

# Water Supply Land Protection Grant Program

## Fourth Report June 2008 – June 2010

Prepared by the New Hampshire Department of Environmental Services  
in accordance with RSA 486-A:9, II

June 2010



Cover Photo: Lake Massabesic – Auburn, NH (Water Supply for Manchester, NH)  
Source: <http://www.city-data.com/city/Auburn-New-Hampshire.html>

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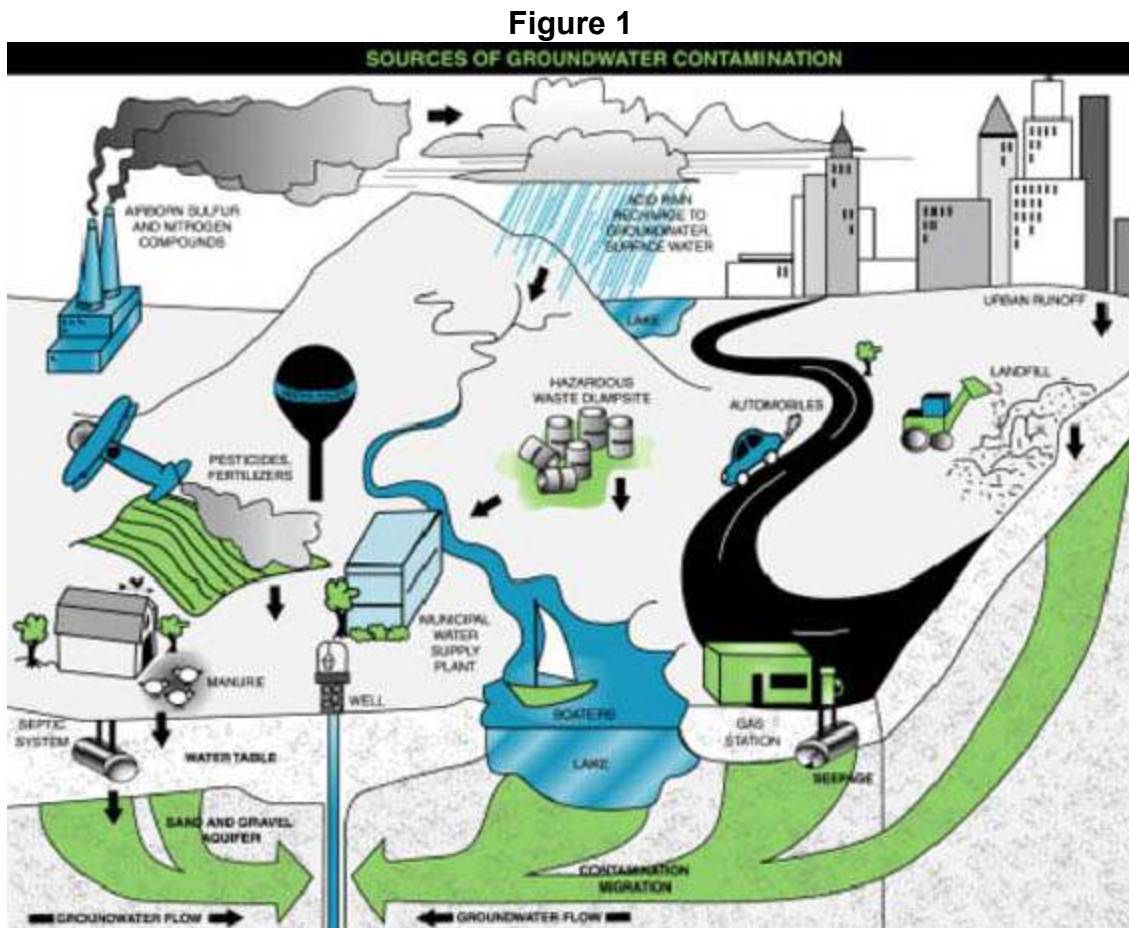
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## A. INTRODUCTION

New Hampshire will likely continue to be the fastest growing state in the Northeast, presenting a challenge to municipalities responsible for supplying high quality, safe drinking water to their residents. The challenge is to maintain high-quality water supply sources in a changing landscape. Industrial, commercial, and residential development all have the potential to degrade drinking water quality. Rainwater flows across roadways, driveways, roof tops, lawns, and parking lots, gathering contaminants such as motor oil, gasoline, pesticides, fertilizers, and road salt before the water infiltrates into the ground or flows into surface water. In contrast, a natural landscape, particularly when forested, filters and slows down water before it reaches surface water and groundwater. Forests not only filter water but release it more gradually than developed surfaces, so that forested land surrounding a drinking water source preserves not only the quality of the water, but quantity as well.

Figure 1 below shows the relationship between sources of contamination and groundwater sources of drinking water.



Source: <http://cis.stclaircounty.org/planningeduc0054.asp>

Keeping water supply lands in an undeveloped state is an integral part of water supply protection. The multiple-barrier approach to water supply protection, adopted by the U.S. Environmental Protection Agency and the water supply industry, encompasses a range of strategies, from selecting the best available water sources and protecting them from contamination, to measures that focus on the treatment, monitoring, and distribution of water. Under this framework, these multiple barriers work together to help ensure a safe supply of drinking water. No single aspect of water supply management, such as treatment, should be relied upon to the exclusion of other elements such as source protection.

Water suppliers have practiced source water protection for centuries, if not longer. As early as 1610, the Governor of Virginia issued a proclamation prohibiting various activities within  $\frac{1}{4}$  mile of the fort at Jamestown in order to protect the settlement's water supply wells.<sup>1</sup> Today, source water protection strategies range from land conservation to zoning-based restrictions on land use to programs that seek to ensure the implementation of best management practices where hazardous substances are used.

Some communities, typically larger cities with old water systems, have long practiced source water protection by purchasing land around their drinking water intakes - this has been most often used in protecting surface water supplies rather than wells. For example, Manchester Water Works has used Lake Massabesic as its water supply source since 1874 and now owns 8,000 acres of land, including 95% of the Lake's 28-mile shoreline.<sup>2</sup> The City of New York, which has drawn its water supply from watersheds at least 40 to 100 miles away since 1842, committed \$250 million for land conservation over a recent ten-year period.<sup>3</sup> The Commonwealth of Massachusetts owns or controls nearly 29,000 acres (57%) of the vast Quabbin Reservoir watershed, which came on line as a water supply source for metropolitan Boston in 1948.<sup>4</sup>

Purchasing land or placing conservation easements on critical water supply land, over which water flows towards surface water and groundwater drinking water sources, is by far the most effective way to protect drinking water by preserving forested buffers. A conservation easement is a legally binding agreement that limits certain types of activities and development from taking place on the land. (A more detailed definition of a conservation easement can be found in Appendix E and model conservation easements in Appendices F and G). A 2002 study by the Trust for Public Land and the American Water Works Association looked at 27 surface water supplies and found that for every 10 percent increase in forest cover in the drinking water source area, treatment and chemical costs decreased approximately 20 percent.<sup>5</sup>

Despite the importance of protecting natural forest land buffers, a 1998 study prepared by the Society for the Protection of New Hampshire Forests (SPNHF) for the N.H. Department of Environmental Services (DES) found that in New Hampshire, only 11 percent of the lands through which water flows to sources of public drinking water supplies were protected via ownership or conservation easement.<sup>6</sup> The study also reported that 39 percent of community water systems do not even own the sanitary protective radius (150 - 400 feet) around their wells.<sup>7</sup>

Manchester Water Works is not alone in having the foresight to protect its water supply watershed lands; many water systems in New Hampshire benefit from locating their sources in areas protected by the municipality (as in Concord, Gorham, and Hancock, to name a few), the state

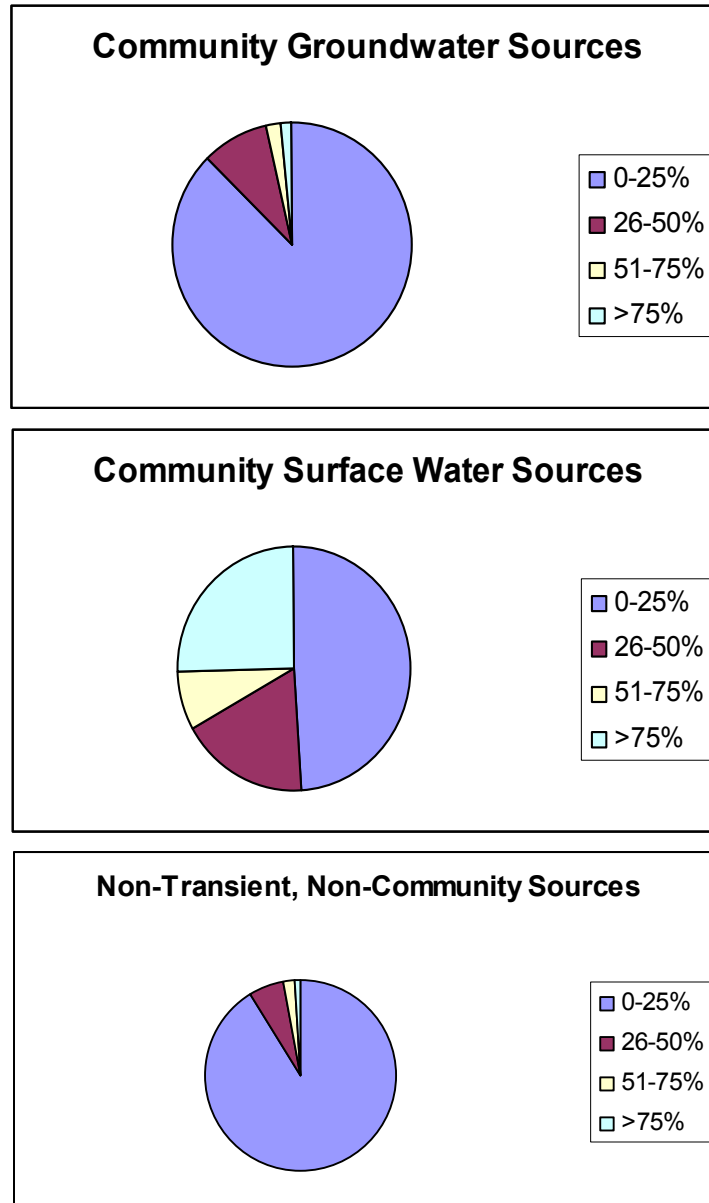
(Pembroke), the White Mountain National Forest (Bartlett, Berlin, Bethlehem, Jackson, Lancaster, Lincoln, and Littleton), and non-profit land conservation organizations (Troy).

Unfortunately, the vast majority of source water protection areas are largely, if not completely, unprotected. Figure 2 below shows the percentage of protected land in source water protection areas for three different types of public water supply sources: groundwater sources used by community systems; surface water sources used by community systems; and sources used by non-transient, non-community systems. (A community system serves year-round residents, while a non-transient, non-community system (NTNC) serves at least 25 of the same people each day in a non-residential setting. A school would be an example of an NTNC.)

Here, source water protection areas are the land that contributes to surface water bodies, such as reservoirs or rivers, being used as public drinking water supply sources. This term also includes wellhead protection areas, the land that contributes to public water supply wells.

Figure 2 shows that approximately 90% of community groundwater sources and NTNC sources have 25% or less of their source water protection areas in conservation land, while 50% of community surface water sources have 25% or less of their source water protection areas in conservation land.

**Figure 2**  
**Percentage land protected in source water protection areas by**  
**different types of public water systems**



The availability of potential sources of future water supply is also dwindling. In 2009, DES awarded a Local Source Water Protection grant to SPNHF to review and update a statewide analysis DES performed in 1999, published as two volumes titled, *A Guide to Identifying Potentially Favorable Areas to Protect Future Municipal Wells in Stratified Drift Aquifers*. This “favorable gravel well analysis” identifies sand-and-gravel aquifers that hold the potential for high yield water supply wells. SPNHF used up-to-date geographic information system data to overlay on each stratified aquifer a series of prescribed buffer distances based on hydrological features and

on development and potential contamination sources, such as highways, pipelines, and railroads. SPNHF analyzed remaining aquifer area outside the buffer areas for potential well yield using U.S. Geological Service data on aquifer characteristics. Their findings were that:

- The total area of all mapped sand-and-gravel aquifers in New Hampshire is only about 805,000 acres, or 14 percent of the state's land area.
- Only about 85,000 acres, or 11 percent, of that aquifer area is suitable for wells pumping 75 gallons per minute or more (minimum volume for a large community well).
- Only about 20 percent of the 85,000 acres is permanently protected from development.

Adding to the scarcity of available future well sites, many of the remaining high-yield zones in New Hampshire's aquifer basins are in rural or remote areas away from the rapidly urbanizing southeastern quarter of the state.

## **B. WATER SUPPLY LAND PROTECTION GRANT PROGRAM DESIGN**

In response to the need demonstrated by the 1998 SPNHF report, the New Hampshire Legislature created the Water Supply Land Protection (WSLP) Grant Program in 2000, giving municipalities and non-profit water suppliers the opportunity to obtain grants for the purchase of land or conservation easements.

### **1. Statutory Requirements**

RSA 486-A is the statute that establishes the DES WSLP Grant Program. Grants for the purchase of land or conservation easements are available to municipalities and non-profit organizations having water supply as their principal mission. The statute also provides that grants under the program cover up to 25 percent of total project costs, with 75 percent of the cost being matched by the entity requesting the grant. RSA 486-A:12 allows the applicant's 75% match to consist of:

- Cash;
- Transaction expenses, including associated legal and transaction costs;
- Donations of source water protection lands or conservation easements assessed at fair market value and protected in perpetuity; or
- A combination of cash, transaction expenses, and land donations.

Effective July 16, 2009, RSA 486-A:2 was amended to expand the eligibility for the grants to future sources of public drinking water and broaden the definition of grantees to include non-profit land trust organizations.

RSA 486-A:7, II establishes the following eligibility and application requirements for the program:

- The land or conservation easement must be from a willing seller and be within the source water protection area or wellhead protection area of an active, proposed,<sup>1</sup> or future<sup>2</sup> public drinking water source;
- The source must supply a community or non-transient non-community water system;
- The land or conservation easement must be owned in perpetuity by the grantee;
- The land must be maintained in perpetuity to protect the drinking water source and no land use or development shall occur that would diminish the quality of the drinking water; and
- The applicant shall provide required stewardship, that is, ongoing surveillance of the land to ensure that the conservation intent is maintained, and submit annual stewardship reports to DES.

RSA 486-A:8 requires that DES establish rules governing the prioritization of applications and include the following factors:

- Distance from and relation to the drinking water source;
- Size of the area proposed for protection relative to size of the source water protection area;
- Natural resource values, including wetlands, habitat protection, and recreational uses;
- Current protection status of the source water protection area; and
- Ability of the applicant to pay for water supply land protection.

Finally, RSA 486-A:11 directs DES to adopt rules to implement the program and further describe requirements for eligibility determination and procedures and requirements for applications, project selection and prioritization, and stewardship.

A copy of RSA 486-A can be found in Appendix A.

## **2. Eligibility requirements and application ranking and selection**

The administrative rules that DES has adopted, Env-Dw 1002, require that a project meet the following criteria in addition to the criteria set forth by the statute described above:

- The land being protected must be undeveloped and free of known and potential contamination sources;
- The project eligibility application must be approved by the local governing body of the municipality applying for the grant, where the applicant is a municipality; and
- The land to be protected must not already be permanently protected and not currently owned by the applicant.

The criteria DES uses to rank and select applications can be found at Env-Dw 1002.12 and are summarized in Table 1 below.

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<sup>1</sup> “Proposed source” is defined in Env-Dw 1002.02(n) as “a proposed well or surface water intake for which a community or non-transient non-community water system has received all required approvals from the department.”

<sup>2</sup> “Future source” is defined in RSA 486-A:2, IV-a. as “(a) Stratified-drift aquifer areas identified by the department as favorable gravel well areas not constrained by existing development; and (b) Other groundwater resources identified by the department as high-yielding aquifer areas not constrained by existing development.” DES has identified and mapped the areas in (a) but not the areas in (b).

<b>TABLE 1 PRIORITIZATION FACTORS</b>
Type of water system (NTNC, community, or municipal)
Size of water system (people served)
Number of sources that will be protected
Size of the area proposed for protection (acres)
Natural resource values, including wetlands, habitat protection, and recreational uses
Distance from and relation to the drinking water source
Length of riparian frontage
Size of match over 75% provided by applicant
Number of water protection measures being implemented (e.g., educational program; water conservation plan; source water protection area regulations)
Average per capita income and equalized taxable valuation for the municipality where those served by the water supply reside

A complete list of the criteria and the scoring system is in Appendix B.

The administrative rules also set forth the application process for obtaining water supply land protection grants. There is a grant round in the spring and/or the fall depending on the availability of grant funds. The process consists of the following steps:

- Applicant submits a complete project eligibility application by the deadline announced by DES for that grant round.
- DES uses the information provided in these applications to determine which projects are eligible using the criteria in Env-Dw 1002.05. DES then does a preliminary ranking of the projects using the priority ranking system in Env-Dw 1002.12 and notifies applicants within 30 days of the eligibility application deadline whether they are eligible and provides the results of the preliminary ranking.
- DES staff arrange with the applicants to visit the properties that have been conditionally selected to receive a grant.
- Applicants submit a final grant application package to DES by the deadline announced by DES for that grant round, typically two months after the eligibility application deadline.
- DES notifies applicants within 60 days of the final application deadline as to whether their project has been selected to receive a grant award pending Governor and Council approval. Governor and Council approval typically takes a minimum of one to two months.

### **3. Project completion and on-going stewardship**

If the project is selected, the applicant must submit the following information for all properties to be protected under the application, including match properties:

- Property survey, prepared in accordance with Env-Dw 1002.16;

- Appraisal, prepared in accordance with Env-Dw 1002.17;
- Title examination, and if necessary, an opinion of title, prepared in accordance with Env-Dw 1002.18; and
- Environmental site assessment, if necessary, prepared in accordance with Env-Dw 1002.15.

In order to provide for water supply protection in perpetuity, either a conservation easement or a deed with restrictions must be recorded (Env-Dw 1002.19(b) describes the minimum restrictions that a deed must contain). Payment is not made until DES has approved these documents and approval of the project has also been obtained by the Attorney General's Office and the Governor and Council. The grantee is required to execute the land transaction and record the deed (Env-Dw 1002.22), adhere to the terms of the conservation easement or deed restrictions (Env-Dw 1002.19), and provide ongoing stewardship of the property (Env-Dw 1002.21).

DES oversees the grantees' stewardship by reviewing annual monitoring reports submitted by the grantee. DES also accompanies some of the grantees when they perform annual site monitoring visits.

#### **4. Readoption and revision of administrative rules**

Effective June 23, 2009, the administrative rules were revised to clarify the grant application process and requirements and to extend eligibility to land in a water supply watershed outside a 5 mile radius provided the land has riparian frontage, that is, land along lakes, ponds, rivers, and streams. The point system for determining the priority ranking of applications was also revised to increase the ranking for land in close proximity to a drinking water source.

Appendix C contains a complete copy of Env-Dw 1002. More information on the grant process, including applications and a copy of the rules, is available at [http://des.nh.gov/organization/divisions/water/dwgb/dwsp/land\\_acqui/index.htm](http://des.nh.gov/organization/divisions/water/dwgb/dwsp/land_acqui/index.htm) or by calling Holly Green, Water Supply Land Protection Grant Coordinator, at 271-3114.

### **C. HISTORY OF THE WSLP GRANT PROGRAM**

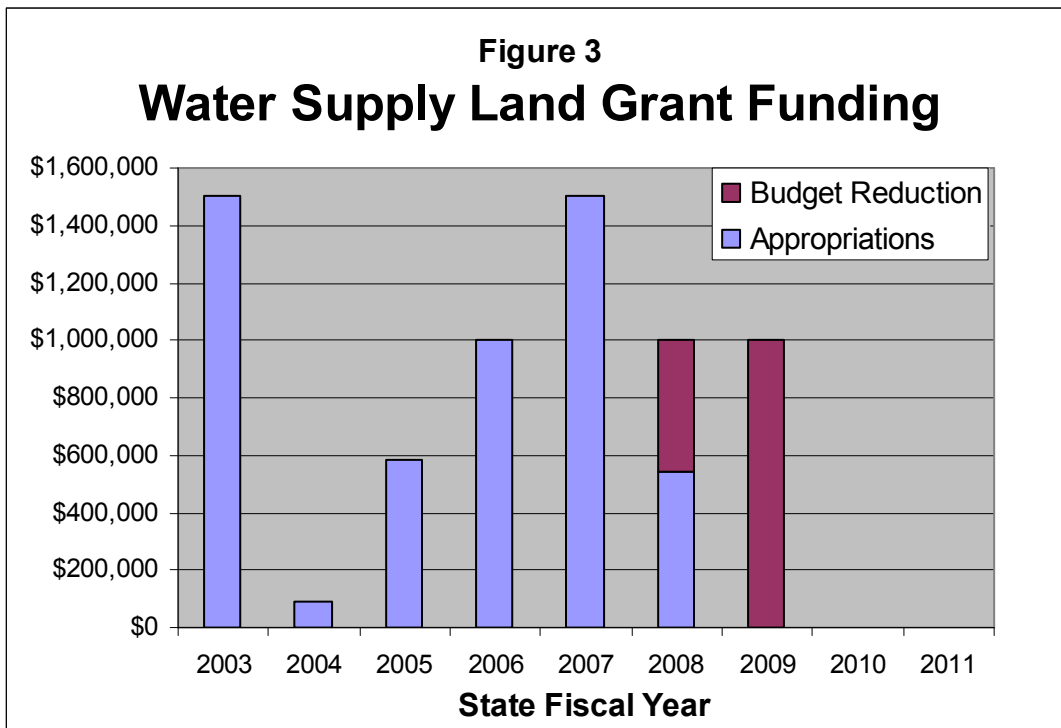
#### **1. Funding**

The WSLP Grant Program staff person is funded through a set-aside in the Drinking Water State Revolving Fund, which DES receives from the U.S. EPA pursuant to the Federal Safe Drinking Water Act. This makes it possible for all state funding provided for the WSLP Grant Program to be used solely for grants.

As indicated in Figure 3 below, the Legislature appropriated \$1.5 million per year in the first few years of the program, but since then annual appropriations have ranged from less than \$100,000 to \$1.5 million, averaging \$1,075,500 per year over the life of the program. In 2007, the legislature appropriated \$1 million per year for Fiscal Years (FY) 2008 and 2009. However, budgetary

cutbacks reduced the FY 2008 funds to \$542,750 and the FY 2009 funds to zero. No funds have been appropriated for FY 2010 and FY 2011.

The program is expected to receive \$3 million during FY 2011 from the N.H. Department of Transportation as part of program to mitigate impacts to wetlands resulting from the I-93 widening project. Although the terms of a Memorandum of Agreement between DES and DOT have not been finalized, it is expected that use of the funds will be limited to the protection of water supply lands in the communities impacted by the I-93 project, with preference given to the Lake Massabesic watershed.



## 2. Grant applications

Except for 2009 and 2010, when no grant funds were available, the number of applications has increased since the early years of the grant program. In FY 2000, four eligibility and four final applications were received. In FY 2008, 13 eligibility and 10 final applications were received. The geographic distribution of applications has become more widely dispersed throughout the state. In 2000 through 2005, applications were received only from municipalities in the southern region of the State. Since 2006, applications from other regions have steadily increased.

Since 2003, grant requests have not only exceeded the funds available each grant round, but the disparity between grant requests and the amount of funding available has continued to increase. Even in years where no grant funding is available, 2009 through the present, there have been frequent inquiries about the grants from municipalities, public water systems, and land conservation organizations with specific projects to protect critical water supply land.

### 3. Collaboration with other organizations

From the beginning of the WSLP Grant Program to the present, the Society for the Protection of New Hampshire Forests (SPNHF) has been an important partner. It was SPNHF's 1998 study that highlighted the need for a grant program to assist municipalities in protecting their drinking water sources. From 2000 through 2004, DES contracted with SPNHF to provide valuable assistance in drafting, reviewing, and negotiating conservation easement deed language with applicants. Since that time, DES has continued to consult with SPNHF on conservation easement deed language and on cutting edge conservation issues. SPNHF has revised its model conservation easement and the WSLP Grant Program will use this as it updates its own model conservation easement with a focus on drinking water protection. Most recently, as described in the Introduction to this report, DES contracted with SPNHF to conduct a study that identifies the extent to which the availability of potential high-yielding well sites in New Hampshire's sand-and-gravel aquifers is shrinking due to land development.

Many organizations have been and continue to be important partners by assisting municipalities and/or contributing to municipalities' required 75% match. These partners include SPNHF, the USDA Natural Resources Conservation Service through its Farm and Ranch Protection Program and Wetlands Reserve Program, the Nature Conservancy, the Great Bay Resource Protection Partnership, the federal Coastal and Estuarine Land Conservation Program, the New Hampshire Fish and Game Department's Landowner Incentive Program, the New Hampshire Land and Community Heritage Investment Program (LCHIP), the Trust for Public Land (TPL), and a number of regional land trusts. There are also DES programs which have either provided match funding in the past or have the potential to provide funding in the future. These DES programs include the Aquatic Resource Mitigation (ARM) Fund and the Drinking Water State Revolving Loan Fund.

In May 2009, *Enabling Drinking Water Source Protection: Aligning State Land Use and Water Protection Programs – State of New Hampshire Action Plan* was published by TPL<sup>3</sup>. This action plan was the culmination of a year of research and brainstorming (the "Land and Water Project") by a team of national, state, local, and private experts on conservation, smart growth and drinking water. This was funded by the U.S EPA and was a partnership among DES, N.H. Office of Energy and Planning, The Smart Growth Leadership Institute, River Network, and the Association of State Drinking Water Administrators and assessed state programs to recommend highest and best opportunities for program alignment that will support local communities in their drinking water source protection efforts. A number of activities relating to land protection were identified in the Action Plan, including working with other groups, agencies, and municipalities on strategic conservation plans, communicating the economic benefits of land conservation, and exploring the Rhode Island "Penny per Hundred" Program for applicability in New Hampshire as a means of raising funds for drinking water source protection. With the "Penny per Hundred" Program, for every one hundred gallons of water delivered by major water suppliers one cent is collected and set aside for land acquisition or for water quality improvement projects to protect the quality of

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<sup>3</sup> The Plan can be found at [http://des.nh.gov/organization/divisions/water/dwgb/dwspp/documents/landwater\\_action\\_plan.pdf](http://des.nh.gov/organization/divisions/water/dwgb/dwspp/documents/landwater_action_plan.pdf)

drinking water supplies. Each water supplier participating in this program must spend a minimum of 55% for land acquisition – the primary protection activity. More information on the Rhode Island program can be found at [http://www.wrb.ri.gov/program\\_pdwp.htm](http://www.wrb.ri.gov/program_pdwp.htm). Plans to pursue the activities identified by the TPL Action Plan are described further in Sections E and F of this report.

With financial assistance from the TPL Land and Water Project described above, the WSLP Grant Program also partnered with SPNHF and the Piscataquog Land Conservancy to present a workshop to municipalities on protecting drinking water through land conservation at the DES Water/Watershed Conference in November 2009. A similar workshop will also be presented by SPNHF and the WSLP Grant Program at the N.H. Association of Conservation Commissions (NHACC) annual meeting in November 2010.

**D. PROJECTS FUNDED TO DATE**

**1. Projects completed prior to June 2008**

Projects completed prior to June 2008 are listed in Appendix D. Over the life of the program, grant awards have averaged \$231,855 per project and acres protected with each project have averaged 179 acres. These projects are also described in more detail in the first, second, and third WSLP Grant Program reports issued in 2003, 2005, and 2008 respectively.

**2. Projects completed since the previous report**

Grant projects completed since the date of the previous report (June 2008) through May 2010 are shown in Table 2 below in order of completion. From June 2008 through May 2010, a total of 1,105 acres was protected and \$1,456,914.99 in WSLP grant funds was paid out.

<b>TABLE 2 WATER SUPPLY LAND PROTECTION GRANT PROJECTS COMPLETED JUNE 2008 - MAY 2010</b>					
<b>Municipality</b>	<b>Acres Protected and Type of Protection</b>	<b>Grant Amount % Match</b>	<b>Local Match % Match</b>	<b>Year Grant Awarded</b>	<b>Year Project Completed</b>
Durham	86 acres Conservation Easement	\$194,369.24 25%	\$583,107.76 75%	2005	2008
Lee	43 acres Conservation Easement	\$104,000 23%	\$345,852 77%	2006	2008
Lee	129 acres Conservation Easement	\$350,316.50 25%	\$1,050,949.50 75%	2007	2008
Wakefield	198 acres Conservation Easement	\$123,407 24%	\$392,953.37 76%	2007	2008
Dover	23 acres Conservation Easement	\$85,000 24%	\$265,000 76%	2008	2008

Newmarket	115 acres Conservation Easement	\$138,615 25%	430,485 75%	2008	2009
Concord	46 acres Deed Restrictions	\$47,500 25%	\$142,500 75%	2008	2009
Lee	62 acres Conservation Easement	\$104,000 25%	\$312,850 75%	2008	2009
Jaffrey	3 acres Deed Restrictions	\$6,405 25%	\$19,215 75%	2008	2009
Lebanon	21 acres Conservation Easement	\$12,635 5%	\$218,239 95%	2008	2009
Windham	78 acres Conservation Easements	\$177,500 20%	\$709,000 80%	2007	2009
Rochester	155 acres Conservation Easements	\$64,500 25%	\$193,500 75%	2008	2009
Hooksett	90 acres Conservation Easements	\$30,000 16%	\$152,000 84%	2008	2009
Rochester	55 acres Conservation Easement	\$186,667.25 25%	\$56,001.75 75%	2008	2010
<b>Total:</b>	<b>1,104 acres</b>	<b>\$1,456,914.99</b>	<b>\$4,872,013.38</b>		
<b>Average:</b>	<b>79 acres</b>	<b>\$104,065.36</b>	<b>\$348,000.96</b>		
		<b>22%</b>	<b>78%</b>		

The following is a description of these projects in order of completion.



*Fogg property-Durham NH*

*photo credit: Chris Kane*

**DURHAM (Fogg property)** – This project protected 86 acres of forest, fields, and wetlands located over the Spruce Hole aquifer and within the source water protection area of the UNH/Durham Lamprey River intake, which serves a population of 16,000. The property contains fifteen acres of open marsh that are the headwaters for Woodman Brook, which flows into the Lamprey River.



*Cheney property in Lee NH*

*photo credit: Richard Weyrick*

**LEE (Cheney property)** – This project protected 43 acres in the source water protection area of UNH/Durham's Oyster River Intake, which serves a population of 16,000. The property includes a 15-acre former gravel pit in the final stages of reclamation and 28 acres of upland forest and wetlands with the Oyster River running through it.



*Kelley property in Lee NH*

*photo credit: Richard Weyrick*

**LEE (Kelley/Ford properties)** – One hundred twenty-nine acres of forest, fields, and wetlands with extensive frontage on the Oyster River were protected by this project. Seventy-two acres of the land, including a former gravel pit in the final stages of reclamation, are within the wellhead protection area for UNH/Durham's Lee Five Corners well. The closest edge of the property is 189 feet from this municipal well. All of the 127 acres are within the source water protection area for the Oyster River intake of the UNH/Durham water system, which serves a population of 16,000.



*Spencer-Smith property in Wakefield NH    Lavender property-Pike Brook in Wakefield NH  
photo credit: Moose Mountains Regional Greenways*

**WAKEFIELD (Lavender/Spencer-Smith properties)** – This project protected 198 acres containing forest, fields, and a gravel pit in the later stages of reclamation within the wellhead protection area of two wells of the Sanbornville Water Department, a municipal water system serving a population of 1,500 in the towns of Wakefield and Brookfield. The edge of the closest property is 200 feet from the wells.

**DOVER (Frazer property)** - This project protected 23 acres overlying bedrock associated with Dover's future well location, which will serve a population of 28,000.

**NEWMARKET (Smith property)** – This project protected 115 acres of forest, fields, and a former gravel pit in the wellhead protection area of two of Newmarket's municipal wells. The land is also within the source water protection area for Newmarket's Follet's Brook, Piscassic River, and Lamprey River intakes, serving a population of 5,000.

**CONCORD (Emmons property)** - Forty-six forested acres were protected within the Penacook Lake watershed, which serves as a drinking water supply for the City of Concord, serving a population of 38,000. Concord has already protected a large area of land around the Lake and this parcel expands that protection.



*Misty Meadows Farm property in Lee NH*

*photo credit: Wendy Fogg*

**LEE (Misty Meadows Farm)** - This project protected 62 acres of forest and farmland in the source water protection area for the UNH/Durham water system (Lamprey River and Oyster River), which serves a population of 16,000, and the source water protection area of Newmarket's Lamprey River source, serving a population of 5,000. The Lamprey River intake is just across Packer's Falls Road from the property. The land is also in the wellhead protection area for two community wells for The Inn at Spruce Wood, which serves a population of 95.



*Virginia Pond Trust property in Jaffrey NH*

*photo credit: Douglas Starr*

**JAFFREY (Virginia Pond Trust property)** - This project protected 3 acres within the wellhead protection area and immediately outside of the sanitary protective area for two of Jaffrey's wells, serving a population of 3,825. Engineering and hydrogeological studies have shown that this site is also suitable for development of an additional water source.

**LEBANON (LeBrun property)** - This project protected 21 acres of primarily farmland with frontage on the north side of Mascoma Lake, in close proximity to the Mascoma River, a drinking water source for the City of Lebanon, serving a population of 10,050. The land is also within the wellhead protection areas for two community wells, serving populations of 125 and 45 respectively.



*Blanchard and Rau properties in Windham NH*

*photo credit: James Finn*

**WINDHAM (Blanchard/Rau properties)** – This project protected 78 acres of forest and wetlands partially within two community wellhead protection areas. Both properties are also within the source water protection area of the Salem Water Department, which serves a population of 18,000.

**ROCHESTER (LeClair and Fernald properties in Farmington)** - One hundred fifty-five acres were protected by this project. The land is in the source water protection area for Rochester's drinking water supply, serving a population of 20,000. The land is 1,430 ft from the shore of Round Pond and an intermittent stream runs through the properties into a wetland that feeds directly into the Pond.



*Clay pond property-Hooksett NH photo credit: Daniel Stern, Bear-Paw Regional Greenways*

**HOOKSETT (Clay Pond Headwaters)** - This project protected 90 acres of forest and extensive wetlands in the source water protection area and within a 5 miles radius of Lake Massabesic, the City of Manchester's drinking water supply, serving a population of 133,000. This land was part of a larger project protecting 539 acres within the Lake Massabesic watershed. The DES ARM program, LCHIP, and the Open Space Institute Saving New England's Wildlife program also

provided funding. This land is adjacent to 1,097 acres already owned by the Manchester Water Works.



**ROCHESTER (Smith property)** - This project protected 55 acres of forest, fields, and wetlands in Rochester's source water protection area for its drinking water supply, serving a population of 20,000. It is also within the wellhead protection area of two community wells for the Inn at Secretariat Estates, serving a population of 18.

## **E. PROGRAM OUTREACH**

The purpose of the program's outreach efforts has been to maximize the program's effectiveness by encouraging the submission of applications for geographically diverse, high-quality projects.

Outreach consists of publicizing the program; providing potential applicants with information about the benefits of permanent protection of critical water supply lands, including the avoidance of remediation costs; and assisting prospective applicants with information regarding eligibility, scoring, and supplemental funding sources. Specifically, this is being done by:

- Posting information and announcements of grant availability on the DES web page;
- When grant funds are available, distributing information packets to water system operators when DES staff perform sanitary surveys (on-site inspections of public water systems);
- Publishing information and announcements in DES Source Water Protection Program quarterly newsletters (distributed to water suppliers, conservation commissions, and planning boards); and
- Giving presentations and providing written materials at conferences and workshops attended by water system operators, members of the conservation community, and local officials.

Extensive technical assistance is provided to applicants during the pre-application and application process, including printing maps upon request. With limited staff and budgetary uncertainty, most additional outreach has been on an “as requested” basis. However, as noted in Section C.3 of this report, funds from the TPL Land and Water Project were used to present a workshop on land conservation at a DES Water/Watershed Conference in November 2009 and will be used to present a workshop at the NHACC annual meeting in November 2010.

DES is pursuing a recommendation by the TPL project to partner with other organizations to provide outreach to municipalities in developing strategic conservation plans. To date, SPNHF, the NH Association of Regional Planning Commissions, and all nine regional planning commissions throughout the state have been contacted to begin exploring ways to implement this objective.

One of the goals in the last WSLP Grant Program Report, dated June 2007, was to increase participation of water suppliers in land protection projects. However, there have been no new WSLP projects since 2008 due to budget cuts, so this is a goal that will be pursued when there is funding available

## **F. FUTURE GOALS**

### **1. Partner with organizations, such as SPNHF and regional planning commissions, to work with municipalities to develop strategic land conservation plans that include critical water supply lands, including lands that could serve as future water supply as identified by Favorable Gravel Well Analysis.**

This is an activity that was identified in the TPL Land and Water Action Plan. (This plan is described in Section C.3.) The WSLP Grant Program is looking into pursuing this collaboration with SPNHF and the N.H. Association of Regional Planning Commissions in order to even more effectively assist municipalities in conserving land to protect drinking water. Not only will such partnering be more efficient, but it will allow DES to ensure that critical water supply lands are identified as a priority in municipal strategic land conservation plans.

### **2. Research the feasibility of legislation to establish a dedicated fund for the program through a surcharge on water sales similar to Rhode Island’s “Penny per Hundred” program.**

The WSLP Grant Program is funded by Legislative appropriations to the General Fund and this has led to considerable vulnerability to budget cuts or low or even zero appropriations in times of budget shortfalls. The instability of funding has been discouraging to applicants, particularly when it has occurred in the middle of a grant round after applicants have put considerable time and money into a project. Legislation to provide a dedicated funding source for the WSLP Grant Program would encourage more municipalities to invest in land conservation projects to protect their drinking water.

Fee-based funding is worth exploring as a method of providing a more stable funding source. A good example of this type of funding is Rhode Island's "Penny per Hundred" program, described in more detail in Section C.3. This source water protection program is funded by a surcharge on each 100 gallons of water sold by a water supplier.

### **3. Update the WSLP Grant Program model conservation easement.**

As described in Section A, the WSLP Grant Program has model conservation easement deeds for grant recipients to use and modify as appropriate for their specific properties and conservation easement holder (typically a land trust organization). One WSLP Grant Program model easement deed is designed to protect surface water; the other groundwater. (Copies can be found in Appendices F and G respectively).

The WSLP Grant Program will be updating these easements by the end of 2010 in order to reflect the most current regulations and best management practices. As described in Section C.3, SPNHF will be consulted in order to benefit from their extensive land conservation expertise.

## **G. CONCLUSION**

Land conservation continues to be an extremely effective way to protect drinking water quality. The WSLP Grant Program has been successful in protecting 5,211 acres of critical water supply lands since its inception in June of 2000. The program has assisted and collaborated with municipalities, water suppliers, federal and state agencies, land trusts, and other conservation organizations as part of this protection effort.

Building on this success, DES has pursued ways to improve the program, such as revising the WSLP Grant Program administrative rules in 2009 to emphasize the most critical water supply lands, particularly those close to water supply sources and their tributaries. DES will also seek to increase collaboration between water suppliers and municipal staff, to explore potential roles for regional planning commissions, to improve stewardship monitoring of protected lands, to increase the geographic distribution of projects, and to incorporate into the program the latest information regarding land conservation and water quality protection. As more is learned about what works, DES will continue to modify and improve its program, its requirements, and its outreach to maximize the drinking water quality benefits of the state funds invested in this program.

Ensuring safe and adequate drinking water supplies requires maintaining the quality and availability of present and future water supply sources, because in the long run it is less expensive and more protective of public health to prevent contamination than it is to treat water to meet health standards, and it is less expensive to use existing sources than it is to develop new ones. New contaminants of concern continue to emerge, potentially requiring more costly treatment of source waters if they have not been adequately protected.

Municipalities and water suppliers have crucial roles in managing activities that affect source water quality and availability. DES's primary role is to provide technical and financial assistance and to enforce state regulations that serve to protect the state's sources of drinking water.

Effective protection relies on the combined efforts of the state, water suppliers, municipalities, businesses, institutions, and individuals whose activities have the potential to affect source water quality and availability.

For additional information concerning New Hampshire's WSLP Grant Program contact Holly Green, N.H. Department of Environmental Services, (603) 271-3114 or [holly.green@des.nh.gov](mailto:holly.green@des.nh.gov).

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<sup>1</sup> Virginia Department of Health, 2008. Proclamation for Jamestown, Virginia.

<http://www.vdh.state.va.us/drinkingwater/source/importance.htm?mode=printable> (accessed March 27, 2008)

<sup>2</sup> Normandeau Associates, 1999. Lake Massabesic Watershed Management Plan, p 8.

<sup>3</sup> National Research Council, Committee to Review the New York City Watershed Management Strategy, 2000. Watershed Management for Potable Water Supply, Assessing the New York City Strategy. Washington, DC: National Academy Press.

<sup>4</sup> Massachusetts Department of Conservation and Recreation, Office of Watershed Management, 2007. Quabbin Reservoir Watershed System: Land Management Plan 2007-2017.

<sup>5</sup> Ernst, Caryn. 2004. Protecting the Source – Land Conservation and the Future of America's Drinking Water. San Francisco: The Trust for Public Land.

<sup>6</sup> The study focused on wellhead protection areas for groundwater sources and, for each surface water supply source, the watershed area within five miles of the intake.

<sup>7</sup> Society for the Protection of New Hampshire Forests (SPNHF), 1998. Recommended Water Supply Land Protection Program for New Hampshire.