



**Table of Contents**

Table of Contents.....2  
1 Introduction.....3  
2 Local Sourcewater Protection Team .....4  
3 Little River Watershed .....4  
4 Existing/Current Sourcewater Protection Measures .....7  
5 Summary of Sourcewater Assessment by the CT DPH .....8  
6 Potential Contaminant Source Inventory .....9  
7 Assessment of Threats..... 10  
8 Management Plan ..... 13  
9 Contingency Plan ..... 16

## 1 Introduction

The ideal surface water drinking supply would have excellent natural water quality and no potential contaminant sources (PCSs). There would be no development in the watershed and no surface use. We are fortunate to have good natural water quality in most of Connecticut's surface drinking water supplies, however PCSs exist for every surface water supply and development and recreational uses continue.

Atlantic States Rural Water & Wastewater Association (ASRWVA) believes that threats from many PCSs can be mitigated by proper construction, applying best management practices (BMPs) and the responsible use of the resource. Therefore education, outreach and the ability to develop and maintain working relationships in the community are important factors in sourcewater protection.

The purpose of the Little River Watershed Protection Plan is to reduce or eliminate potential and existing risks to the Putnam Water Pollution Control Authority (WPCA) drinking water supply and public water system wells in Woodstock. The management plan included here outlines specific actions available to the community to protect the watershed while avoiding adverse impacts on the other activities in the watershed.

The plan is prepared by the ASRWVA in cooperation with the National Rural Water Association. Program funding is provided by the United States Department of Agriculture's (USDA) Sourcewater Protection Program. The purpose of the program is to provide technical assistance to rural and small communities for the development of Sourcewater Protection Plans (SWPPs).

These Sourcewater Protection Plans build on the Sourcewater Assessment Program of the Connecticut Department of Public Health (DPH). This program determined the susceptibility of the public water systems in Connecticut to PCSs. The SWPP process is community based and uses the DPH assessment data to develop and implement a sourcewater protection plan. The main tasks are:

- ◆ Form a Local Sourcewater Protection Team
- ◆ Verify and update PCS inventory done by the DPH
- ◆ Assess threats to the drinking water source
- ◆ Develop management strategies for these threats
- ◆ Form a Steering Committee to oversee implementation and update plan periodically
- ◆ Develop a contingency plan in the event the supply is lost

## 2 Local Sourcewater Protection Team

The Little River Sourcewater Protection Team is a diverse group. The goal is to represent a cross-section of stakeholders in the watershed, including Putnam WPCA and town officials, Woodstock town officials and board members, business, agriculture, and organizations currently involved in resource conservation efforts. Table 1 lists the organizations and who they are represented by on the team.

**Table 1**  
**Little River Sourcewater Protection Team**

<u>Organization</u>	<u>Represented by</u>
Atlantic States Rural Water & Wastewater Assoc	Marc Cohen
Audubon Society	Andy Rzezinkiewicz
Connecticut Dept. of Environmental Protection	Eric Thomas
E. CT Resource Conservation and Development	John Guskowski
Eastern Connecticut Conservation District	Scott Gravatt, Greg Smith
Green Valley Institute	Holly Drinkuth
Local Builders	Doug Porter
Local Farmers	Paul Miller
Local Outdoor Recreation Business	Ian MacRae
Muddy Pond Neighborhood Association	Mary Ellen Blake
Nature Conservancy	Cyrus Harvey, Jr
Northeast District Department of Health	Maureen Marcoux
Putnam Town Administration	Doug Cutler
Putnam Water Pollution Control Authority	Bill Trayner
Quinebaug-Shetucket Heritage Corridor	Jean Cass
Roseland Park	Ed Higgins
UConn Cooperative Extension	Joyce Meader
UDSA Natural Resources Conservation Service	Nancy Ferlow
Woodstock Conservation Commission	Jean Pillo
Woodstock Planning Department	John Guskowski
Woodstock Planning & Zoning Commission	Sandy Rotival
Woodstock Town Administration	Delpha Very
Woodstock Water Pollution Control Authority	Peter Ellsworth
Wyndham Land Trust	Dick Booth

## 3 Little River Watershed

### 3.1 Natural Setting

Little River is located in northeast Connecticut and is a tributary of the Quinebaug River that, in turn, is a tributary of the Thames River which empties into Long Island Sound. Figure 1 shows Little River watershed (CT DEP Basin Nos. 3706, 3707 & 3708) location and topography. The watershed lies primarily in the town

Woodstock with small portions in Pomfret, Putnam and Thompson, Connecticut and Southbridge, Massachusetts.

The watershed is approximately 11 miles long (north to south) and approximately 5 miles wide (east to west) and covers 39.0 square miles. The diversion of water at the Peake Brook Road Water Treatment Plant is located at a dam approximately two and a half miles north of the confluence of Little River and Quinebaug River in Putnam. The area of the watershed located upstream of the diversion is 35.4 square miles.

Upstream of the diversion Little River is impounded in two surface water bodies – Shepherds Pond (nearest the diversion) and Roseland Lake. The lower end of Shepherds Pond is approximately one mile north of the dam. It is relatively narrow, surrounded by wetlands and has a surface area of approximately 11 acres. The lower end of Roseland Lake is approximately 1.8 miles upstream of the diversion (north of Stone Bridge Road in Woodstock). The lake is owned jointly by the Town of Woodstock and the State of Connecticut. Roseland Lake is roughly three-quarters of a mile long, has a surface area of about 96 acres, a maximum depth of about 20 feet and average depth of six feet. The primary surface flow to the lake is Muddy Brook. The lake is not managed as a reservoir for the Putnam WPCA and is used recreationally for boating, fishing and formerly for swimming.

Tributaries of Little River which are located upstream of the diversion are (from north to south) Muddy Brook, English neighborhood Brook, Mill Brook, and Peake Brook. These are shown in Figure 1.

### **3.2 Characteristics and Water Quality**

The Connecticut DEP has classified the water quality of Muddy Brook, Roseland Lake, Shepherds Pond and Little River, as B/AA. This classification indicates that the present conditions may meet the water quality criteria for “B” classification with a future goal of achieving an “AA” classification. Designated uses of surface water with a B classification include recreational use, fish and wildlife habitat, agricultural and industrial supply and other legitimate use including navigation. Designated uses of surface water with an AA classification include existing or potential public drinking water supplies, fish and wildlife habitat, recreational use (which may be restricted), and agricultural and industrial supply.

Four waterbody segments within the Little River watershed are listed by the DEP as impaired (i.e. not meeting the water quality standards for a B classification) and are shown in Table 2.

**Table 2  
 Impaired Waterbodies**

<b>Segment Name</b>	<b>Location</b>	<b>Impaired Use</b>	<b>Cause</b>	<b>Potential Source</b>
Roseland Lake	Southeast Woodstock	Primary & Secondary Contact Recreation	Exotic species, Noxious plants	Source unknown
Little River	Mouth to diversion	Primary Contact Recreation	Indicator bacteria	Source unknown
Muddy Brook	Between Rte 197 & Rte 169	Aquatic Life Support	Cause unknown	Agriculture, Source unknown
North Running Brook	0.3 miles upstream from mouth at Muddy Brook	Aquatic Life Support	Cause unknown (possible organic enrichment/low DO, nutrients)	Agriculture, Crop-related sources

**Notes:**

1. The Little River segment listed above is outside the sourcewater protection area of this plan (See Section 3.3 below).
2. It appears that the impairment on North Running Brook was due to a one-time release and the segment will be de-listed.

**3.3 Sourcewater Protection Area**

The Sourcewater Protection Area (SWPA) for the Little River watershed encompasses 35.4 square miles and includes most of the Little River Basin (#3708, includes Muddy Brook and Peake Brook), the English neighborhood Brook Basin (#3706) and the Mill Brook Basin (#3707). The land area drained by the Little River below the Putnam WPCA diversion is not part of the public drinking water supply source, but protection strategies developed here may benefit that area also.

**3.4 Summary of the Putnam Water District**

The Putnam WPCA water company serves approximately 2,150 residential, commercial and industrial accounts located within or adjacent to the Special Services District in the Town of Putnam, Connecticut. The actual population served by the water company is estimated to be 7,000 people out of the total population in Putnam of 9002. In addition, the system serves 43 residences (138 people) on Sabin Street in Woodstock and 17 residences (70 people) on Oak Hill Drive in Thompson.

The Putnam WPCA draws water from two sources. One is the diversion of surface water from Little River (the subject of this plan). The second source is the Park Street well field. The water company facilities include a water treatment plant for the surface water supply, two one-million gallon storage tanks and approximately 38 miles of water distribution piping. The average daily water demand for the system is approximately 1.13 MGD, of which 0.90 MGD is diverted from Little River.

### **3.5 Town of Woodstock**

Before European settlement the area was inhabited by the Wabbaquassets who abandoned it after the King Philip's War. The area was settled in 1686 by people from the Massachusetts Bay Colony and called New Roxbury. It was renamed Woodstock in 1690 and was annexed to Connecticut in May of 1749. It has a population density of 119 people/square mile which ranks it 142<sup>nd</sup> out of the 169 Connecticut towns. Only 3059 of Woodstock's 39435 acres are considered developed and it has one of the largest active agricultural communities in Connecticut. It is located in the Quinebaug and Shetucket Rivers Valley National Heritage Corridor.

### **3.6 Other Towns**

Relatively small areas of the Little River watershed lie within the towns of Thompson and Pomfret, Connecticut and Southbridge, Massachusetts. These areas are similar to Woodstock, in that they have low levels of development. The lower reach of Little River in Putnam (below the WPCA diversion) becomes more developed as it nears the Quinebaug River.

### **3.7 Sourcewater Inventory**

The diversion of water at the Peake Brook Road Water Treatment Plant is located at a stone masonry dam approximately two and a half miles north of the confluence of Little River and the Quinebaug River in Putnam. Water is diverted into a concrete chamber at the dam.

In addition to the Putnam WPCA diversion, there are 27 public water supply systems in Woodstock that draw water from wells within the SWPA. These systems service 4042 people in apartment and condominium complexes, town buildings, public and private schools, and businesses. These systems are listed in Appendix 1.

## **4 Existing/Current Sourcewater Protection Measures**

Following is a sampling of sourcewater protection initiatives that were already in place or ongoing during the spring, summer and fall of 2005. We recognize there may be other individuals and organizations not listed here who are actively working to protect the natural resources of this region.

### **4.1 Putnam WPCA**

The Putnam WPCA staff conducts regular inspections of the watershed to identify violations and potential threats. When a threat or violation is identified, the WPCA takes action to resolve the problem – working with the landowner where possible. They also review new construction for potential impact on the water supply, and visit farms to survey for best management practices.

### **4.2 Wyndham Land Trust**

The Wyndham Land Trust completed the purchase of three parcels of land north and east of the intersection of Route 171 and Little Pond Road in Woodstock.

These parcels extend to the Little River and total roughly 35 acres. They are mostly wetlands and the Trust is developing plans for the construction of a raised boardwalk to provide access to part of the land.

#### **4.3 Eastern CT Resource Conservation & Development Council**

The Eastern CT RC&D expects to be awarded an FY 2005 319 Grant to provide support for the implementation of a system to use surplus manure to generate electricity and/or provide composted manure for resale. Under the grant, the RC&D will provide community outreach, farmer outreach and education in support of the implementation. The final scope of this "Phase 2" implementation project is being developed by a consultant as part of a previously allocated Phase 1 grant.

#### **4.4 Eastern CT Conservation District**

The ECCD has won an FY 2005 319 Grant to address non-point pollution sources in the Little River watershed. The project begins with field observations and GIS mapping of land uses affecting water quality, with the goal of coordinating findings with water quality testing conducted by the USGS. The focus will be on impaired waters in Muddy Brook, Little River, North Running Brook, and Roseland Lake. This project will include evaluation and follow-up on an earlier 208 report, initiation of activities to abate NPS pollution, reduction of geese nutrient additions, coordination with other local efforts, and education and outreach.

#### **4.5 Town of Woodstock**

The Town of Woodstock has been active on several fronts. The Conservation Commission has been very active doing education and outreach and has developed an excellent web site with information for residents regarding septic system maintenance, household hazardous waste, lawn care and other best management practices that help protect surface and ground water resources.

In August the Planning and Zoning Commission issued new subdivision regulations that allow cluster development by right with a set-aside of at least 50% of the land for permanent protection.

### **5 Summary of Sourcewater Assessment by the CT DPH**

In 2003, the Connecticut Department of Public Health Drinking Water Division completed a state-wide survey of drinking water supplies under the Sourcewater Assessment Program. This program was mandated with the 1996 reauthorization of the Safe Drinking Water Act. The purpose of the program was to evaluate the susceptibility to contamination of each public drinking water source in Connecticut and communicate the results to the public.

The following information was used to assess the Little River watershed under the Sourcewater Assessment Program:

- ◆ Sanitary conditions in the sourcewater area

- ◆ The presence of potential or historic sources of contamination
- ◆ Existing land use coverages
- ◆ The need for additional source protection measures within the sourcewater area

Based on these parameters the DPH found that the Little River watershed had a high overall susceptibility rating. Below is a summary of sourcewater protection recommendations included in the assessment report:

- ◆ Determine the trophic status of Roseland Lake and Shepherds Pond
- ◆ Encourage homeowners to adopt residential best management practices regarding hazardous materials use, septic system maintenance and fuel storage tanks
- ◆ Work to increase the amount of preserved land within the watershed
- ◆ Establish local watershed protection regulations
- ◆ Support environmental awareness and education in the community

## 6 Potential Contaminant Source Inventory

### 6.1 Summary of Potential Contaminant Source Inventory from the CT DPH

The PCS inventory identifies potential threats to the drinking water source. Table 3 (excerpted from the DPH Sourcewater Assessment) lists the potential contaminant types and number in the Little River sourcewater protection area.

**Table 3**  
**Summary of Potential Contaminant Sources**

Category	Subcategory	Number of PCS Types
Waste Storage, Handling, Disposal	Hazardous Waste Facilities	3
	Solid Waste Facilities	2
	Miscellaneous	0
Bulk Chemical, Petroleum Storage	Underground Storage Tanks	16
	Tank Farms	0
	Warehouses	2
Industrial Manufacturing/Processing	Chemical & Allied Production	0
	Chemical Use Processing	0
	Miscellaneous	0
Commercial Trades and Services	Automotive and Related Services	4
	Chemical Use Services	0
	Miscellaneous	0
Miscellaneous	No Identifiable PCS Type	0
Agricultural Operations	Animal/Livestock Waste Handling	22
	Pesticide Storage or Application	1
Total Number of Contaminant Types		50

## **6.2 Update of Potential Contaminant Source Inventory**

By and large the PCS inventory included in the CT Sourcewater Assessment is representative of the threats to the watershed. An effort is ongoing to verify the sources listed there. Preliminary results indicate a somewhat reduced number of agricultural sources (17 vs 22) and most Underground Storage Tanks listed have been cleaned up. The old landfill is closed, remediation at Linemaster has been completed and Rogers and Crabtree and Evelyn no longer discharge wastewater.

## **7 Assessment of Threats**

### **7.1 Confirmed Contaminant Detects of Concern in Sourcewater**

Routine monitoring by the Putnam WPCA has detected nitrates in Roseland Lake, Shepherds Pond and several feeder streams. Nitrites and sodium have also been detected in some areas. Monitoring samples required by the Connecticut Department of Public Health (DPH) of all public water systems has detected the presence of nitrate in ten public wells (three community water systems (CWS), three Non-Transient Non-Community systems (NTNC) and four Transient Non-Community systems (TNC). Trichloroethylene was been detected in one well, VOCs in one, and coliforms in two wells. Detection of these contaminants indicates that they have been released to surface and ground waters and are a threat to the Little River watershed.

### **7.2 Roadways**

Roadways present a significant threat to drinking water sources. The possibility of an accident involving a truck transporting bulk shipments of hazardous materials poses a risk. Roadways are also a potential source of contamination due to potential petroleum leaks from vehicles; the application of road salts, which could cause elevated levels of sodium and chlorides; and maintenance activity which may include herbicide and pesticide applications.

### **7.3 On-Site Septic Systems**

On-site septic systems represent potential sources of nitrates, chlorides, bacteria and viruses. In addition, if improperly used, such as for disposal of paints, solvents, petroleum products and other hazardous waste, they could be a source of organic compounds.

### **7.4 Land Use**

#### **7.4.1 Industrial**

Industrial operations commonly use toxic substances as part of manufacturing, warehousing, and/or distribution. Chemicals, petroleum, cleaning supplies, machinery, metals, electronic products, asphalt, and others pose a potential threat to the water supply and must be managed.

The potential contamination inventory for the Little River watershed identified three industrial sites in the Source Water Protection Area (SWPA). The water sources in the SWPA are vulnerable to contamination from these facilities involved in the manufacturing and using toxic substances.

#### **7.4.2 Commercial**

Many commercial operations use toxic and hazardous materials in their processes. Examples include:

- ◆ Auto repair shops, gas stations, car washes, paint shops
- ◆ Road maintenance depots, de-icing operations
- ◆ Construction areas
- ◆ Dry cleaners, Laundromats
- ◆ Medical institutions, research laboratories, photography establishments, printing facilities
- ◆ Restaurants, bakeries
- ◆ Woodworking and finishing facilities

The storage, use, and disposal of chemicals required by these operations can pose a potential threat to water since even small amounts of the hazardous materials can contaminate large amounts of surface or ground water. Storing quantities of the material can also create a serious problem if they are not contained and stored properly. Leaks and spills from storage tanks and pipes can contaminate water, rendering the water unfit for consumption.

#### **7.4.3 Residential**

Residential contamination threats to surface or groundwater, if taken on a case-by-case basis, are normally less than other land use contamination, but in the aggregate, form a significant source of contamination. Most citizens are unaware of the effects of numerous potential contaminants stored, used, and disposed of from residential homes. The potential contaminants include:

- ◆ Household chemicals
- ◆ Automotive products
- ◆ Paint/solvents
- ◆ Fuel storage systems
- ◆ On-site septic/sand mound systems
- ◆ Lawn/garden chemicals
- ◆ Abandoned wells

#### **7.4.4 Agricultural and Golf Courses**

Improperly applied chemicals such as pesticides, fungicides and fertilizers can leach through the soil into the groundwater or run off into streams and can present a contamination threat to drinking water supplies. When stored in containers, there is the potential of leaks from the storage area into the ground. Manure storage facilities and manure/septage sludge spreading can also lead to high levels of E-Coli and nitrate levels within surface and groundwater due to runoff. Open agricultural and golf course land is also attractive to geese which

have become an increasing problem in Connecticut due to the run-off of nutrients and bacteria from their waste. There are substantial agricultural areas and two golf courses within the Little River SWPA and, as a whole, the water source is vulnerable to contamination from them.

## **7.5 Anthropogenic (Man Made) Potential Contaminant Sources**

### **7.5.1 Hazardous Waste Sites**

The primary concern with facilities that generate or use hazardous materials is that leaks, spills, or improper disposal could allow contaminants to be discharged into the ground. Three facilities within the Little River SWPA use or generate hazardous waste.

### **7.5.2 Underground Storage Tanks**

Fuel oil tanks represent a potential source of petroleum products, as well as chemical additives that may be present in the fuel. The potential threat of contamination from this source would be from a leak, overfill, or spill. The Little River SWPA contains both known Leaking Underground Storage Tanks (LUST) and potential Underground Storage Tanks (UST) sources of petroleum contamination. The Little River system is vulnerable to contamination from Underground Storage Tanks located within the SWPA.

## **7.6 Point Sources of Pollution**

Point sources refer to discharges that enter surface waters through a pipe, ditch, or other well-defined point of discharge. The term applies to wastewater and storm water discharges from a variety of sources. Wastewater point source discharges include municipal and industrial wastewater treatment plants and small domestic wastewater treatment systems that may serve schools, commercial offices, residential subdivisions and individual homes. The primary pollutants associated with point source discharges are oxygen-demanding waste, nutrients, sediment, color and toxic substances including chlorine, ammonia, and metals.

Point source dischargers in Connecticut must apply for and obtain a National Pollutant Discharge Elimination System (NPDES) permit from the CT DEP. Two permits had been issued previously and have expired. As of the date of this report, there are no active NPDES permits within the Little River SWPA.

## **7.7 Non-Point Sources of Pollution**

Non-point sources are described as dispersed contamination from many sources such as soil erosion, on-lot septic systems, storm water discharges, agricultural activities, geese, and pollution associated with resource extraction and silviculture. The most significant contamination associated with non-point sources is nitrates associated with the use of manure, fertilizer, and pesticides which drain into streams and infiltrate into ground water. Household hazardous and commercial/industrial waste (e.g., ammonia, chlorides, paint, paint thinners,

waste oil, antifreeze, solvents, etc.), which are sometimes discharged into on-lot septic systems, are also sources of non-point pollution. The potential risk from non-point sources makes the Little River system vulnerable to contamination.

### **7.8 Stormwater Management**

The need to manage stormwater is created by increased land development since impervious surfaces prevent rain from soaking into the soil and allow pollutants to accumulate. Stormwater management, which has only been a subject of concern for the past ten to fifteen years, focuses on controlling the volume and peak discharge rate which increase dramatically when impervious surfaces cover an area. Connecticut requires municipalities to develop a stormwater management plan however Woodstock has obtained a waiver due to the low level of development.

### **7.9 Potential Future Sources**

Undeveloped land areas represent the potential for future contamination sources. There are significant undeveloped land areas within the SWPA (see Figure 2 for Land Use map). These include areas zoned for Industrial and commercial land-uses. Based on the amount of undeveloped land within the SWPA, there exists the possibility for future contamination.

## **8 Management Plan**

### **8.1 Comprehensive Evaluation of the Watershed**

In order to effectively protect the Little River watershed it is necessary to have a comprehensive picture of the health of impoundments and tributaries and be able to zero in on sources of pollution. Many agencies have done testing with a specific, narrow intent. These include the USGS, CT DEP, Putnam WPCA, the Northeast District Department of Health (NDDH), and Aquatic Control Technologies. These tests are not part of an overall plan and the data is not centrally accessible.

As part of this plan, the NDDH has agreed to sample and test surface water at 16 points within the watershed over four seasons to better understand the health of the streams and identify reaches that are the most adversely impacted. The team will develop a GIS database of the data and will collect and input additional data as resources allow. The data will be made available to the DEP, USGS and others to coordinate protection and cleanup efforts more effectively. The team encourages those agencies to coordinate their work in the Little River watershed with the Sourcewater Protection Steering Committee (see Section 8.8).

The Team will coordinate with the Audubon Society's Citizen Science Coordinator, Paula Coughlin, to do steam walks and rapid bioassessments in some of the streams being sampled above to obtain addition data.

## **8.2 Agricultural Best Practices**

There are 37 agricultural sites in the watershed and 17 of them raise livestock. The control of nutrient runoff from manure handling and cropland fertilizing operations is one of the keys to decreasing the level of nitrogen compounds in the streams and ponds. The team encourages the farming community to continue to work with the E. CT Conservation District, FSA, NRCS, CT Farm Bureau and UConn Extension to implement best practices for handling manure, chemical fertilizers and pesticides.

To promote and advance agricultural best practices, the Team has applied for an FY 2006 319 Grant to study the effectiveness of liquid manure incorporation to reduce nutrient runoff. Under the lead of the Eastern Connecticut Conservation District, the grant will select and lease (or purchase) a manure incorporation unit. Participating farmers, who already use liquid manure, will be trained on the machinery and use it on fields selected for the steepness of their slopes and/or proximity to streams. A sampling and testing regimen will be developed to measure the effectiveness of the unit in reducing the loss of nutrients to runoff. Assuming a positive response from the DEP in late 2005/early 2006, the Team will prepare a detailed workplan and then begin work when funding is available in late 2006.

## **8.3 Purchase or otherwise Protect Watershed Land**

Organizations represented on the Team will work with land trusts, private landowners, the state of Connecticut, and the towns of Putnam and Woodstock to protect land in the watershed from development by purchasing land or development rights and seeking donations of land. In particular the team will work in support of the purchase of the Valley Farm by the State, Town of Woodstock and The Trust for Public Lands. Another promising protection effort is the purchase of 116 acres around Morse Pond by the Opacum Land Trust.

## **8.4 Conduct Education and Outreach Campaign**

Public education and awareness is a key part of this Sourcewater Protection Plan because everyone poses a risk to groundwater. Most homeowners and business owners will work try to protect their local groundwater if they know how to minimize contamination risks. The Little River education and outreach campaign will include, but will not necessarily be limited to the following:

- ◆ Send a “tax bill stuffer” with educational information to all residences and small businesses within the SWPA. This may include “How to care for your septic system” and “Household hazardous waste disposal tips.” The NDDH has begun this effort by providing this information to the Muddy Pond Homeowners Association.
- ◆ Develop a media campaign to reach the public with educational information about local drinking water, and about the current Sourcewater Protection effort.
- ◆ Incorporate groundwater activities into school curricula.

- ◆ Hold an informational meeting with local residents about the Sourcewater Protection effort to increase local awareness of the link between land use and drinking water quality and involve the public in Source Water Protection activities.

### **8.5 Include Drinking Water Protection in Town Planning and Ordinances**

The team encourages the towns of Putnam and Woodstock to continue to keep sourcewater protection in the forefront when considering regulations and ordinances. Both towns would benefit by submitting a joint application to the DEP to declare the land along the Little River and its major tributaries an official greenway. This designation will offer an advantage in applying for DEP watershed protection grant monies, help Woodstock prioritize open space set-asides, and Putnam to secure funding to improve parklands along the river.

The towns should consider developing ordinances requiring homeowners to inspect and maintain septic systems at regular intervals and to have underground fuel storage tanks inspected and removed if failing. In addition, the towns should work to engage and educate developers regarding proper stormwater management during and after construction. Existing regulations should be aggressively enforced.

### **8.6 Support Efforts to De-list Roseland Lake**

Roseland Lake has been a recreational resource for the people of northeastern Connecticut and beyond for some 125 years. Roseland Park is a historically significant part of the culture of the area and the Team encourages the Trustees to maintain and improve it as a resource for the area and as a buffer along the lake. In particular they should continue the efforts begun by the ECCD to control invasive phragmites reeds. The Team will work with the DEP to find ways to remove the lake from the Impaired Waterbodies List. The Team will work with DPH to again allow swimming at the Lake by virtue of the fact that the swimming area is over 2 miles from the diversion at Peake Brook Road.

### **8.7 Muddy Pond**

Muddy Pond and Morse Pond are at the northern end of the watershed. Muddy Brook flows from Muddy Pond and is the longest tributary to the Little River. Muddy Brook and its tributaries (one of which flows from Morse Pond) are the major contributors to Roseland Lake and the Little River downstream. In addition Muddy Pond is the only public swimming area in the watershed and it has become infested with variable milfoil, and invasive species. This presents a unique opportunity to educate Woodstock residents to the importance of protecting the watershed. The Team requests that the town provide an interpretive sign explaining the importance of the watershed as a public water supply and the dangers of invasive species and how to avoid introducing them. Information could include transport of invasive species by boats and releases from home aquariums. It is only a matter of time before milfoil migrates downstream and public awareness can help garner resources to fight this nuisance.

### **8.8 Form Sourcewater Protection Steering Committee**

The following persons comprise the Little River Sourcewater Protection Steering Committee. They are members of the team that developed this drinking water protection plan for their community, and are committed to implementing the contaminant prevention measures outlined above. Furthermore, this committee will meet at a minimum of once a year to review and update the plan and to assess its progress.

Mary Ellen Blake	Muddy Pond Neighborhood Association
Doug Cutler	Putnam Town Administration
John Guskowski	E. CT RC&D, Town of Woodstock
Scott Gravatt	E. CT Conservation District
Maureen Marcoux	Northeast District Department of Health
Paul Miller	Farmer
Jean Pillo	Woodstock Conservation Commission
Sandy Rotival	Woodstock Planning & Zoning Comm.
Eric Thomas	CT DEP
Bill Trayner	Putnam WPCA

### **9 Contingency Plan**

An Emergency Contingency Plan was prepared by the Putnam Water Pollution Control Authority and revised XXX XX, 2005 as part of their Water Supply Plan.