance may be granted without substantial detriment to the public good and without impairment of water quality in the Watersheds.

2. The standard of substantial detriment to the public good shall mean a factual determination by the Division of the overall effect of the proposed Structure, Use or Activity at a particular location in relation to the purpose of St. 1992 c. 36.

3. The standard of impairment of water quality shall mean:

a. the risk of water quality impairment presented by Structures, Uses and Activities which are permissible under all other relevant federal, state and local laws, but would not be permissible under 350 CMR 11.00 without a variance; and

b. the cumulative risk of water quality impairment from all Structures, Uses and Activities allowed under current regulations over time.

(c) *Applications.* Any Person Owning an Interest in Real Property may make an application for variance to the Division (See 350 CMR 11.13) by filing the same by certified mail or hand delivery with the Division at the address specified in 350 CMR 11.11. A copy of the application for Variance shall be sent to the Department at the address specified in 350 CMR 11.11.

(d) *Detailed Statement.* The application for variance shall include a detailed description of the Structures, Uses and Activities proposed on such Person's property. The application for variance shall include detailed information regarding each specifically enumerated factor stated in 350 CMR 11.06(3)(a). Detailed information regarding each factor shall be provided as follows:

1. *Soil Conditions*. A map prepared at a minimum scale of 1"=100' indicating the soil types as mapped by the USDA Soil Conservation Service ("SCS") shall be provided. Site specific soils data, including borings, test pits and percolation tests, may be submitted including copies of all field logs, notes, observations, conclusions and test methods employed. A detailed analysis of the soil characteristics of erodibility and permeability shall be provided. Permeability should be described in terms of percolation rate measured as minutes per inch as specified in Title 5 (310 CMR 15.00).

2. *Slope*. Calculations of the ground slope at all lands within the areas that would be subject to St. 1992 c. 36 if the variance were not granted shall be provided. The results of such calculations shall be presented graphically on a map prepared at a scale of 1"=100' or larger, expressed as percent slope. Where applicable, the average slope of a Tributary measured as the change in elevation divided by the distance in stream miles from the upstream point of the Tributary at or near such Person's property to the downstream point of the Tributary at or near such Person's property shall also be stated.

3. *Topography*. A topographical plan at a minimum scale of 1"=100' or larger showing contour elevations at two foot intervals shall be submitted. Said plan shall be prepared and stamped by a professional surveyor or engineer registered in the Commonwealth of Massachusetts and shall show the location of all areas which would be subject to St. 1992 c. 36 if the variance were not granted. The plan shall show the location of all Ground water, soil and percolation test locations. Such topographic information as depth to the maximum annual high Ground water table, depth to ledge or refusal, and distances from all mapped and unmapped streams, ponds and water bodies shall also be provided.

4. *Water Quality*. The application shall include a detailed analysis of the impacts on Surface Water and, where applicable, Ground water quality of any proposed Structure, Use or Activity which would be allowed if the variance is granted. An evaluation of the potential impact of such proposed Structure, Use or Activity on water quality by reference to the Department's Surface Water Quality Standards for Class A Surface Waters and Outstanding Resource Waters of the Commonwealth, set forth in 314 CMR 4.00 et seq., and/or where applicable, the Massachusetts Ground Water Quality Standards, set forth in 314 CMR 6.00 et seq. shall be provided. The application shall include the water quality data and results to support each analysis and shall provide a detailed description of any methodology employed in performing such analysis to show that water quality will not be impaired by the Structure, Use and Activity for which the variance is being requested, whether during construction or upon continued use or operation of such Structure, Use or Activity.

5. *Mitigating Measures*. The application shall include an analysis of any mitigating measures which will be used which would enable the Division to grant a variance without substantial detriment to the public good and without impairing the quality of water in the Watersheds.

(e) *Additional Materials*. All surveys and additional materials or studies required to act on an application for variance, whether or not requested by the Division, shall be prepared and delivered at the sole cost of the Person submitting the application.

(f) *Public Hearing*. Within 30 days of the Date of Submission of the application for variance with the Division, the Division shall hold a public hearing. Notice of the time and place of the public hearing shall be given by the Division, at the expense of the Person who submitted the application, not less than five days prior to such hearing by publication in a newspaper of general circulation in the city or town where the property in question is located and by mailing a copy of such notice to the Person who submitted the application at the address specified in the application, and to the Building Inspector, Conservation Commission, and Board of Health in such city or town. At the request of the Person who submitted the application filed with the Division at least two days before the date of such hearing, the date of the hearing may be rescheduled to a time which is mutually convenient for such Person and the Division, provided that such rescheduled time shall permit re-publication of notice as provided herein. The public hearing may be continued, with the consent of the Person who submitted the application, to an agreed upon date, which shall be announced at the hearing. At the public hearing, such Person may be represented by counsel and/or professional consultants and may present oral or written evidence and oral or written testimony of witnesses.

(g) *Variance Decision*. Within 30 days of the close of the public hearing, the Division shall issue a written Variance Decision on the application for variance. If the variance is granted, the Division may impose in the Variance Decision such reasonable conditions, safeguards and limitations as it may find desirable in its sole discretion, which, based on the application for variance and the evidence presented at the public hearing, are necessary to protect the water in the Watersheds. If a variance is denied, the Variance Decision shall contain a brief statement of the reasons for the denial. The granting of a variance is limited to the provisions of St. 1992 c. 36. All other applicable laws, regulations and ordinances shall not be affected by the granting of a variance.

(h) *Recording of Variance Decision.* No variance granted hereunder shall take effect until a Variance Decision (See 350 CMR 11.13) shall have been recorded and indexed in the grantor index in the registry of deeds or registered in the registry district of the land court for the county or district where the property is located, containing any conditions applicable thereto and describing the land by metes and bounds or by reference to a recorded or registered plan showing the property's boundaries.

(i) *Appeal.* A Person to whom a Variance Decision is issued, who seeks to appeal the Division's Variance Decision, shall file a Notice of Claim for an Adjudicatory Proceeding with the Commission at the address specified in 350 CMR 11.11 within 21 days from the Date of Issuance of the Variance Decision by the Division. The procedures for appeal before the Commission shall be as set forth in 801 CMR 1.00 et seq. At the time of filing of such Notice of Claim, a copy shall also be filed with the Division.

(4) Exemption of a Tributary

(a) *Exemption of a Tributary*. The Division, in consultation with the Department, may exempt a Tributary, or portions thereof, upon a determination that such exemption will pose no significant risk to the quality of water, after taking into account the following factors:

1. rate of flow;

2. slope;

3. soil characteristics;

4. proximity to a Reservoir or the Ware River above the Ware River intake;

5. the current level of water quality; and

6. the current degree of development.

(b) *Presumptions and Standards for Required Findings*.

1. The standard of no significant risk to the quality of water refers to:
   a. the risk of water quality impairment presented by Structures, Uses and Activities which are permissible under all other relevant state, federal and local laws, but would not be permissible under 350 CMR 11.00 without an exemption; and
   b. the cumulative risk of water quality impairment from all Structures, Uses and Activities allowed under current regulations over time.

2. There shall be a presumption that exempting a Tributary or portion thereof is contrary to the achievement of the purpose of St. 1992 c. 36. The presumption may be rebutted only by the submission of credible evidence by the Person submitting the request for Exemption to establish that such exemption will pose no significant risk to the quality of water, taking into account the factors enumerated at 350 CMR 11.06(4)(a).

(c) *Requests for Exemption*.

1. A request for Exemption of a Tributary may be made by:
   a. An affected landowner;
   b. Any state agency or regional planning commission;
   c. The Board of Selectmen, City Council, Mayor, Planning Board or Conservation Commission of any city or town which would be affected by the exemption; or
   d. The Governor or any member of the General Court.

2. A request for Exemption of a Tributary shall be made to the Division (See 350 CMR 11.13) by filing the same by certified mail or hand delivery with the Division at the address specified in 350 CMR 11.11. A copy of the request for Exemption of a Tributary shall be sent to the Department at the address specified in 350 CMR 11.11.

(d) *Detailed Statement*. The request for Exemption of a Tributary shall include detailed information regarding each specifically enumerated factor listed in 350 CMR 11.06(4)(a)1. through 6. Such detailed information shall be provided based on conditions existing as of the time of the request and based on conditions which

would, or may, result if such exemption were granted and if development occurred to the maximum extent and type allowed by current law. Detailed information on each factor shall be provided as follows:

1. *Flow Rate*. The request shall include the flow rate of the Tributary stated as the annual average daily stream flow, reported as cubic feet per second ("cfs") as measured at the downstream point of discharge for the Tributary or portion thereof, taking into account the entire contributing drainage area. Such flow rate may be based on field data collected in accordance with accepted stream flow measurement methods as established by the United States Geologic Survey, or estimated based on procedures established by the United States Geologic Survey. The request shall describe, in depth, the basis and method employed for the reported flow rate to assess full build-out scenarios.

2. *Slope*. The request shall state the average slope at the Tributary measured as the change in elevation divided by the distance in stream miles from its source to the downstream point of discharge. The ground slope of all lands adjacent to the Tributary within the areas that would be subject to St. 1992 c. 36 if the exemption were not granted shall be calculated and the results of such calculations shall be presented graphically on a map prepared at a scale of 1"=100' or larger, expressed as percent slope.

3. *Soil Characteristics*. A map prepared at a minimum scale of 1"=100' shall be submitted indicating the soil types as mapped by the SCS. Site specific soils data supporting or contradicting the SCS soil mapping including borings, test pits and percolation tests may be submitted including copies of all field logs, notes, observations, conclusions and test methods employed. A detailed analysis of the soil characteristics of erodibility and permeability shall be provided. Permeability should be described in terms of a percolation rate measured as minutes per inch as specified in Title 5 (310 CMR 15.00).

4. *Proximity to a Reservoir or the Ware River above the Ware River Watershed*. Proximity of the Tributary proposed to be exempted to a Reservoir or the Ware River above the Ware River intake shall be indicated by reference to the Protection Zone, defined by the Department's Division of Water Supply, Watershed Resource Protection Plan Policy as Zone A, Zone B and Zone C. The measured distance in stream miles from the downstream discharge point of the Tributary or portion thereof in question from that Tributary's ultimate point of confluence with a Reservoir or stream miles above the Ware River intake shall be stated.

5. *Water Quality*. The request shall include water quality monitoring data for the Tributary consisting of, at a minimum, monthly samples for a continuous one year period at a sampling station located at or near the downstream point of discharge of the Tributary or portion thereof for which exemption is requested. Water quality data of the Division and the Department may be utilized in satisfaction of this requirement where such data is available. Minimum analysis shall include fecal coliform bacteria, color, turbidity, temperature, pH, dissolved oxygen, total suspended solids, total phosphorus, ammonia nitrogen and chloride. A detailed analysis of the water quality data with reference to the Department's Surface Water Quality Standards for Class A Surface Waters and Outstanding Resource Waters of the Commonwealth, 314 CMR 4.00 et seq., shall be provided. The request

shall include a detailed analysis of the impact on water quality of any potential Structures, Uses or Activities allowed if the exemption is granted.

6. *Development*. A general plan showing existing land use within the contributing drainage area upstream at the point of discharge of the Tributary or portion thereof shall be provided. The request shall include a calculation of the percent imperviousness of the contributing drainage area based on the existing land uses shown and shall indicate the change of percent imperviousness which may result from any Structures, Uses or Activities allowed or proposed if the exemption is granted.

7. *Other Information*. The request shall include a detailed description of the Structures, Uses and Activities which are or may be proposed to occur within those areas which would be subject to St. 1992 c. 36 without the exemption and shall include an analysis of any mitigating measures which will be used which would ensure that granting the exemption would present no substantial risk to the quality of water.

(e) *Additional Materials*. All surveys and additional materials or studies required to act on a request for Exemption of a Tributary, whether or not requested by the Division, shall be prepared and delivered at the sole cost of the Person submitting the request.

(f) *Public Hearing*. Within 30 days of the Date of Submission of the request for Exemption of a Tributary with the Division and the Department, the Division and the Department shall hold a public hearing. Notice of the time and place of the public hearing shall be given by the Division, at the expense of the Person who submitted the request, not less than five days prior to such hearing by publication in a newspaper of general circulation in the city or town where the property in question is located and by mailing a copy of such notice to the Person who submitted the request at the address specified in the request, and to the Building Inspector, Conservation Commission and Board of Health in such city or town. At the request of the Person who submitted the request filed with the Division at least two days before the date of such hearing, the date of the hearing may be rescheduled to a time which is mutually convenient for such Person, the Division and the Department, provided that such rescheduled time shall permit re-publication of notice as provided herein. The public hearing may be continued, with the consent of the Person who submitted the request, to an agreed upon date, which shall be announced at the hearing. At the public hearing, such Person may be represented by counsel and/or professional consultants and may present oral or written evidence and oral or written testimony of witnesses.

(g) *Exemption Decision*. Within 60 days of the close of the public hearing, the Division shall issue a written Exemption Decision on the request for Exemption of a Tributary. If the exemption is granted, the Division may impose in the Exemption Decision such reasonable conditions, safeguards and limitations as it may find desirable in its sole discretion, which, based on the request for Exemption of a Tributary and the evidence presented at the public hearing, are necessary to protect the water in the Watersheds. If the exemption is denied, the Exemption Decision shall contain a brief statement of the reasons for the denial. The granting of an exemption is limited to the applicability of St. 1992 c. 36. All other applicable laws, regulations and ordinances shall not be affected by the granting of an exemption.

(h) *Notice of Exemption.* Notice of the Exemption Decision shall be mailed to the Person who submitted the request, and to the City Council or Board of Selectmen in the city or town where the Tributary is located. Notice shall also be published once in a newspaper of general circulation in such city or town, provided, however, that a

failure to publish shall not affect the validity of the Exemption Decision. A record of the Exemption Decision shall be kept on file with the Division and, if a Tributary or portion thereof is exempted, the affected area shall be shown on the most recent edition of the Massachusetts Geographic Information System Map (See 350 CMR 11.07).

(i) *Appeal.* A Person to whom an Exemption Decision is issued, who seeks to appeal the Division's Exemption Decision, shall file a Notice of Claim for an Adjudicatory Proceeding with the Commission at the address specified in 350 CMR 11.11 within 21 days from the Date of Issuance of the Exemption Decision by the Division. The procedures for appeal before the Commission shall be as set forth in 801 CMR 1.00 et seq. At the time of filing of such Notice of Claim, a copy shall also be filed with the Division.

(5) Work Pending Appeal of Applicability Decision, Variance Decision or Exemption Decision - No Alterations shall be made or Structures, Uses or Activities commenced until a final administrative or judicial determination has been made and all appeal periods shall have expired if the Division issues:

(a) an Applicability Decision that the property is located in an area regulated by St. 1992 c. 36, that the Structures, Uses or Activities proposed are prohibited by St. 1992 c. 36 under 350 CMR 11.04(3), or that the Structures, Uses or Activities will impair or materially impair the quality of water in the Watersheds; or

(b) a Variance Decision denying the variance requested in an application for variance; or

(c) an Exemption Decision denying a request for Exemption of a Tributary.

11.07: Maps

(1) *Aquifers*. The location and potential well yield of Aquifers shall be determined by reference to the most recent edition of maps generated by the Massachusetts Geographic Information System based on the United States Geological Survey Water Resource Atlases.

(2) *Flood plains*. The location of Flood plains shall be made by reference to the most recent edition of the Flood Hazard Boundary Maps issued by the Federal Emergency Management Agency.

(3) *Surface Waters and Tributaries*. The location of Surface Waters and Tributaries shall be determined by reference to the most recent edition of maps generated by the Massachusetts Geographic Information System based on the United States Geological Survey, 1 to 25,000 scale quadrangle maps.

(4) *Adoption of More Accurate Maps*. With respect to any of the maps referred to in 350 CMR 11.07, the Division, in consultation with the Department, may adopt more accurate maps pursuant to notice and a public hearing as provided by M.G.L. c. 30A. The Division shall file any of such maps which are adopted with the Clerk of the House of Representatives and Clerk of the Senate and such maps shall not take effect until 90 days have elapsed from the time of said filing. Copies of maps which have taken effect shall be filed with the Chief Executive Officers of all cities and towns within the Watersheds, provided that the Division's failure to do so shall not invalidate the maps or any actions taken by the Division in connection therewith.

11.08: Relationship of Act with other State and Municipal Statutes, Ordinances and Regulations

350 CMR 11.00 is intended solely for use in administering St. 1992 c. 36; nothing contained herein should be construed as preempting or precluding more stringent protection of the areas regulated by St. 1992 c. 36 by other statutes, ordinances, by-laws or regulations. The duties and obligations imposed by St. 1992 c. 36 shall be in addition to all other duties and obligations imposed by any general or special law or regulation or any by-law, ordinance or regulation lawfully adopted pursuant thereto.

11.09: General Rules and Regulations for the Protection of Watersheds and the Watershed System

In order to facilitate review of all regulations promulgated by the Commission and the Division relating to Watersheds and the Watershed System, this Section includes regulations of general applicability to Waters of the Watershed System. The regulations in 350 CMR 11.09 are intended to supersede the regulations in 310 CMR 23.00, 350 CMR 8.01, 350 CMR 9.00, and 350 CMR 10.00.

(1) *Waters of the Watershed System*.

(a) No Person shall take or divert any Waters of the Watershed System of the Commission and no Person shall corrupt, render impure, waste or improperly use any such water.

(b) No Person shall:

1. engage in any construction activity involving filling, dredging, grubbing or altering land without adequate provisions to prevent erosion resulting in clay, silt or other turbidity laden waters from entering the Waters of the Watershed System;

2. construct, establish or maintain any agricultural facility or place where animal manure may be deposited or accumulated without adequate provision to prevent any manure or other Pollutant from flowing or being washed into the Waters of the Watershed System;

3. engage in any other activity which could degrade the quality of Waters of the Watershed System or interfere with their use as a source of water supply.

(c) No Person shall allow a condition to exist on such Person's property which could result in the direct or ultimate discharge of any Pollutant into the Waters of the Watershed System.

(d) Any records of any board of health or health agent concerning matters within the Watershed shall be open to inspection by the employees and agents of the Commission and the Department.

(e) Whenever an incident occurs, is likely to occur, or a situation exists that threatens to add Pollutants to the Waters of the Watershed System, the Person causing or contributing to the pollution or potential pollution shall notify the Commission and the Department immediately.

(2) Watershed System.

(a) *General Regulations*.

1. Entrance on and exit from land of the Watershed System shall be made through gates or other designated areas.

2. No Person is allowed within any land of the Watershed System, except from one hour before sunrise to one hour after sunset, unless authorized by a written permit from the Commission or its designee.

3. Powered boats are prohibited within the Waters of the Watershed System except in areas designated by the Commission or its designee.

4. All acts which pollute or may pollute the water supply are prohibited. No litter or refuse of any sort may be thrown or left in or on any land or water within any Watershed System. All Persons within said System shall use the sanitary facilities provided for public use.

5. All acts which injure the property of the Commonwealth are prohibited. No Person shall injure, deface, destroy, remove or carry off any property, real or personal, under the care and control of the Commission, including but not limited to, all historic artifacts and natural materials. The removal of gravel, topsoil, stones, boulders, or other earthen material is prohibited from the Watershed System except for removal for official use for land management purposes by Commission staff. No Person shall build or construct any object or structure of the property of the Commonwealth except with the written permission of the Commission or its designee.

6. Cooking and all fires are prohibited within the Watershed System.

7. No Person shall wade or swim in any reservoir except wading while using boots for the purpose of launching boats at designated boat launch areas.

8. No Person shall wade or swim in any Tributary or Surface Waters on or within the property of the Commonwealth except at areas designated by the Commission or its designee.

9. Organized sports activities, including but not limited to orienteering and baseball, are prohibited in the Watershed System except by written permit from the Commission or its designee.

10. Any violation of 350 CMR 11.09 will be deemed sufficient cause for revocation of fishing privileges for a period of time not less than one year from the time of violation. The Commission and its employees are not responsible for any damage to or loss of property sustained by fishermen, or for any injury or loss of life which may be incurred in connection with public use of the reservoirs and Watershed System.

11. Breach of peace, profanity or other disorderly conduct offensive to the general public is strictly prohibited within the Watershed system. Possession of and drinking of alcoholic beverages is prohibited within said System.

12. No Person shall drive a motorized vehicle within the Watershed System except upon roads authorized for such use by the Commission or its designee. Recreational vehicles are prohibited on all Watershed System property except the use of snowmobiles in areas designated by the

Commission or its designee. Motor vehicles shall be parked only in areas designated by the Commission or its designee. Operators of motor vehicles shall obey all regulatory signs unless otherwise directed by a police officer or person in charge. No Person shall willfully obstruct the free passage of vehicles or Persons within the Watershed System. Vehicle access for official use may be granted by the Commission or its designee.

13. No Person shall bring any animal within any Watershed System property except for horses and dogs at the Ware River Watershed at areas designated by the Commission or its designee.

14. The use of bicycles, skis and other means of non-motorized transportation within the Watershed system shall be permitted only in areas designated by the Commission or its designee.

15. No Person, except in an emergency, shall bring, land or cause to descend within any Watershed System property any aircraft except with a written permit from the Commission or its designee.

16. Parades, games, fairs, carnivals, fishing derbies, bazaars, gifts or solicitations for raising or collecting funds shall not be permitted within the Watershed System without written approval of the Commission or its designee.

17. Lotteries, raffles, gambling and games of chance are prohibited; and no Person shall have possession of machinery, instruments or equipment of any kind for use of same in the Watershed System.

18. Public assemblies of more than 25 persons shall not be allowed within the Watershed System without a written permit from the Commission or its designee.

19. No Person shall engage in any business, sale or display of goods or wares within the Watershed System without a written permit from the Commission or its designee.

20. Commercial signs and advertising are prohibited in the Watershed System.

21. No Person shall have possession of or discharge any weapon, firearm, fireworks, or other explosive on or within the Watershed System except at times and areas designated by the Commission or its designee. All forms of target shooting are prohibited on or within the Watershed System.

22. No Person may hunt, shoot or trap animals on or within any Watershed System property except at times and in areas designated by the Commission or its designee.

23. All Persons within the Watershed System shall obey the lawful directions of regulatory signs, police officers or persons in charge, or of Federal or Commonwealth wardens or enforcement officers.

24. The Watershed System or parts thereof may be closed for public access at the discretion of the Commission or its designee when necessary to protect the lands and waters under the care and control of the Commission.

25. The possession of all types of metal detectors or similar devices is prohibited on all of the Watershed System property.

(b) *Special Regulations for Quabbin Reservoir*.

1. Persons in compliance with Commonwealth Fish and Game Laws and Regulations, will be allowed to fish from shore in areas designated by the Commission or its designee. A valid state fishing or sporting license is required by any Person renting or launching a boat at any Commission facilities subject to 350 CMR 11.09. Reasonable fees for the use of boats, for rental of outboard motors for fishing purposes, or use of Commission facilities including parking and boat ramps, may be charged by the Commission.

2. Persons permitted to fish from boats shall, at all times, be responsible for the sanitary condition of the boats. Persons under 16 years of age must be accompanied by a Person possessing a valid fishing license in order to boat on Quabbin Reservoir.

3. Only boats of a minimum length of 12 feet, and of a type considered safe by the Commission representative in charge, shall be used. No inboard motors, collapsible boats, sailboats, pontoon boats, square sterned canoes, or other similar craft will be permitted in the water, and no boats will be permitted in the water except in areas designated for boating by the Commission or its designee. Outboard motors shall have a rating of not more than one-half the BIA or OBC rated horsepower for the boat and shall not exceed 20 horsepower, except that outboard motors for Commission boats less than fourteen 14 feet six inches in length shall not exceed ten horsepower. Boats less than 14 feet six inches in length will be limited to three occupants, and boats of that length and in excess thereof may be licensed to carry four occupants. No boats shall carry more than four occupants. Canoes and jon boats of a minimum length of 12 feet, and of a type considered safe by the Commission representative in charge, shall be used and only in areas designated for boating by the Commission on Pottapaug Pond above the regulating dam and at Gate 31 above the regulating dam. Canoes less than 16 feet and jon boats less than 14 feet six inches in length will be limited to two occupants, and canoes and jon boats in excess thereof may be licensed to carry three occupants. All boats must be in compliance with current Commonwealth Boating Laws. All boats must be clean and contain no refuse of any kind. Commission personnel shall have the right to inspect all private boats launched at Commonwealth facilities and may deny access in order to protect water quality or the safety of occupants. Chock blocks must be used on vehicles when removing boats from the Reservoir.

4. No Person shall operate a motor boat at a speed other than reasonable and proper or in such a manner as to annoy or endanger the occupants of other boats.

5. Fishing from the shorelines of the Quabbin Reservoir and its Tributaries within the Watershed System or from boats shall be allowed only during a season designated by the Commission or its designee. All privately-owned

boats, motors and other equipment must be removed from the property of the Commission each day.

6. Boats shall not leave the mooring areas before dawn, and must return at the time posted at each mooring area. The beaching of boats at any point except at the designated mooring and landing areas is strictly prohibited, except in cases of extreme emergency.

(c) *Special Regulations for Ware River*.

1. Persons in compliance with Commonwealth Fish and Game Laws and Regulations will be allowed to fish in the Ware River in areas designated by the Commission or its designee.

2. Powered boats and powered canoes are prohibited within the Ware River Watershed Reservation.

(d) *Special Regulations for Wachusett Reservoir*.

1. Persons in compliance with Commonwealth Fish and Game Laws and Regulations will be allowed to fish from the shore of Wachusett Reservoir in areas designated by the Commission or its designee.

2. Boating is prohibited in Wachusett Reservoir.

3. Fishing from the shoreline of the Reservoir shall be allowed only during a season designated by the Commission or its designee.

(e) *Special Regulations for Sudbury Reservoir*.

1. Persons in compliance with Commonwealth Fish and Game Laws and Regulations will be allowed to fish from the shore of Sudbury Reservoir in areas designated by the Commission or its designee.

2. Boating is prohibited on Sudbury Reservoir except in areas designated by the Commission or its designee.

11.10: Enforcement

Any Person who, without lawful authority, takes or diverts any Waters of the Watershed System or corrupts or defiles any such Waters or any source of such Waters or who violates and refuses to comply with any rule, regulation or order of the Commission shall be subject to the fines set forth in M.G.L. c. 92, § 111. The provisions of 350 CMR 11.00 shall be enforced upon petition of the Commission or of any town or Person interested by the Supreme Judicial Court or Superior Court or any justice of either court as provided in M.G.L. c. 92, § 112. In addition, upon written request by the Division, the Department shall have the authority to enforce the provisions of St. 1992 c. 36 and 350 CMR 11.00 by all legally permitted enforcement mechanisms including, but not limited to: issuing notices of noncompliance; convening pre-enforcement conferences; issuing water supply orders pursuant to M.G.L. c. 111, § 160; and imposing administrative penalties pursuant to M.G.L. c. 21A, § 16 and 310 CMR 5.00. Such written request by the Division to the Department may seek enforcement for a specified type of violation or area, for a designated group of cases or for an individual matter.

11.11: Miscellaneous

(1) Addresses - Offices of Division

Metropolitan District Commission
Quabbin Reservoir
485 Ware Road
Belchertown, Massachusetts 01007

Metropolitan District Commission
Wachusett Reservoir
P.O. Box 206
Clinton, Massachusetts 01510

(2) Address of Commission -

Metropolitan District Commission
First Floor
20 Somerset Street
Boston, Massachusetts 02108

(3) Address of Department -

Department of Environmental Protection
Commonwealth of Massachusetts
Regional Division
One Winter Street
Boston, Massachusetts 02108

(4) Access to Property by Division - Any Person making a request for Watershed determination of applicability, an application for variance or a request for Exemption to the Division shall, upon request, allow the Division or its duly authorized representatives to inspect the property in question in order to assist the Division in the determination which is to be made. Personnel of the Division may enter, at reasonable times, any property, public or private, for the purpose of investigating or inspecting any condition relating to the discharge or possible discharge of Pollutants into the Watershed System and may make such tests as may be necessary to determine the existence and nature of such discharge as provided in M.G.L. c. 21, § 4.

11.12: Severability

If any provision or any part of 350 CMR 11.00 or the application thereof is held to be invalid, such invalidity shall not affect any other provision of 350 CMR 11.00.

11.13: Forms

Forms for use under the Watershed Protection Act shall be as follows:

Form 1 - Request for Watershed Determination of Applicability

Form 2 - Applicability Decision

Form 3 - Application for Variance

Form 4 - Variance Decision for Recording in Registry of Deeds

Form 5 - Request for Exemption of a Tributary

Forms 1, 3 and 5 and a Guidance Document, which may be of assistance in completing the forms, may be obtained from the Division at the addresses specified in 350 CMR 11.11(1) and (2).