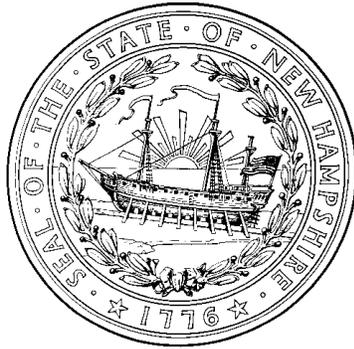


*Regulatory Barriers to Water Supply Regional
Cooperation and Conservation in New Hampshire*



*A Report to the New Hampshire Legislature
As Required by Chapter 64,
Laws of 2000*

Prepared By:

**New Hampshire Department of Environmental Services
&
New Hampshire Public Utilities Commission**

August 14, 2001

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1.0 INTRODUCTION

This report fulfills the requirements of Chapter 64, Laws of 2000 for the New Hampshire Department of Environmental Services (DES) and the New Hampshire Public Utilities Commission (PUC) to conduct a study of regulatory structures which encourage or discourage regional cooperation in drinking water resources management and water conservation, and report back to the Legislature with recommendations by June 29, 2001.

There is increasing concern about periodic drinking water shortages in New Hampshire, especially in public water systems serving the southern tier and the seacoast regions of the state. The term “shortage” implies that the problem is entirely one of impairment of source yield, but supply-side management is only part of the problem. As demonstrated repeatedly during low rainfall periods over past decades, water demand peaks dramatically during dry spells, especially as a result of landscape irrigation, pointing to the need for more effective demand-side management.

The most recent drought during the summer of 1999 demonstrated that limited tools are available to water suppliers to curb customer demand, enforce conservation or to rapidly obtain backup or emergency supplies from contiguous water supplies on a short-term basis. The drought also provided increasing evidence of the need to develop more effective long-range water supply planning in areas where regional cooperation and conservation might jointly play a significant role in resolving water supply deficits. Furthermore, even when water systems have a surplus of water available, water conservation practices can provide meaningful environmental and economic benefits. Increased water use efficiency is also directly linked to improved energy conservation and pollution prevention. Also, as the number of users of New Hampshire’s water resources for diverse purposes expands with time, the potential increases for conflicts between users for drinking water, industrial, commercial and agricultural applications, and environmental resource protection. For example, recent proposals for large groundwater withdrawals for new golf courses and a commercial bottling facility and public comments on the instream flow rules recently proposed by DES have demonstrated the need to continue to clarify the balance between the riparian rights of property owners for new withdrawals with the rights of other existing and potential future water users and the public trust.

In this context, DES and PUC have assessed what improvements to state policies can be made to further promote consideration of regional approaches and water conservation by New Hampshire’s water suppliers.

2.0 STUDY APPROACH

A survey that covered both regional and water conservation issues was developed and distributed to water suppliers and planning organizations. The survey was designed to understand their viewpoints and to identify potential study issues. The survey was mailed to municipal and PUC-regulated water suppliers (150 surveys with 66 returns) and regional

planning entities (50 surveys with 30 returns), including Regional Planning Commissions, Economic Development Agencies, and Regional Development Corporations. Compiled responses to the survey served as the basis for producing issue papers to focus subsequent discussions on identified barriers to regional cooperation and conservation.

A working committee of stakeholders, labeled the Conservation and Regionalization Work Group (CONREG), was formed concurrently with the survey to provide additional focus on the issues defined. This committee was comprised of water suppliers (municipal and privately-owned), regional planners, representatives from the State's Office of the Consumer Advocate, and agency staff. CONREG met on three occasions to discuss issues on state policy, regulation and statute and to assist DES and PUC with the development of the conclusions and recommendations put forth in this report.

This report serves as a summary of this effort. Detailed supporting information is contained in two companion documents that are available upon request: (1) A working document entitled *Detailed Discussion and Analysis of Regional Water Supply Cooperation and Water Conservation Issues, May 3, 2001*; and (2) *Compilation of Survey Questionnaires on Regional Cooperation and Water Conservation, February 20, 2001*.

3.0 UNIVERSE OF REGULATED PUBLIC WATER SUPPLIES

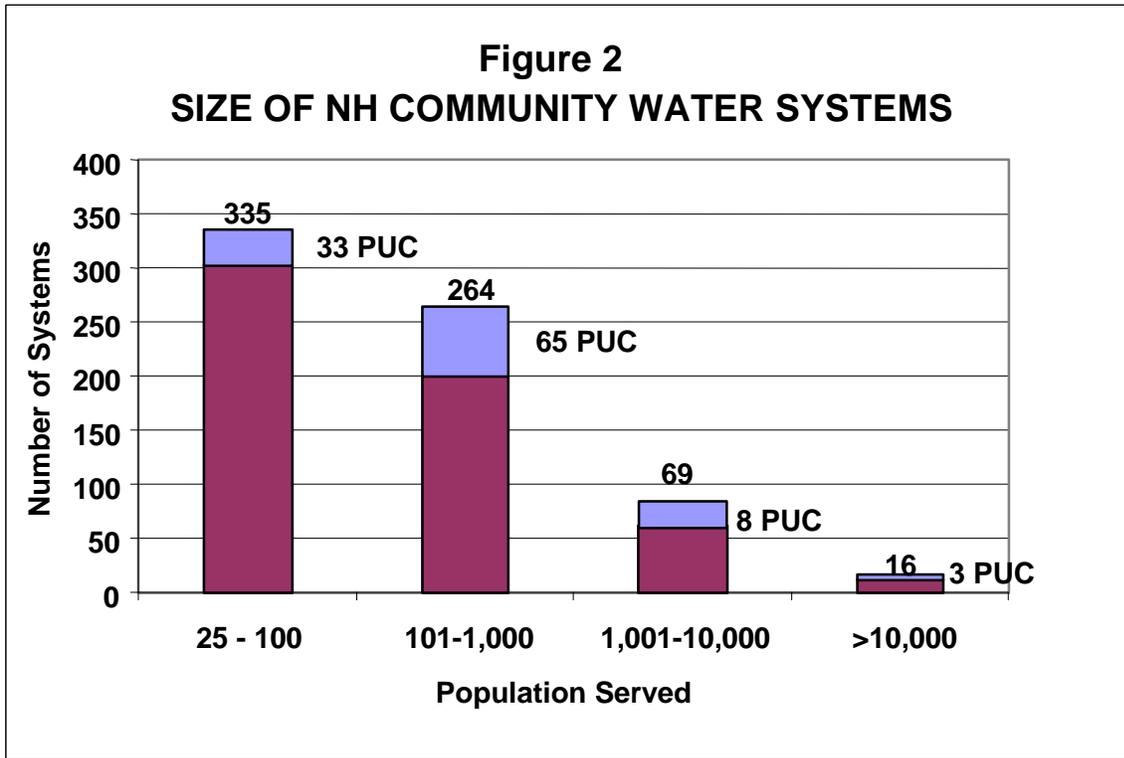
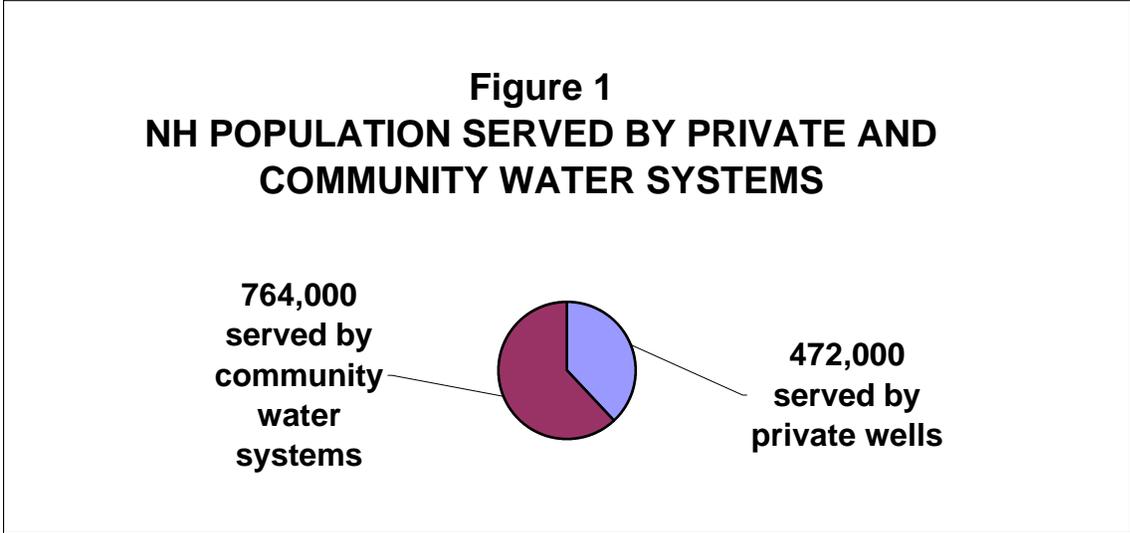
Of New Hampshire's total population of about 1,236,000 people, approximately 62 percent (764,000 people) are provided water from community (residential customer base) public water systems while 38 percent (472,000 people) are served by private, residential wells (Figure 1).

There are 684 community water systems that range in customer base from 15 service connections (small housing developments) to 24,100 service connections (Manchester Water Works). These systems are regulated by DES under both federal and state Safe Drinking Water Acts for water quality, infrastructure integrity, and operator certification. One hundred nine of these community systems, serving approximately 16 percent (200,000 people) of the population, are also regulated for water rates and adequacy of service by the PUC because of their monopoly status (Figure 2).

Of the 684 community public water systems, 134 are owned and operated by municipal entities, including cities, towns and village districts. Municipal systems are not regulated by the PUC unless they provide retail water sales outside their municipal boundaries at a rate that is higher than the rate applied inside of their municipal boundaries.

Thirteen large water utilities provide water service outside their boundaries or core service areas on a wholesale basis (Figure 3). For example, Manchester Water Works provides water through wholesale agreements to eleven external services areas, including the Town of Derry and a portion of Hooksett (Figure 4). Twenty New Hampshire utilities serve significant numbers (greater than 10) of retail customers outside their boundaries (Figure 5).

In this context, “wholesale” means contract sales between communities, districts, or franchises, where the “receiving system” then sells water to retail customers, and “retail” means sales to individual metered service connections. Under current law, wholesale and same-rate retail sales by municipal systems outside of municipal boundaries are exempt from PUC regulation. Only the external sales of one municipal water system, the Manchester Water Works, are higher than internal rates and therefore subject to PUC regulation.



**Figure 3
NH MUNICIPALITIES
THAT PURCHASE WATER
UNDER WHOLESALE
CONTRACT AGREEMENTS**

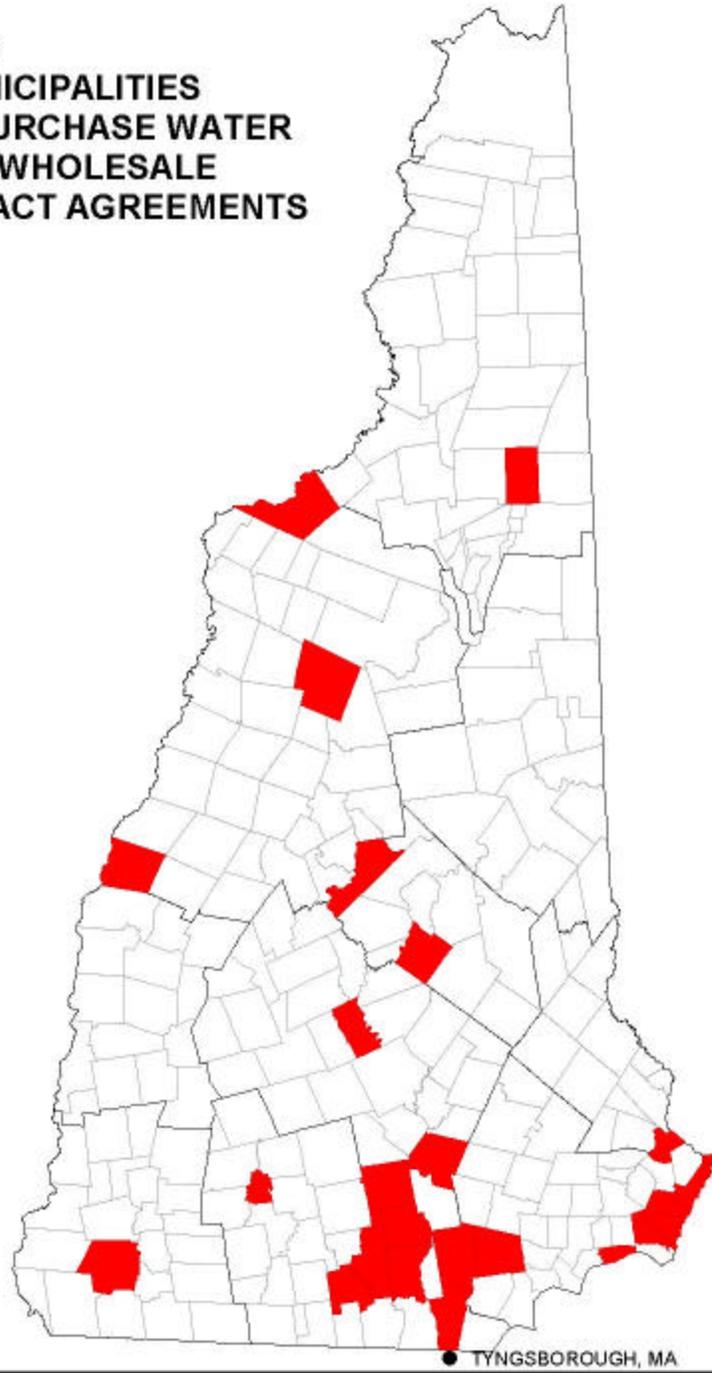


Figure 4 MANCHESTER WATER WORKS DISTRIBUTION AREA

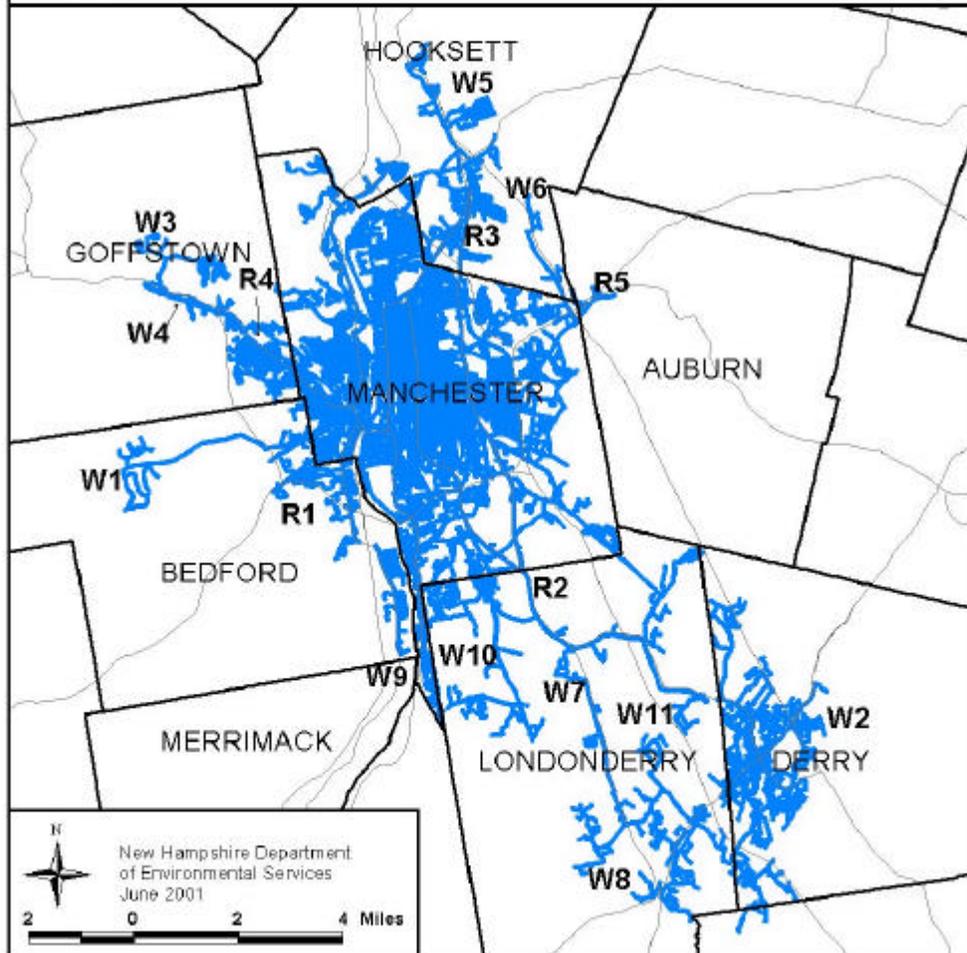
RETAIL SERVICE AREAS

- R1 Bedford
- R2 Londonderry
- R3 Hooksett
- R4 Goffstown
- R5 Auburn

WHOLESALE SERVICE AREAS

- W1 Bedford, Powder Hill (Pennichuck)
- W2 Derry, Derry Water Department
- W3 Goffstown, Grasmere Water Precinct
- W4 Goffstown, Hillsborough County Home
- W5 Hooksett, Central Hooksett Water Prct
- W6 Hooksett, Smyth Woods (Pennichuck)
- W7 Londonderry, Cohas
- W8 Londonderry, PEU Londonderry
- W9 Merrimack, Bedford Town Line Route 3
- W10 Londonderry, Brook Park
- W11 Londonderry, Springwood Hills

-  Town boundary
-  Major Transportation route
-  Manchester Water Works WATER DISTRIBUTION

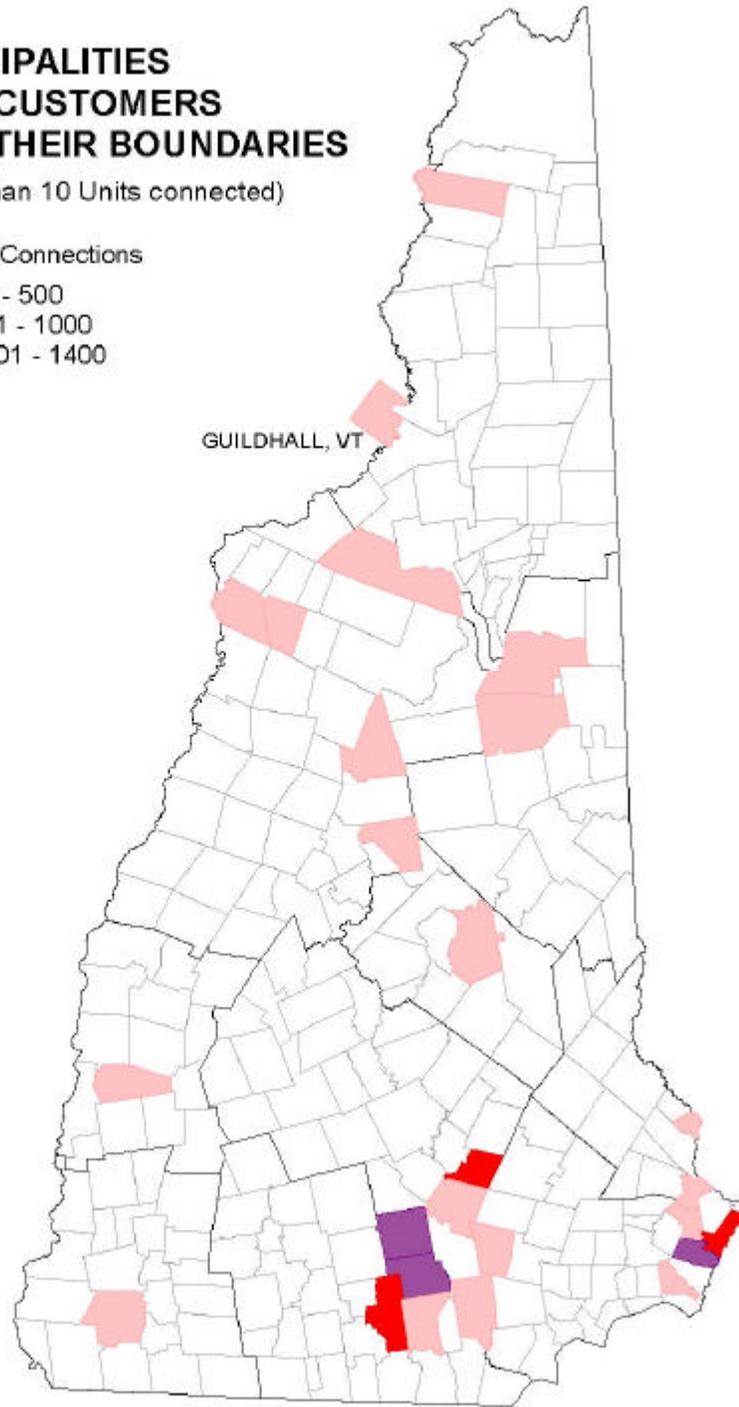


**Figure 5
NH MUNICIPALITIES
SERVING CUSTOMERS
OUTSIDE THEIR BOUNDARIES**

(With more than 10 Units connected)

Number of Connections

- 10 - 500
- 501 - 1000
- 1001 - 1400



4.0 REGIONAL WATER SUPPLY COOPERATION

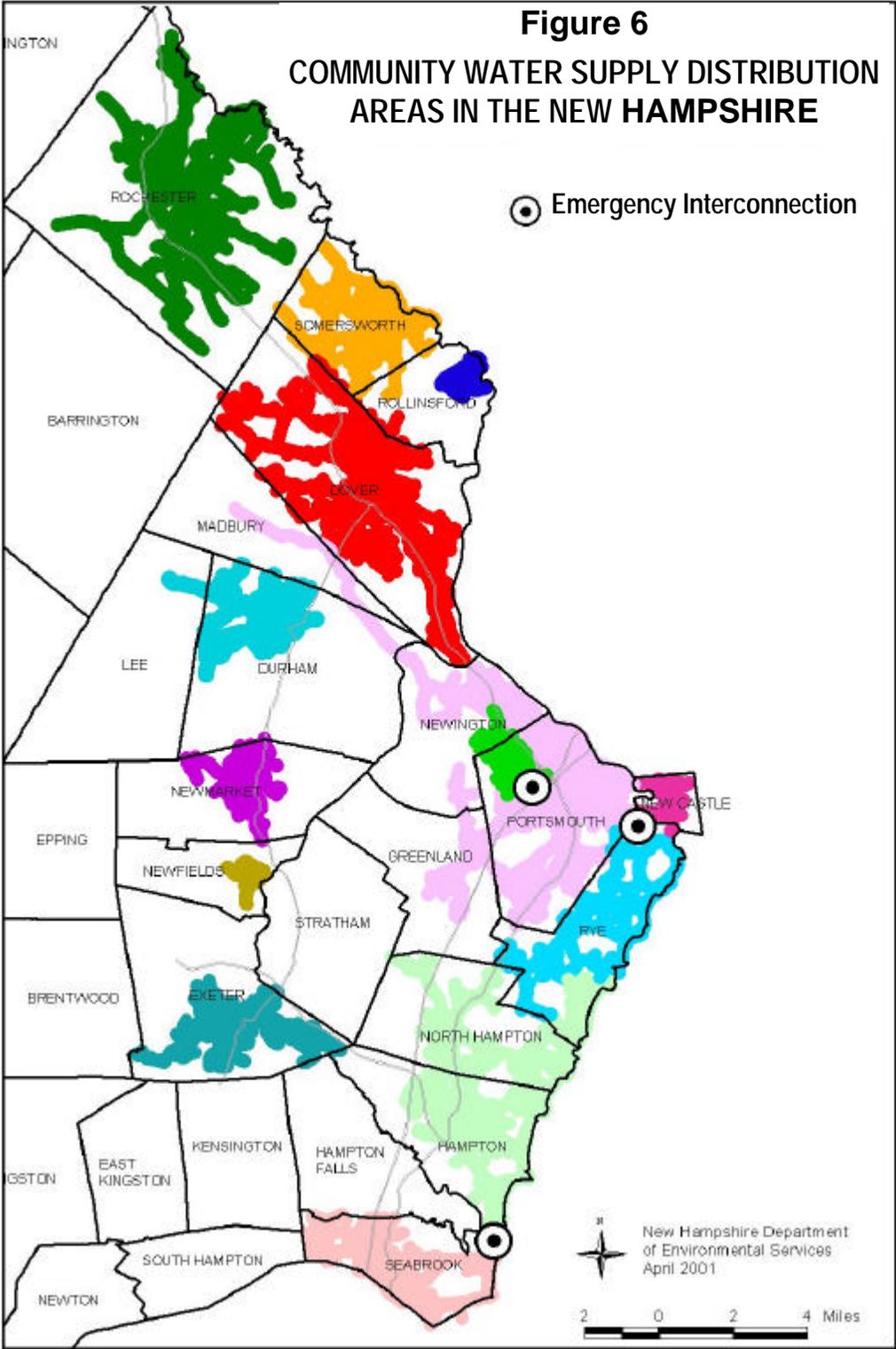
4.1 Overview

Most water systems operate independently of other systems except during water supply emergencies, even in New Hampshire's more highly developed regions. Furthermore, few interconnections exist in some areas, even to address short-term emergencies. For example, the Seacoast region includes thirteen major water supply systems. Despite the proximity of the service areas, only three interconnections exist for backup or emergency purposes. These interconnections exist between Seabrook and Hampton, Portsmouth and Rye, and Portsmouth and the Pease International Trade Port (Figure 6).

In 1990, a study entitled *Water Supply Study for Southern New Hampshire* was completed by the Southern New Hampshire Water Supply Task Force, which was formed in 1987 to develop "broad conceptual identification" of problems facing water supplies in that region of the state. The final report contained a series of recommendations to generally improve the reliability of public water supplies and advance regional water supply planning in southern New Hampshire. Over the last eleven years, a number of the issues raised in the report have been addressed, including:

- The operation, maintenance and long-term financial viability of new and existing developer-built community water systems have improved due to DES's "capacity assurance" regulations. These systems are also now more likely to be affiliated with established water utilities.
- Wellhead protection programs have been implemented for virtually all community public water systems.
- The criteria for siting new large groundwater withdrawals have been detailed in statute and rule to establish a regulatory mechanism for well development outside of the municipal boundaries of the water supplier. This serves to balance the need for new water supply wells with the potential impacts on the environment and existing water users near a well site.
- The Legislature has authorized a Seacoast Water District, comprising of voluntary participation by communities in southeastern New Hampshire to address "intersectional distribution, source location, and other issues related to water resources" (Chapter 42, laws of 1995). The District has not convened to date, and the scope of the District was not defined further, however.

However, one key recommendation not implemented was to develop "an overall planning process to meet the potential water supply deficits in a logical manner through the use of regional water supply plans compiled by Water Utility Coordinating Committees." The Task Force recommended that these committees be created by statute to operate in close conjunction with Regional Planning Agencies to develop and help implement regional



plans. These committees were never formed and the proposed regional water supply plans were not created. Consequently, many of the needs and recommendations in the 1990 report are still applicable today and were considered in the assessment below.

4.2 Regional Water Supply Cooperation Issues Identified

The major issues identified by DES, PUC and CONREG are as follows:

- As highlighted in the 1990 report, there is a need to develop a more systematic approach to plan for and consider regional water supply issues.
- Many municipal water suppliers have a parochial view of their current water supplies and will not readily extend service beyond municipal borders even when this might be part of the “optimum” alternative from a regional perspective. For example, some municipal water suppliers have refused to serve customers beyond their boundaries even to address relatively small, localized water shortages or quality problems in neighboring municipalities; other municipalities have contested water development within their boundaries by public utilities and others. These decisions are frequently driven by (1) the desire to ensure that water is available for future growth within a municipality with existing surplus supply and (2) the competitive advantage that ample water supply provides to attract future industrial and commercial development to communities with surplus capacity.
- This parochial view is fostered by uncertainty about the availability of future sources of supply. This uncertainty is focused in three areas:
 - Public Trust vs. Riparian Rights: RSA 481:1 expresses the State’s role as the trustee of all waters within its borders, and that these waters shall be managed and conserved for maximum public benefit (“the Public Trust Doctrine”), broadly defined as water quality and quantity sufficient to protect the public’s interest. The right to use water in New Hampshire is also based on the Riparian Doctrine, which generally means that property owners have the right to reasonable use of water resources on or abutting their property, and historically deeded water rights. There is uncertainty about when a riparian use may be limited by the state’s need to protect the public trust.
 - There has not been a hierarchy of water users established by law, so that one user’s riparian right to water is equal to another’s. For instance, current law treats water needed for recreation or commercial purposes such as bottled water, the same as drinking water supply.
 - There is uncertainty about long-term future supply due to state regulation of surface and groundwater withdrawals that ensures the protection of existing water resources and users.
- Emergency interconnections do not exist in most locations, even where they are viable

and add to the overall reliability and integrity of individual water systems and a regional water supply as a whole.

- Regulation of external municipal water rates under RSA 362:4 was relaxed in 1989 by the exemption of wholesale intermunicipal agreements and external rates equivalent to those within municipal boundaries. Despite this, many municipalities are still reluctant to serve external retail customers.
- Water utilities regulated by the PUC could usefully participate more as active partners in state and regional planning studies and source development efforts. These utilities, in turn, would benefit from greater assurance that costs of these planning efforts incurred in the public interest will be rate-recoverable.

5.0 WATER CONSERVATION AND EFFICIENT USAGE

5.1 Overview

In communities across New Hampshire, particularly in the southern tier as noted in Section 4, the available water supply is becoming more limited with increased growth and with greater regulation to resolve potentially competing uses. Water resources are increasingly stressed and the regulatory requirements for new source development continue to become more complex as the right balance is sought between existing and future water supply needs for different purposes and environmental concerns. Consequently, demand-side management of public water suppliers through water conservation and efficient water usage will become increasingly important with time.

Water resource management is vital to maintaining a sustainable community in part because:

- Fresh water is a finite, precious resource with competing demands for its use.
- Efficient water usage improves both energy efficiency and pollution prevention efforts.
- The capacity of surface waters to assimilate wastewater is limited and can be better utilized by reducing wastewater flows.
- The development and treatment of new water supply sources and the construction of additional wastewater treatment facilities is expensive. These costs can be lowered by decreasing capacity requirements through water conservation and efficient water usage.

Water conservation and efficient water usage generally includes any reduction in water losses, waste, or use. Efficiency in water usage aims at providing the same end use benefit of water, but using less water to achieve it. For drinking water suppliers, these measures may

include planning, public information and education programs, water metering to account for water use and reduce unaccounted for water, rate structures that encourage efficient or reduced water usage, requiring or retrofitting more efficient water fixtures, and offering programs or financing vehicles to assist customers in choosing more efficient water fixtures.

In Appendix I, New Hampshire statutes and administrative rules that have potential significant impact on the implementation of water conservation practices are summarized and positive and negative impacts of each provision are identified. These requirements generally foster a regulatory framework that encourages water users to practice efficient water usage. However, some also create unintended disincentives for water conservation measures.

5.2 Water Conservation Issues Identified

The major issues identified by DES, PUC and CONREG are:

- New Hampshire does not have a comprehensive legislated policy regarding water conservation that overlays all programs affecting the planning and management of the state's water resources.
- Water demand management can have dramatic effects on water consumption without reducing customer end use enjoyment and functionality. New or retrofitted water fixtures or appliances use much less water and electricity than older models. For example, studies show that new washing machines reduce water usage by 36% and energy consumption by 60%. New Hampshire's electric utilities have implemented rebate programs that allow some customers to purchase new water and energy efficient washing machines they would not otherwise have purchased. Once introduced into the market, the unit price of these machines generally becomes lower as popularity and sales increase, thus transforming the market for such products. But rebate programs do not reach all customers, require charges to non-participants, and suffer from the problem of free riders. This has spurred some designers of these types of programs to look for other ways of overcoming market barriers to customer purchase of efficient products. Also, concerns have been raised in other states about separate utility-by-utility programs, and utility disincentives to optimize usage reduction. Vermont has created a statewide energy efficiency utility to manage all electric and gas utility demand side management programs.
- Traditional ratemaking for PUC-regulated utilities provides strong financial incentives to promote greater water usage, rather than water conservation or efficiency that would reduce water use. This is because rates are set to recover a particular revenue requirement, and once rates are set, additional sales tend to increase income faster than costs (increasing net income), and conversely lower sales tend to depress income faster than cost savings (lowering net income). Only when supplies are short and large investments in new plant would be needed absent usage reduction is there an incentive to hold down usage. If a water conservation rate structure or other water efficiency program was adopted by a utility, the volume of water sold would be reduced and the utility would

typically realize less revenues and accordingly smaller profits. This provides a strong disincentive for regulated utilities to implement conservation efforts unless there is a shortage of supply associated with a particular water system.

- Certain common rate design structures, such as declining block rates, provide incentives for customers to increase usage, regardless of the efficiency of their usage. Other rate designs exist that tend to reward efficiency. Rate design is a complex art, with many factors that need to be balanced. The impact on utility earnings is one component.
- In the electric and gas industries, a number of approaches have been tried to overcome the utilities' economic disincentive to lowering water use. For instance, in some states regulated utilities are provided opportunity for a greater rate of return on the successful implementation of water conservation practices than for other capital investments. Utility commissions, including the PUC in New Hampshire, have provided incentives for successful energy reduction efforts of electric or gas utilities. However, these forms of incentives or premiums on the rate of return are typically not large enough to overcome the earnings-reduction effect of usage reduction under the current method of computing revenue requirements. In some areas, state regulators have provided "lost base revenue recovery" to hold a utility harmless from efficiency-program usage reductions. These have been criticized for increasing rates to non-participants, a problem that is especially difficult when present rates are high, future-looking costs of a utility are declining, but such recovery would dampen the decline in rates. Other states have used alternative rate setting methods, such as the "revenue per customer cap" used for Pacificorp in Portland, Oregon, which delinks the profits of the company from the customers' usage. Such delinking may be the only way to remove the disincentive to use reduction, but it is a new approach not in general use.
- While there is a long history of efficiency and demand management programs in the energy area, there is less experience with water utility demand management, particularly in the Northeast. Water conservation measures that are eligible for rate reimbursement for PUC-regulated utilities are not always clearly identified. Establishing a pre-approved list of water conservation activities might eliminate one step in the regulatory process, thus encouraging water suppliers to implement water conservation activities. Also, in the energy area the PUC has recently begun focusing on the specific barriers confronting customers who wish to install more efficient fixtures, but do not do so, even with rebate programs and other incentives. The PUC has directed two electricity utilities to pilot a Pay As You Save (PAYS) approach to enable customers to leverage their own funds to install electricity saving devices, with upfront financing by the program, paid back over time on the bill. Such an approach might also be considered in the case of water utilities, particularly where there is concern about raising customer rates to pay for efficiency measures for participating customers.
- Water conservation pricing needs to be carefully implemented to ensure that other negative environmental or public health impacts do not occur. For example, if a utility implements water conservation rate structures that encourage efficient water use,

residential water users may opt to construct private wells in lieu of practicing conservation, possibly resulting in lower quality water supplies for these households.

- During drought periods when local water use restriction moratoriums are in effect, chronic violators of moratoriums are a persistent concern in many communities. Some customers make the economic decision to pay fines and continue high water usage, for example, by lawn watering. Potential solutions may include:
 - Substantially escalating fines and penalties imposed by regulated utilities for chronic violators during periods of critical water shortages.
 - The state establishing a process that a water utility can utilize to seek formal support by DES or PUC for implementing water use restrictions when potential water supply shortages are predicted.
 - The state developing and promoting a model ordinance or bylaw with language on municipal water use restrictions.
- Due to federal requirements, loans from the Drinking Water and Clean Water State Revolving Loan Funds cannot be used for many potential water conservation projects such as improvements that are owned and operated by private individuals and companies. There is a potential opportunity to provide financial incentives for water conservation and efficiency projects that cannot occur under current federal requirements.

6.0 RECOMMENDATIONS

Regional Water Supply Cooperation

Recommendation 1: By December 31, 2001, DES and PUC should reconvene the Southern New Hampshire Water Supply Task Force to discuss the recommendations contained in this report and the *1990 Water Supply Study for Southern New Hampshire*. Voluntary participation in regional water supply planning by water suppliers and regional planners is critical to the long-term management of New Hampshire's water resources. This group is a good vehicle to further this process.

Recommendation 2: The Legislature has authorized a Seacoast Water District, subject to the provisions of RSA 53-A, to enable voluntary participation by communities in southeastern New Hampshire to address drinking water issues (Chapter 42, Laws of 1995). **DES and PUC should convene possible District members to discuss ways they could to work in conjunction with the Southern New Hampshire Water Supply Task Force on issues raised in this report.**

Recommendation 3: By December 31, 2001, PUC should recommend legislation to enable PUC to authorize rate premiums for intermunicipal retail water service to

provide additional incentive for municipalities to serve retail customers outside of local boundaries. The willingness of municipalities to serve in this manner is important to relieve water quality or quantity problems at individual residential or small public water supplies. The rate premium charged to external retail customers could be capped at a percentage over that charged to internal customers. Issues requiring consideration also include prospective application of rates, grandfathering of current external customers, addressing free riders, and standards for measuring public good.

Recommendation 4: State grant and loan programs should be enhanced to further encourage regional approaches by the following actions:

- By December 31, 2001, DES should propose legislation to expand the eligibility for state-aid water supply grants to include projects with significant benefit to regional water supply needs, including system emergency interconnections. (These grants are now only available for surface water treatment rule compliance projects.)
- By December 31, 2001, DES should propose legislation to ensure that regional water supply needs are considered by making it a condition of receiving grant and loan funds for municipal water supply infrastructure projects.
- By December 31, 2001, DES should propose changes to state-aid grant and loan program administrative rules to provide higher priority for projects that address regional water supply needs.
- By December 31, 2001, DES should develop cost estimates of the fiscal impacts of the proposed changes on state and federal funding sources.

Recommendation 5: By December 31, 2001, DES and PUC should propose legislation to establish a statutory process to provide for mandatory intermunicipal extensions or connections under certain critical or emergency conditions, such as when severe water supply quantity or quality problems exist. This could include a petition process to DES and/or PUC such as the procedure that currently exists under RSA 482:79 for lake level determinations at dam-controlled impoundments, under which DES must conduct an investigation, make a decision, and issue an order.

Recommendation 6: By December 31, 2001, DES should propose legislation to develop a process for the Legislature to assess further the potential conflict over competing water uses. The Public Water Rights Study Committee established by the Legislature under Chapter 148, Laws of 1990 stated that “there is a need for a direct and comprehensive statutory statement of policy asserting the reach of the state’s public trust interests and establishing clear directives for regulating withdrawals from public waters.” A legislative study committee should be established to (1) clarify the hierarchy of water uses which would enable determination of the “most beneficial use” for a given available water source, including consideration of environmental concerns, such as in-stream flow protection, and (2) define a process by which new water users would be required to develop the “least impacting

alternative”, to require water users to collaborate on regional water management issues. Collaboration with area Regional Planning Commissions may also facilitate regional water strategies.

Recommendation 7: DES and PUC should develop a procedure by which a PUC regulated utility may propose and obtain pre-approval from both the PUC and DES to participate in advanced regional technical planning, including new source development. The goal of the pre-approval would be to obtain agreement on the scope of the project to be undertaken and the portion of the project which would be rate recoverable. To allow rate recovery before improvements are used and useful, legislative changes to RSA 378:30-a, popularly known as the anti-CWIP statute, would be required.

Water Conservation

Recommendation 8: Establish a formal state policy on water conservation for all state operations and programs that affect the planning, use and management of the state’s water resources by the following actions:

- By December 31, 2001, DES should recommend to the Governor an executive order to establish this policy.
- By December 31, 2001, DES should recommend legislation that integrates water conservation requirements into all applicable state statutes.

Recommendation 9: By December 31, 2001, PUC should propose legislation that amends RSA 378, Rates and Charges, to allow the PUC to provide more incentives for PUC-regulated utilities to promote water conservation practices.

Recommendation 10: By December 31, 2001, PUC and DES will establish a mechanism to support water-use restrictions during times of drought and create a model ordinance for municipal water use restrictions. Such a mechanism may include increased fines or the ability to terminate water service of offenders.

Recommendation 11: By September 30, 2001, DES and PUC Commissioners should express to the Congressional delegation and EPA the need for the State Revolving Loan Fund eligibility requirements to be expanded to enable funding of end user water conservation projects.

Recommendation 12: DES and PUC should jointly develop a public outreach initiative for water conservation that may include advertisements that can be aired on television and radio, and placed in print media for implementation in the summer of 2002. DES and PUC should also investigate funding mechanisms for this initiative.

Recommendation 13: By December 31, 2001, PUC should convene a proceeding open to all water utilities and other interested persons, to consider innovative water utility

ratemaking structures, rate design approaches, establishing a pre-approved list of water conservation activities that are eligible for rate reimbursement, and establishing efficiency programs, such as PAYS or other such assistance to consumers and develop policy recommendations for implementation, at least on a pilot basis, by December 31, 2002.

Appendix I
Statutes and Regulations that Impact Water Conservation Practiced By Public Water Suppliers Regulated by DES and PUC

Description of Existing Statute/Regulation	Impact on Water Conservation	
	<i>Positive</i>	<i>Negative</i>
RSA 378 – Rates and Charges (PUC)	Not applicable.	PUC regulated utilities are permitted by law the opportunity to earn a reasonable rate of return on their investment. The rate structure is determined by establishing a revenue requirement based on a utility’s capital expenditures, a reasonable rate of return, the operating and maintenance costs of the system, and the volume of water sold. If a water conservation rate structure was adopted by a utility, the volume of water sold would be reduced and the utility would thus realize less revenues and smaller profits. This provides a strong disincentive for regulated utilities to implement conservation efforts.
RSA 378:30-b - Conservation Investments; Included in Rates - (PUC) Allows recovery of costs related to conservation for PUC-regulated utilities. Cost or value can be included in rates regardless of whether the utility’s capital improvement or program is implemented in or on the utility’s premises or at the location of the water user.	Ensures that water and energy conservation is part of a PUC rate regulated utility’s rate making policies. The statute allows for the cost of water conservation plans to be recovered by water companies.	PUC regulated utilities have indicated that the state needs to definitively list or define the specific water conservation measures (infrastructure and administrative measures) that are allowed to be incorporated into ratemaking. Utilities have indicated that water conservation measures can result in costs that they are not guaranteed will be recoverable through ratemaking until PUC approves them. This typically is after the expenses are incurred. Water suppliers indicated that this puts them at a financial risk, and discourages them from aggressively implementing conservation measures.

Appendix I
Statutes and Regulations that Impact Water Conservation Practices of Public Water Suppliers Regulated by DES and PUC (continued)

Description of Existing Statute/Regulation	Impact on Water Conservation	
	<i>Positive</i>	<i>Negative</i>
<p>Administrative Rule Puc 604.08 – Conservation (PUC) Mandates that each PUC-regulated utility adopt appropriate measures to foster and promote water conservation in its operations and by its customers.</p>	<p>This rule creates an underlying obligation for PUC rate regulated utilities to incorporate water conservation practices into their operations.</p>	<p>Performance standards and the measurement and reporting of the effectiveness of conservation measures being implemented is not required. Therefore, it is difficult to determine if water utilities are complying with this requirement.</p>
<p>Administrative Rule Puc 604.07 - Shortage of Supply (PUC) Provides PUC-regulated water utilities flexibility to enforce water conservation among users.</p>	<p>Allows a PUC rate regulated water utility to modify water conservation plans with just 24-hour notice. This allows water companies to equitably apportion its available water supply among its customers and maintain public health and safety.</p>	<p>This rule does not present any barriers to implementing water conservation practices.</p>
<p>Administrative Rule Puc 605 – Meter Testing and Accuracy (PUC) This regulation requires that PUC rate regulated utilities install and maintain water meters.</p>	<p>Metering all consumption makes customers pay based on usage and this encourages conservation. With accurate knowledge about current demand, the supplier can more effectively identify potential water savings, assist specific users to implement water saving measures, thereby providing the opportunity to reduce overall system demand and plan efficiently for system growth.</p>	<p>This regulation is limited to PUC rate regulated utilities only.</p>
<p>RSA 485:3 and 485-C – New Hampshire State Drinking Water Act and Groundwater Protection Act Requires that anyone developing large groundwater withdrawals (> 57,600 gallon over any 24-hour period) from a wellhead installed after July, 1998 develop a water conservation plan and provide a demonstration of need for the requested withdrawal volume. The rules also requires metering of, and accounting for, water uses associated with all new withdrawals.</p>	<p>Requires that a water user demonstrate a need for a new large groundwater withdrawal by the development and implementation of a water conservation plan.</p>	<p>These laws do not require that a demonstration of need or a conservation management plan be developed prior to developing a new source of water other than large groundwater withdrawals.</p>

Appendix I
Statutes and Regulations that Impact Water Conservation Practices of Public Water Suppliers Regulated by DES and PUC (continued)

Description of Existing Statute/Regulation	Impact on Water Conservation	
	<i>Positive</i>	<i>Negative</i>
Water Quality Rules		
Env-Ws 904 – Standards for Pretreatment of Industrial Water (DES)	DES requires that POTWs provide industrial dischargers with a mass based pollutant discharge standard. Therefore these regulations are supportive of water conservation, as they do not require excessive water use to lower the pollutant concentration in discharged water.	This rule does not present any barriers to implementing water conservation practices.
Env-Ws 1500 – Groundwater Discharge Permit (DES)	Groundwater discharge permits require that all discharges that contain a regulated contaminant receive treatment by best available technology before discharging to the groundwater. Furthermore, a limitation to the discharge volume is often attached as a condition of the permit. Therefore, this rule generally does not discourage water conservation or encourage excessive water use to facilitate the dilution of the discharged pollutants.	This rule does not present any barriers to implementing water conservation practices.
Env-Ws 1700 – Surface Water Quality Regulations (DES)	This rule provides surface water quality protection criteria based upon the waste assimilation capacity of the river and the loading rate of discharges. Generally, effluent water quality discharge standards within these rules are mass loading based, and assess the resulting concentration of pollutants in the receiving waters. Therefore these regulations do encourage water conservation.	This rule does not present any barriers to implementing water conservation practices.