

The seal of the State of Vermont is centered on the page. It features a central shield with a landscape scene: a green mountain range in the background, a winding river in the middle ground, and a small brown cabin with a chimney in the foreground. A large green tree stands to the left of the cabin. Above the shield is a brown tree stump with a white deer head and antlers. The shield is surrounded by a wreath of green leaves and yellow flowers. At the bottom, a red banner with white text reads "FALLEN VERMONT AND UNIT".

**State of Vermont  
Source Water Assessment Program**

**Prepared by  
Water Supply Division  
Department of Environmental Conservation**

**October 22, 1999**

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## I. INTRODUCTION

The Source Water Assessment Program is a new federal program for Public Water Systems which states are required to implement under the Safe Drinking Water Act Amendments of 1996. The three basic requirements of the Source Water Assessment Program are to delineate, inventory, and assess the susceptibility of every Public Water System and then make this information available to the public. The details of how the State of Vermont has developed and intends to implement the Source Water Assessment Program are contained in this document. For the most part, Vermont intends to rely on the existing Source Water Protection Program which is detailed in the Vermont Water Supply Rule (Chapter 21 of the Environmental Protection Rules, revision date July 15, 1996) and *Protecting Public Water Sources in Vermont* (dated February 24, 1997 and contained in Appendix E). Both of these documents have been revised within the last two years and in the case of *Protecting Public Water Sources in Vermont*, EPA has re-approved this document as Vermont's Wellhead Protection Program. In Vermont, a Source Protection Plan contains a delineation of the Source Protection Area, an inventory of the potential sources of contamination, an assessment of the risk of these potential sources of contamination to the water source, a management plan for these risks, and a contingency plan in case of water system failure or contamination.

Federal documents relating to the Source Water Assessment Program and drinking water in general are available by calling the Safe Drinking Water Hotline at 800- 426-4791 or online at [www.epa.gov](http://www.epa.gov). Publications from the Water Supply Division are available by calling (800) 823-6500 in Vermont or (802) 241-3400 outside of Vermont.

Public Water Systems in Vermont are divided into three major types. **Public Community Water Systems** serve at least 15 service connections used by year round residents or regularly serve at least 25 year-round residents; examples of these types of systems include municipalities and mobile home parks. **Non-transient, Non-community Water Systems** serve at least 25 of the same persons more than six months per year; examples of these types of systems include schools and factories. **Transient, Non-community Water Systems** serve 25 or more people (need not be the same people) more than 60 days per year; examples of these types of system include restaurants, motels, and campgrounds.

Vermont has approximately 450 Public Community Water Systems; 75% of these serve fewer than 500 people each. There are more than 200 Non-transient, Non-community Water Systems and more than 750 Transient Non-community Water Systems. Seven bottled water companies have sources located in Vermont. Half of the Public Community Water Systems have approved Source Protection Plans and 45% of the Non-transient, Non-community Water Systems have approved Source Protection Plans. The Public Community Water Systems are required to develop Source Protection Plans to be in compliance with the Vermont regulations. Non-transient, Non-community Water Systems have developed plans as part of the voluntary Monitoring Waiver Program. Transient, Non-community Water Systems have not been required,

nor have there been recommendations for them, to develop Source Water Assessments or Source Protection Plans.

The following sections contain a description of the Source Water Assessment Program. The sections are organized to correspond to EPA's State Source Water Assessment Program Review Protocols which will be used to judge the adequacy of the Vermont Program in comparison to the Safe Drinking Water Act requirements; to the requirements in the federal guidance, *State Source Water Assessment and Protection Program Guidance*; and to post-guidance policy clarifications.

The development of this program has depended heavily on the recommendation of the Source Water Assessment Program Technical and Citizens Advisory Committee. This group of volunteers with interest in protecting public water sources met during the summer of 1998 to discuss how to implement the Source Water Assessment Program in Vermont. The Advisory Committee was composed of representatives of public water systems, regional planning commissions, water system consultants, public health officials, environmental groups, and others. While the formation of this committee is a federal statutory requirement, the Committee exceeded expectations in providing impartial and meaningful recommendations to the Water Supply Division on the development and implementation of the program. The Advisory Committee was able to reach consensus on all of the key issues discussed during their meetings. The Water Supply Division has chosen to follow all of the Committee recommendations. Details of the Committee's recommendations is provided in subsequent sections and in Appendix B.

In order to create a successful Source Water Assessment and Protection Program, the Water Supply Division expects to provide financial and technical assistance to Public Water Systems to assist them in meeting the new requirements developed as part of the Source Water Assessment Program. As provided for in statute (10 VSA §1679), we will be developing a financial assistance program through rulemaking.

## **II. PUBLIC PARTICIPATION**

One of the fundamental changes in focus from the earlier Safe Drinking Water Act to the 1996 Amendments of the Safe Drinking Water Act was an increase in public involvement and awareness. The Water Supply Division also believes public involvement and awareness of drinking water issues is vital to protecting and improving the quality of Vermont's drinking water supplies. In keeping with this belief, the Water Supply Division expanded upon the minimum requirements for public involvement of the development of the Source Water Assessment Program.

### **A. Technical and Citizens Advisory Committee**

In order to provide an opportunity for the public to participate in the development of Vermont's Source Water Assessment Program (SWAP) and to meet the federal requirements, Vermont established a Technical and Citizens Advisory Committee. A two-tiered approach was used to solicit membership on the Advisory Committee. First, a newsletter containing information about Source Water Assessment and Protection was mailed to a long list of water system officials and consultants in February 1998 (Appendix A, Section 1) with the Drinking Water State Revolving Fund Priority List Application. This newsletter provided information on the role of the Advisory Committee and who to contact if people were interested in participating. Second, a more formal mailing was sent to the specific parties outlined in the federal guidance and to other stakeholders identified by the Water Supply Division (Appendix A, Section 2) in March of 1998. After review by EPA Region I, additional parties were sent this second mailing.

A wide range of groups indicated interest in serving on the Committee or at a minimum receiving the minutes of the meetings in case any special concerns arose (Appendix A, Section 3). The Water Supply Division chose not to limit membership of the Committee in order to encourage the maximum amount of public input into the process. Also, several people asked to serve on the Committee after meetings began and they were added to the Committee. The membership of the committee included people representing environmental interest groups, agriculture groups, state agencies, regional planning commissions, water systems operators, organizations representing water systems, water system consultants, watershed organizations, and others. The Advisory Committee mailing list is in Appendix A, Section 3.

The Advisory Committee met four times during the summer of 1998 to address the specific key issues outlined in the federal guidance. The Committee meetings were facilitated by a Water Supply Division employee who was not responsible for developing or implementing the Source Water Assessment Program. In order to accommodate travel and work schedules, the Committee was asked to provide recommendations on where and when to meet.

Federal guidance allows for the formation of one Advisory Committee instead of separate Technical and Citizens Committees. This document states, "One committee is possible if a state demonstrates in its submittal that the structure, membership, and process of the committee

provided for viewpoints for both technical (i.e., technical feasibility and effectiveness of a state's SWAP approach) and citizens (ie. desirability and appropriateness of state's SWAP approach) consideration."

The Water Supply Division reviewed the list of people and organizations interested in participating in the Source Water Assessment Program. Based upon the wide diversity of interested parties, the Water Supply Division decided to have the first meeting a combined technical and citizen's meeting. The Water Supply Division placed the issue of whether to have separate Technical and Citizens Advisory Committees on the first agenda. The meeting attendees discussed the issue and agreed that it was important for everyone to hear the technical and citizen's perspective at the same time in order to have well-rounded recommendations. The committee membership provided both technical viewpoints through engineering and hydrogeologic consultants and public health specialists; and citizen's viewpoints through non-profit organizations and citizens. The meeting minutes include a list of attendees and their affiliations. The facilitator of the meeting also stated the issue could be revisited at anytime if the process became burdensome or troubling. This issue was revisited during the December 1998 meeting of the Advisory Committee to address a public comment. Again, the Advisory Committee felt that both viewpoints had been well represented.

The minutes and related materials from the Committee Meetings are contained in Appendix B. An agenda and supporting information were mailed out prior to each meeting. For the last three summer meetings, the mailings included a "strawperson" or "white paper," which outlined one method of addressing the key issues for the Source Water Assessment Program. These documents were created at the request of the Committee. In many instances, the Committee recommended Vermont to follow the methods suggested in the strawperson and so the minutes refer back to the strawperson. The strawperson and minutes should be referred to simultaneously in reviewing the Committee's recommendations.

The Committee addressed all of the key issues outlined in the federal guidance. In many instances, they recommended following the existing state program for the protection of public water sources outlined in the Vermont Water Supply Rule and in the state's guidance manual, *Protecting Public Water Sources in Vermont*.

## **B. Public Input on the Proposed Source Water Assessment Program**

The federal guidance manual requires states to conduct public hearings, workshops, focus groups, conference calls, or meetings around the state to gain public input on the proposed Source Water Assessment Program. The Advisory Committee recommended two public meetings and presentations at the fall meetings of two water system organizations--the Northeast Rural Water Association and the Green Mountain Water Environment Association. The Water Supply Division agreed to follow these recommendations with the exception of the Northeast Rural Water Association Meeting since they do not have a fall meeting.

An informational flyer was mailed to all public water systems, water system consultants, stakeholders identified through the Advisory Committee process, and others providing brief information on the proposed Source Water Assessment Program, the public meeting schedule, and a toll-free number to contact for copies of the complete program document prior to the meetings (Appendix C, Sections 2). Also, legal notices were placed in newspapers around the state containing similar information on or before October 16, 1998 (Appendix C, Section 3). A public comment period to accept written comments on the Source Water Assessment Program was held from October 16, 1998 to November 30, 1998. Written comments were submitted to Elizabeth Hunt, Source Water Protection Chief, 103 South Main, Waterbury, VT 05671-0403.

Two public meetings were held to receive verbal public comment. The first meeting was in Montpelier on November 18, 1998. The second meeting was held in Woodstock on November 19, 1998. Both meetings were sparsely attended with three members of the public at the Montpelier meeting and five at the Woodstock meeting. Copies of the sign-in sheets are in Appendix D. The comments and questions received during these two public meetings are also contained in Appendix D.

In addition to the public meetings, an hour-long presentation on the Source Water Assessment Program was delivered at the Green Mountain Water Environment Association Meeting on November 5, 1998. The Green Mountain Water Environment Association (GMWEA) is the water and wastewater operators' association in Vermont. Approximately sixty-five water system operators and consultants attended the session on the Source Water Assessment Program (see Appendix D). The presentation at this meeting included a forty-five minute presentation outlining the proposed program and then time for questions and answers. Copies of the program document and informational flyer were available at the presentation and at the Water Supply Division's display area.

The Technical and Citizens Advisory Committee requested to review the comments received during the public meetings and the public comment period. The Water Supply Division agreed to this request and a meeting of the Advisory Committee was held on December 10, 1998. The Advisory Committee was mailed a complete set of the written comments and the verbal comments from the public comments. For unknown reasons, attendance at this meeting was extremely limited (see Appendix C for a list of attendees). Nonetheless, those attending the meeting provided excellent input and had a lively discussion on the comments received. As with other aspects of the program, the Water Supply Division agrees with the recommendations from this meeting.

Written comments were received from the Vermont League of Cities and Towns, HydroSource Associates, the Lake Champlain Coalition of Water Suppliers, and EPA. Appendix D contains the written response to comments received during the public comment period.

### III. STATE APPROACH

#### A. Overall Approach and Philosophy

The overall approach and philosophy of completing the Source Water Assessment Program is to continue implementing Vermont's Source Water Protection Program. The Source Water Protection Program was developed in Vermont through the requirements of the Wellhead Protection Program and the Water Supply Rule. The Wellhead Protection Program was first approved by EPA on September 13, 1990 and the Water Supply Rule integrated requirements for Source Protection Plans for all Public Community Water Systems in 1992. Furthermore, the Water Supply Rule established construction, monitoring, and operational requirements on all public water systems, providing a comprehensive source water protection program. The Water Supply Division of the Department of Environmental Conservation is responsible for implementing the Water Supply Rule along with the Wastewater Management Division which oversees construction permits for Non-community Water Systems.

Vermont's Source Water Protection Program requires all Public Community Water Systems to have an approved Source Protection Plan. If a Public Community Water System does not have a Source Protection Plan, the requirement to have a plan becomes a condition of their Temporary Operating Permit. The Water Supply Rule currently recommends that Non-transient, Non-community Water Systems complete a Source Protection Plan to provide for the protection of their source. Under the Monitoring Waiver Program, a significant number of Non-transient, Non-community Water Systems have completed a Source Protection Plan in order to obtain a chemical monitoring waiver. The Water Supply Division is responsible for reviewing and approving all Source Protection Plans to ensure that the Plans meet the requirements outlined in the Water Supply Rule and *Protecting Public Water Sources in Vermont*.

As outlined below, Public Community Water Systems and Non-transient, Non-community Water Systems will be required to complete a Source Protection Plan through the authority of the Water Supply Rule. Revisions to the Water Supply Rule will provide for this authority. The Water Supply Division will be responsible for completing a Source Water Assessment for Transient, Non-community Water Systems. The level of detail of the Source Protection Plans and the Source Water Assessments will be analogous to the level of detail currently required for the Source Water Protection Program. In most instances, the Source Protection Plans can be completed by water system personnel with some guidance from the "experts." The Water Supply Division believes this creates a more relevant and meaningful document, rather than another report to sit on the shelf. This method also creates reports that are written in plain English rather than complicated scientific terminology.

The results of the Source Protection Plans and Source Water Assessments have and will be integrated into a variety of programs. Many of the upcoming federal regulations rely on the data and delineations developed under this program. Also, as Geographic Information Systems (GIS)

become a more prevalent tool in environmental decision making, the Source Protection Plans and Source Water Assessments will be a major component of future protection efforts. The Water Supply Division intends to continue assisting public water systems in the protection of public water sources beyond the completion of the minimum requirements of the Source Water Assessment Program.

## **B. Existing Information and Resources**

One of the key aspects of a comprehensive Source Protection Plan is having available information on potential sources of contamination and geographic data. The Water Supply Division has an active GIS system that includes the location of Public Water System sources, Source Protection Areas, Underground Storage Tanks (permitted ones), hazardous sites, roads, streams, and other similar coverages. Historical data on junkyards, landfills, dumps and other sites are available in the Vermont Groundwater Pollution Source Inventory Report (1980). The Water Supply Division has the ability to acquire any of the Vermont Center for Geographic Information's coverages (i.e., recreation areas, E-911 data as it becomes available, etc.). Vermont Center for Geographic Information also supplies these GIS datalayers to the public and other government agencies. Information from sanitary surveys (an inspection of a water system) on the physical condition of a water system is available electronically and is provided to the water system shortly after completion by the Water Supply Division. The Department of Environmental Conservation and the Department of Health are working to electronically obtain water system information from the Health Department's inspections of food and lodging establishments that are Transient, Non-community Water Systems. The water quality monitoring information from the public water systems is also available electronically. Geologic information is available from the well driller log computer database and through historical publications of the State Geologist and the former Groundwater Management Section.

Some exceptions to available GIS data are hydrogeology, geology, septic systems, and locations of private water wells. The Water Supply Division is seeking funding for digitizing GIS locations of the private water wells and the Division of Geology and Mineral Resources is actively working on the geologic coverages at a rate of 1-2 quadrangles per year. Since Source Protection Plans are prepared by the water systems, they bring a wealth of local knowledge to the plan. This local knowledge can preclude the need for creating statewide coverages on local potential sources of contamination.

In general, the level of information that is available or will be available to a Public Water System and the Water Supply Division for completing the Source Water Assessment Program is adequate. Work needs to continue on sharing new and existing databases with other GIS users and making this information widely available through the Internet. Also, the knowledge that a water system owner or operator has about local activities is invaluable in preparing a Source Protection Plan.

The Advisory Committee agreed the existing sources of information are adequate for completing the Source Water Assessment Program, although they encouraged the Water Supply Division to make additional information available through GIS. They also recommended creating an easy-to-understand document that includes sources of information and relevant contact information for various state agency databases, nonprofit databases (e.g., watershed organizations), and regional planning commissions. The Water Supply Division intends to create this document and other supporting documents to assist public water systems in completing Source Protection Plans.

For delineations which may cross into other states, the Water Supply Division will rely on the coordination functions of the New England Interstate Water Pollution Control Commission (NEIWPC). Several public community water systems have already completed Source Protection Plans for Source Protection Areas that extend beyond the political boundaries of Vermont. These have not proved to be insurmountable projects and the Water Supply Division does not anticipate any major problems in examining these areas. Also, the Water Supply Division has requested that EPA provide coordination assistance on an as-needed basis for issues with Canada.

### **C. Groundwater Delineation Methods**

A variety of methods to delineate Source Protection Areas for groundwater sources are detailed and approved for use by EPA in their manual, *Guidelines for Delineation of Wellhead Protection Areas* (EPA 440/6-87-010). The Vermont Water Supply Rule and *Protecting Public Water Sources in Vermont* contain methods that meet these federal requirements and the Source Water Assessment Program delineation requirements. The Water Supply Rule allows for remote recharge areas to be identified through the Source Approval process outlined in Appendix A of the Water Supply Rule.

Since both of the Vermont documents have been revised recently (1996 and 1997, respectively) and *Protecting Public Water Sources in Vermont* was reapproved by EPA as the Wellhead Protection Program, Vermont shall continue to use the methodologies outlined in these documents for Public Community Water Systems and Non-transient, Non-community Water Systems. Use of these documents and methodologies is consistent with the Advisory Committee's recommendations. Due to the size of the Vermont Water Supply Rule and the fact it has already been widely distributed to Vermont's Public Water Systems and consultants, it is not included in the appendices. *Protecting Public Water Sources in Vermont* is contained in Appendix E. Please contact the Vermont Water Supply Division for a free copy of the Water Supply Rule at either (800) 823-6500 in Vermont or (802) 241-3400 outside Vermont.

Groundwater sources for Transient, Non-community Water Systems do not have a recommended delineation methodology in *Protecting Public Water Sources in Vermont*. The Advisory Committee was asked to examine this issue more in-depth (see Appendix B, Section 3 for meeting minutes). The Advisory Committee discussed three possible delineation methods--

fixed radius, calculated fixed radius, and the Presumptive Minimum Separation Distances established in the Water Supply Rule (Appendix A, Part 11.4.1.). The fixed radius method establishes a radius around the source of a specific distance for all systems regardless of site specific characteristics. The calculated fixed radius method establishes a radius around the source which is based upon the maximum daily demand on the source. In other words, the larger the demand the larger the radius. The Presumptive Minimum Separation Distances are also based primarily upon the maximum daily demand, although consideration is given to shallow water supplies. The separation distance is established using the calculated fixed radius method and then the area is extended to twice the radius in the upslope direction. Visually, this forms the shape of a shield (see Appendix B Section 3 for a plan view of this). The minimum radius of this method is 100 feet. The Advisory Committee recommended that the Water Supply Division use the Presumptive Minimum Separation Distance Method, particularly since it was established to provide protection from domestic sewage disposal fields and because the methodology has undergone public scrutiny through the rulemaking process. The Water Supply Division agrees with this recommendation and will implement it.

#### **D. Surface Water Delineation Methods**

Delineations for Public Community Water Systems using surface water are required and detailed in the Water Supply Rule and *Protecting Public Water Sources in Vermont*. The Advisory Committee reviewed this methodology and recommended its continued use for Public Community Water Systems, with the exception of systems served by Lake Champlain (see below for Lake Champlain Methodology). As stated in the Water Supply Rule, Appendix A, Part 3.2.6.1:

*Source protection area delineation for surface water sources shall include the following zones:*

- (a) Zone 1 shall consist of an area 200 feet in radius around the intake or as otherwise determined by the Agency.*
- (b) Zone 2 shall consist of areas within the watershed located within 200 feet of perennial surface water and limited to 17,000 acres.*
- (c) Zone 3 shall consist of the remaining watershed area beyond zones 1 and 2, except as may be reduced by the Agency on a case-by-case basis giving consideration to the size of the watershed and the likelihood of contamination of the source.*

The surface water delineation methodology is very simple and straightforward. A 200' radius is drawn around the intake for Zone 1. For Zone 2, a buffer zone of 200 feet is drawn around the perennial surface water bodies. If the source is a pond, Zone 2 would encompass a 200' buffer around the pond and any streams feeding the pond. For a source located on a river, Zone 2 would encompass a 200' buffer on each side of the river and the tributaries feeding the river above the intake. In general, a perennial surface water is considered those that are mapped on USGS topographic maps, although some public water systems have used more detailed local

maps if they are available. Zone 3 is delineated based upon the watershed area above the intake structure.

The potential areal limitations of Zones 2 and 3 were designed to create more meaningful protection areas for a public water system to focus their protection efforts on. The limitation of 17,000 acres for Zone 2 was incorporated as part of the 1992 Water Supply Rule. It was predicated on a review of the existing surface water sources and a belief that Vermont's small public water systems would not be able to manage an area larger than this. Based upon a review of the existing surface water delineations in Vermont, it does not appear the reduction of Zone 3 has been employed. Any request to reduce a Zone 3 would need to show that the likelihood of contamination is minimal and the delineation of the watershed would place an unreasonable burden upon the public water system with little gain in public health protection. An unreasonable burden can be based upon a variety of factors. In Vermont, this burden can in part be based upon the statutory requirement to provide individual notice to all landowners and provide the opportunity for a hearing for every potential Public Water Supply Source Protection Area. Providing notice to every landowner in Vermont, New York, and Quebec, Canada within the Lake Champlain watershed would appear to be an unreasonable burden.

The Advisory Committee strongly stressed the importance of allowing the flexibility to reduce the size of Zone 3. The Water Supply Division intends to continue using this methodology for Public Community Water Systems using surface water. An example of a surface water delineation developed using this methodology for a pond is shown in *Protecting Public Water Sources in Vermont* on page 24.

The Advisory Committee recommended that Non-transient, Non-community Water Systems using surface water be required to delineate their Source Protection Areas using the methodology described in the Water Supply Rule (Appendix A, Part 3.2.6.1) for Public Community Water Systems. Vermont does not have any Non-transient, Non-community Water Systems with a surface water source. Nonetheless, the Water Supply Division intends to revise the Water Supply Rule to require Non-transient, Non-community Water Systems with surface water sources to delineate a Source Protection Area using the delineation methodology prescribed for Public Community Water Systems with surface water sources. This revision will include a requirement for the Non-transient, Non-community Water Systems to provide public notice of the delineation in the same manner as the Public Community Water Systems.

With the noted exception of the Lake Champlain systems, the Advisory Committee recommended that Transient, Non-community Water Systems using surface water follow the delineation methodology outlined in the Water Supply Rule for Public Community Water Systems with a surface water source. The Water Supply Division intends to revise the Water Supply Rule to reflect this recommendation. The Water Supply Division does not intend to require the Transient, Non-community Water Systems to provide public notice of a Source Protection Area as outlined in the Water Supply Rule, since only Source Water Assessments will

be conducted and not a complete Source Protection Plan. These delineated areas will be referred to as Source Water Assessment Areas.

### **Lake Champlain Surface Water Systems**

Public Water Systems served by Lake Champlain pose a unique challenge to meeting the requirements of the federal Source Water Assessment Program. All these Public Community Water Systems currently have a 3000' fixed radius Source Protection Area. These Source Protection Areas were established prior to the Water Supply Rule requirements for delineating zones for surface water sources. The Transient, Non-community Water Systems on Lake Champlain do not have any delineations completed, although the sources are located. There are no Non-transient, Non-community Water Systems served by Lake Champlain.

As part of the development of the Source Water Assessment Program, the Water Supply Division met with the Lake Champlain Coalition of Water Suppliers to discuss their concerns after they provided comments on the draft Source Water Assessment Program. The notes from this meeting and a response to their comments can be found in Appendix D.

The Advisory Committee agreed on several points relating to Public Water Systems served by Lake Champlain. First, they agreed that it was not realistic to expect the public water systems on Lake Champlain to delineate, inventory, and assess their entire watershed. Second, the state has a responsibility in the larger picture of the Lake Champlain watershed. Third, Public Water Systems using Lake Champlain as a source have a responsibility to assess and protect their water systems. The Advisory Committee developed specific language to state their position: "The Committee does not intend for the Lake Champlain Source Protection Areas to include the entire watershed in their official Source Protection Area. However, the Committee recognizes that the entire watershed may be a source of potential contaminants."

Based upon these beliefs, the Advisory Committee recommended Public Water Systems using Lake Champlain as a source be required to redelineate their Source Protection Areas and create Source Protection Plans relevant to this area. The Advisory Committee recommended that these delineations be based upon available information, including the United States Geological Survey Hydrologic Unit Code 11 watershed (HUC-11), Lake Champlain water current data, information on fate and transport, and other relevant information. Furthermore, the Advisory Committee recommended that the Water Supply Division employ a person to coordinate the Source Protection Plan issues for the Lake Champlain Public Water Systems. This position should assist the water systems in developing an appropriate Source Protection Area for approval; gather existing data for use by the water systems; prevent duplication of efforts by the water systems in inventorying and assessing risks; and aid in the development of meaningful protection and management plans. The Advisory Committee agreed that a case-by-case approach for Public Water Systems served by Lake Champlain was appropriate and that a strict formula for delineation was not appropriate.

The Water Supply Division supports the recommendations of the Advisory Committee and the recommendations offered by the Lake Champlain Coalition of Water Suppliers. Below is an outline of the Source Water Assessment Program as it applies to Public Water Systems using Lake Champlain as a source. This outline is based upon Vermont's existing Source Protection Program and the draft Great Lakes Source Water Assessment Proposal developed by the Great Lake states and EPA Region 5 (See Appendix D Section 3 for a copy of the Draft Great Lakes Protocol). Vermont intends to closely follow the work of the Great Lakes states for assessing the Lake Champlain sources. With Lake Champlain's excellent water quality, the relatively limited industrial development along the lakeshore, and the absence of shipping traffic on the lake, certain aspects of the Great Lakes States' Protocol may not be relevant.

As with the rest of the Source Water Assessment Program, the Water Supply Division will be responsible for completing assessments for Transient, Non-community Public Water Systems. Responsibility for completing Public Community Water Systems Source Protection Plans and Source Water Assessments will be divided between the Water Supply Division and the Public Water Systems as outlined below. The Water Supply Division intends to employ a full-time person for eighteen months to focus solely on the Lake Champlain Public Water Systems.

The existing 3000 foot radius circle Source Protection Areas for the Public Community Water Systems on Lake Champlain are not adequate to meet the requirements of a watershed-based Source Protection Area. Scientifically, they do not reflect the area contributing water to the intake. The proposal drafted by the Great Lake states and EPA Region 5 to address intakes on the Great Lakes has been revised and incorporated into Vermont's existing Source Protection Program, the recommendations of Vermont's Technical and Citizens Advisory Committee, and the suggestions of the Lake Champlain Coalition of Water Suppliers.

The Public Water Systems will conduct an initial survey of their raw water quality to assess localized impacts and if available, will review any siting studies of their intakes. If this review indicates only minor fluctuations in raw water quality, the source is assumed not to be affected by localized contaminants. This will likely be the case for several water systems because of the high quality of water in Lake Champlain and the depth of the intakes to obtain the best water quality in the water column. The Water Supply Division will provide assistance in determining what a "minor fluctuation" is. This will in part be based upon the subsequent work of the Great Lakes states and the existing data on Lake Champlain water quality. If fluctuations are attributable to localized contaminant sources, an area of concern will be delineated (see below).

The Water Supply Division will design a short fact sheet (1-2 pages) to address the Advisory Committee's concept of the "entire watershed as a source of potential contaminants." This fact sheet will contain a map showing the Lake Champlain Basin Watershed and an understandable explanation of how activities in the watershed may affect drinking water sources in Lake Champlain. This fact sheet will be included in the Source Protection Plans and Source Water Assessment prepared by Lake Champlain Public Water Systems and will be posted on the Water Supply Division's website. The fact sheet is also designed to address EPA's concept of

delineating the entire watershed as part of the Source Water Assessment Program. Prior to publication, the Water Supply Division will seek comments on a draft fact sheet from EPA and the Lake Champlain water supplies.

Delineation of specific Source Protection Areas for Public Community Water Systems will be based upon the USGS Hydrologic Unit Codes (HUC), starting at the HUC-11 level. A hydrologic unit code identifies a watershed or subwatershed which has been mapped by the USGS. It is based upon topography. The HUC-11 for each public water system will be identified by the Water Supply Division. The Water Supply Division will then adjust these areas to reflect any localized areas of concern identified as part of the review of raw quality, the local topography (i.e., the topographic divide of an island could be used to limit the contributing area), any known information from studies on lake currents, studies by the Lake Champlain Basin Program and others, wind direction, depth of intake, etc. Discussions with the Coalition of Lake Champlain Water Suppliers indicate that many of the public community water systems would have an area of concern smaller than the initially identified HUC-11. Intakes located far out into the lake without an obvious area of contribution may have a very limited delineated area and would reference the overall lake quality trends in their Source Protection Plan. While the Water Supply Division will have primary responsibility for delineating this area, the public water system will provide input. The Water Supply Division does not expect any public water systems to undertake complex, time-consuming, or costly studies to develop a Source Protection Area, although the Water Supply Division may choose to do so to gain a better understanding of the contributing area. We intend to take full-advantage of existing information and tailor it to specific water systems. As an example, EPA's \$25 million investment in the Lake Champlain Management Conference will be used, as well as future federal dollars due to Lake Champlain's eligibility for Sea Grant funding. The Public Water System will be responsible for providing the administrative information necessary to make the Source Protection Area official under Vermont regulations.

The inventory and assessment for the Lake Champlain water systems would follow the methodology outlined for other public water systems in Vermont using the identified Source Protection Area. This activity will be the responsibility of the Public Water System to complete, although the Water Supply Division will provide assistance in a number of ways. We will identify potential sources of contamination in New York and Canada that are of concern and provide facilitation to resolve any conflicts. Also, we will provide technical assistance in the form of GIS maps of the identified Source Protection Area, research state databases for regulated activities which may be of concern, etc. The actual susceptibility assessment of these sources will be the responsibility of the public water systems. As currently required by the Water Supply Rule, the Public Community Water Systems are responsible for submitting a complete Source Protection Plan for review and approval by the Water Supply Division.

In the interest of facilitating all of this work by the federal deadline for the Source Water Assessment Program, the Water Supply Division intends to create a workgroup to facilitate the completion of the Source Water Assessment Program and Source Protection Plans for the public

water systems on Lake Champlain. The workgroup will be composed of representatives from the Water Supply Division, Lake Champlain public water systems, and EPA.

#### **E. Conjunctive Delineations**

In the federal guidance document, *State Source Water Assessment and Protection Programs Guidance*, EPA recommends that “states consider the impacts of ground water on surface water when delineating source water protection areas for PWSs based mostly on surface water.” EPA further recommends considering “the impacts of surface water on public water wells when delineating certain PWSs based mostly on ground water but in the vicinity of a body of surface water.” These types of delineation which consider the ground water and surface water interaction is termed a “conjunctive delineation.”

The Advisory Committee reviewed the issues relating to conjunctive delineations. They recommended the Water Supply Division require any Public Water System determined to be “Ground Water Under the Direct Influence of Surface Water” or GWUDI, be required to redelineate their Source Protection Area to include not only the appropriate groundwater delineation, but the surface water delineation as well. The GWUDI determination is an official determination based upon federal guidelines and laboratory methodologies. It is intended to indicate when surface water is interacting with groundwater that is used as a source of drinking water. A conjunctive delineation shall use the methodology described for surface water delineations for the surface water body that is contributing to the groundwater source and the delineation shall also include the groundwater area delineated by the methodology outlined in *Protecting Public Water Sources in Vermont*. The Water Supply Division agrees with this recommendation and intends to amend the Water Supply Rule to reflect this requirement. No other changes are proposed to the current delineation methods as part of conjunctive delineations.

#### **F. Contaminant Source Inventory**

No changes are proposed to the existing methods for Public community and Non-transient, Non-community Water Systems preparing a contaminant source inventory. This decision is in agreement with the Advisory Committee’s recommendations.

The requirements for completing a contaminant source inventory are outlined in detail in *Protecting Public Water Sources in Vermont* (Appendix E) and the Water Supply Rule. The Water Supply Rule states that all potential sources of contamination within Zones 1 and 2 shall be identified. In Zone 3, the “major potential sources of contamination” shall be identified. These include direct or indirect discharges permitted by the State or other known piped discharges to surface water; municipal wastewater or industrial storage lagoons and/or injection wells; pulp mills; active or closed solid waste landfills; mining operations or drainage; radioactive waste storage facilities or disposal sites; and hazardous waste storage or disposal sites. *Protecting Public Water Sources in Vermont* provides a detailed list of potential sources of contamination for use by public water systems in preparing their source protection plans. This

detailed list of potential sources of contamination is believed to address sources of all regulated contaminants. The Advisory Committee recommended using the existing methodology for contaminant source inventories for Public Community and Non-community Water Systems. They also requested to clarify the potential sources of contamination list to consider both active and abandoned mining operations (the current list identifies “mining and mine drainage”) and clear cutting forestry operations (the current list identifies “forestry”). The Water Supply Division intends to include these clarifications in future publications.

For Transient, Non-community Water Systems, the Advisory Committee recommended and the Water Supply Division concurred that the contaminant source inventory only include potential sources of contamination causing nitrate or bacteriological contamination. This decision is consistent with the monitoring requirements for these systems which only requires nitrate and bacteriological testing. The method of inventorying these potential sources of contamination will be based upon sanitary surveys from the Vermont Department of Health, site visits by Water System personnel, computer databases (both tabular and geographic), and other available information.

## **G. Susceptibility Determination**

The federal guidance manual requires a definition of “susceptibility determination” and how it will be achieved for Public Water Systems. The guidance manual offers a definition of “the potential for a PWS(s) to draw water contaminated by inventoried sources at concentrations that would pose concern.” The Water Supply Division and Advisory Committee agreed to use the federal definition of susceptibility determination for the Source Water Assessment Program.

According to the federal guidance document, the determination can be “an absolute measure of the potential for contamination of the public water supply; a relative comparison between sources within the source water protection area; a relative comparison to findings by other assessments; or some other result that would provide for the protection and benefit of the PWSs.” Vermont’s current Source Protection Program calls for the assessment of the risk of the potential sources of contamination to the water source using a **relative comparison** between potential sources of contamination within the source protection area. *Protecting Public Water Sources in Vermont* (Section 5.3.5) states:

The actual risk to the source and the health of persons from each contaminant at each activity (PSOC) will be made upon considering the following factors:

- C Distance from PSOC to source
- C Toxicity of contaminant (if chemical)
- C The relative elevation of the bottom of source compared to discharge point or potential discharge point at the PSOC [e.g., Is the intake of the well at a lower elevation than the elevation of the leachfield?].
- C Level of control exerted over PSOC (is the PSOC regulated by a state permit? See Appendix C.)
- C Volume of contaminant which is, or might be, released at the PSOC

- C Is the PSOC one which involves a past, present and ongoing, or a potential discharge?
- C The nature of the soils between the PSOC and the source
- C The aquifer characteristics, if known
- C Type and severity of illness associated with the PSOC if contaminants are disease causing
- C Other factors which might help evaluate the level of risk as high, medium, or low.

Although not specifically noted in *Protecting Public Water Sources in Vermont*, the “other factors” include the source construction integrity and the detection of contaminants along with other relevant information.

The Advisory Committee discussed the relative benefits of the various methods of determining susceptibility and recommended the continued use of the existing susceptibility determination. However, they also recommended the development of an overall susceptibility ranking for each public water system using available computer databases. The Advisory Committee recommended rankings be comparable to the draft tables from the State of Maine’s Drinking Water Program, but adjusted to available databases and regulations for Vermont (see Appendix B, Section 3). The Water Supply Division intends to develop a computer program to accomplish this task. Although as a secondary susceptibility determination, it may not be completed by the statutory deadline for the Source Water Assessment Program. The development of this program will be tied in closely with the requirements of the federal Groundwater [Disinfection] Rule.

#### IV. MAKING THE ASSESSMENTS AVAILABLE TO THE PUBLIC

The Safe Drinking Water Act Amendments of 1996 require states to “make the results of the source water assessments . . . available to the public.” The Technical and Citizens Advisory Committee discussed the most effective ways of making the information available to the public during their August 26, 1998 Meeting (Appendix B, Section 4). The Water Supply Division and the Advisory Committee agreed with the methods presented in the strawperson document (see the excerpt below). The Advisory Committee also recommended some additional outreach methods for the Water Supply Division to pursue which are discussed below.

##### **Excerpt from Strawperson Document**

*The State of Vermont intends to make the Source Protection Plans and Source Water Assessment widely available to the public. Most of this availability will need to be accomplished through use of GIS and computers because of limited staff resources. The Federal Guidance includes a variety of acceptable means to make the assessment available to the public. Due to the number of existing approved Source Protection Plans, Vermont intends to make the entire assessment available to the public, rather than create brief reports for each assessment. The state will include information about the availability of Source Water Assessments and Source Protection Plans to the public through a notice on the Water Supply Division website, note the availability of the assessment in the state Clean Water Act Section 305(b) reports, announce the availability of the Assessments as part of the Consumer Confidence Reports, and include information about the availability in Water Supply Division and Department of Environmental Conservation newsletters. The Water Supply Division is also exploring the possibility of providing copies of the assessments and maps on a website. Other education and outreach opportunities will also be explored, including newspaper articles, public service announcements, etc.*

*The Water Supply Division will begin work on making this information available to the public as soon as possible, but no later than approval of the Source Water Assessment Program. The GIS data files of existing Source Protection Areas, and locations of all Public Water System Sources are already available through the Vermont Center for Geographic Information. Maps of Source Protection Areas and copies of Source Protection Plans are furnished to the public upon request. Standard copying fees apply to these requests.*

The Water Supply Division intends to make the entire Source Protection Plan available to the public upon request for Public Community and Non-transient, Non-community Water Systems. A Source Protection Plan includes a delineation, an inventory of the potential sources of contamination, a susceptibility assessment of these potential sources of contamination, a management plan to address these risks, and a contingency plan. For Transient, Non-community Water Systems, the Source Water Assessment completed by state personnel will be made available to the public. Water Supply Division personnel will be available to answer any questions the public may have regarding Source Protection Plans or Source Water Assessments. As appropriate, questions will be referred to the specific Public Water System responsible for

submitting the Source Protection Plan. A notice regarding the availability of Source Protection Plans has already been placed on the Water Supply Division website (<http://www.anr.state.vt.us/dec/watersup/wsd.htm>).

As discussed in the strawperson document, the Water Supply Division will publicize the availability of Source Protection Plans and Source Water Assessments through a variety of forums.

- C A notice will be posted on the Water Supply Division website briefly explaining the Source Water Assessment and Source Protection Programs. The notice will include an "800" number and the mailing address of the Water Supply Division to request a copy of a water system's Source Protection Plan or Source Water Assessment.
- C As required by federal regulations, the Consumer Confidence Reports for Public Community Water Systems will contain information about the water system's source(s), a brief summary of the system's susceptibility to potential sources of contamination, and notification of the availability of the Source Protection Plan.
- C As appropriate, notice of availability will also be included in various reports created by the Water Supply Division, including the Clean Water Act Section 305(b) reports and various Department of Environmental Conservation newsletters.
- C Furthermore, the Water Supply Division will investigate the possibility of electronically scanning the Source Protection Plans and Source Water Assessments. These files would then be available via the Water Supply Division website. This task would be accomplished late in the Source Water Assessment time frame to allow for efficiently scanning of the majority of the plans and assessments.
- C At the recommendation of the Advisory Committee, the Water Supply Division will investigate the possibility of developing software that would enable the public to view Source Protection Areas at their home computers using a standalone computer program.
- C The location of sources and their associated Source Protection Areas are already available to the public in several forms. The GIS datalayers and associated metadata are available through the Vermont Center for Geographic Information (VCGI). VCGI is a quasi-governmental institute charged with developing GIS standards and distributing GIS information in Vermont. As an additional service, VCGI maintains a website where datalayers can be downloaded (<http://geo-vt.uvm.edu/>). The public may also request a map of the public water system's source locations and source protection area directly from the Water Supply Division. Finally, the public can review the Water Supply Division's GIS information, monitoring information, and the most recent sanitary survey information at a computer terminal in Waterbury. A formal request to review the file is not necessary.

The locations of Public Water Supply sources were located using Global Positioning System (GPS) technology several years ago through a federal contractor. The Water Supply Division is responsible for maintaining this data. After completing the changes to the Water Supply Rule detailed elsewhere in this document, the Water Supply Division will begin compiling GIS data layers of the Non-community Public Water System Source Protection Area and Source Water

Assessment Areas. This delay is necessary in order to accommodate any public notice requirements of Source Protection Areas.

Maps of Source Protection Areas are available upon request from the Water Supply Division. The Water Supply Division has the ability to include other data layers, such as roads, streams, watersheds, hazardous waste sites, etc. This information can also be viewed by the public using a computer in the Water Supply Division Viewing Room in Waterbury. Also, many of the Regional Planning Commissions have the capability to process and print GIS maps and information. At the recommendation of the Advisory Committee, the Water Supply Division will also produce maps showing public water system sources and Source Protection Areas on a town basis. These maps will be sent to the respective town clerks and other local officials (i.e., conservation commissions, zoning commissions, fire departments) would be notified of the availability of the map at the town office.

The Advisory Committee discussed the potential problems with terrorism and vandalism that could result from providing specific information on the location and operation of a public water system. The Advisory Committee did not have a specific recommendation to prevent this, but urged the Water Supply Division and the EPA to assess the potential misuse of the information as the program develops.

## **V. PROGRAM IMPLEMENTATION**

### **A. Time line**

Based upon the Advisory Committee's recommendation and the Water Supply Division's cognizance of the available resources to complete the program, the State of Vermont requests the entire 3 ½ years available in federal statute to complete the Source Water Assessment Program. This time period starts on the date the program is approved by EPA and includes the prescribed 2-year period and the allowable 18-month extension. The 18-month extension is necessary because of the current freeze on hiring additional state positions. Vermont has been unable to hire people to provide assistance to Public Water Systems in completing their Source Protection Plans, to review and approve Source Protection Plans, to develop in-depth GIS studies, etc. Current expectations indicate that exceptions will be granted in the future for positions that are 100% federally funded and are of a limited duration. Since the funding for the Source Water Assessment Program is 100% federal funds, it is anticipated that positions will be filled to complete the program within the allowable time frame of 3 ½ years. Even with the 100% federal funding of positions, it will still take time to hire and appropriately train personnel in the new program. It will be impossible for the state to undertake all of the necessary duties of recruiting, training, and then completing the program within the original 2-year time frame. For all of these reasons, the Advisory Committee and the Water Supply Division are requesting the 18-month extension allowable under the Safe Drinking Water Act Amendments of 1996. Assuming EPA approves Vermont's Source Water Assessment Program at the end of their nine-month review period and the 18 month extension is allowed, the deadline for completing the Source Water Assessment Program will be May 6, 2003.

A general time line for the program was prepared by the Water Supply Division and reviewed by the Advisory Committee (see Appendix B, Section 4). The Committee concurred with the proposed time line. Below is a table containing the Source Water Assessment Program activities and estimated start and completion dates. The general overview of events will be:

1. Require Public Community Water Systems to complete Source Protection Plans as required in the Water Supply Rule;
2. Educate the Non-transient, Non-community Water Systems on the benefits of completing a Source Protection Plan as part of the monitoring waiver program;
3. Pursue rule changes;
4. Establish a Financial Assistance Program in the form of grants, contracts, or both to provide monetary assistance to PCWS and NTNC system for funding Source Protection Plan creation and implementation, redelineation of 3000' Source Protection Areas, and redelineation of inaccurate Source Protection Areas;
5. Establish and complete Source Water Assessments for Transient Non-community Water Systems with Water Supply Division resources;
6. Pursue enforcement of those systems required to have SPP who haven't completed one; and

7. Provide the public with information and education about Source Water Assessment and Source Protection Plans on an ongoing basis.

Month/Year	1/99	6/99	1/00	6/00	1/01	6/01	1/02	6/02	1/03	6/03
Program Oversight including information and education										->
Technical Assistance, Review, and Approval of PCWS and NTNC SPP (1 FTE - ongoing)										->
GIS development and integration (0.5 FTE ongoing)										->
Copying of SPP to Public and admin support (0.1 FTE - ongoing)										->
Technical Assistance, Review, and Approval of PCWS and NTNC SPP (1 FTE for 3 years)		-----								
TNC Assessments (1 FTE for 2 ½ years)				-----						
Lake Champlain Public Water System Assistance (1 FTE for 2 years)				-----						
Financial Assistance (0.5 FTE for 2 ½ years)				-----						
Scanning SPP for Public Information							-----			
Rule Changes		-----								

## **B. Financial Resources**

The Technical and Citizens Advisory Committee recommended and the Water Supply Division concurs with using the full amount available to the Source Water Assessment Program under the FY97 Drinking Water State Revolving Fund (DWSRF) Local Protection Set-aside. This amount is \$1,255,880 and is entirely federal funds. The Advisory Committee and the Water Supply Division agree to pursue additional funding resources as needs are identified during program implementation. This could potentially include the federal Sea Grant Program, Lake Champlain Basin Program, the American Water Works Association Research Foundation, other federal grants to Vermont, DWSRF Set-aside for Wellhead Protection, and a variety of other sources.

## **C. Program Implementation Responsibilities**

The Department of Environmental Conservation is responsible for developing and implementing the Source Water Assessment Program. This responsibility includes managing the Drinking Water State Revolving Fund Set-aside used to fund the Source Water Assessment Program. As a requirement of the Water Supply Rule, all Public Community Water Systems are responsible for completing a Source Protection Plan for their water system. In accordance with the recommendation of the Advisory Committee, the Water Supply Division intends to revise the Water Supply Rule to require Non-transient, Non-community Water Systems to complete a Source Protection Plan. Until the rule change is promulgated, the Water Supply Division will encourage Non-transient, Non-community Water Systems to complete a Source Protection Plan as part of the Monitoring Waiver Program. The Water Supply Division reviews and approves all Source Protection Plans to ensure the plans meet the requirements of the Source Protection Program. While in some cases the water system will be making the initial judgement on the risk to the source from potential sources of contamination, the state, in each and every case, will make the final determination, through the review and approval of the source protection plan, of the susceptibility of the source from individual potential sources of contamination. The Water Supply Division has the authority to proceed with enforcement actions against any Public Water System who does not have a Source Protection Plan required by the Water Supply Rule. The Water Supply Division will be responsible for completing Source Water Assessments for all Transient, Non-community Water Systems.

In order to support the Non-transient, Non-community and Public Community Water Systems, the Water Supply Division intends to provide technical and financial assistance to them. Free technical assistance is currently available to these systems through the Water Supply Division and Northeast Rural Water Association. This assistance can range from providing maps of the Source Protection Area to meeting on-site to discuss specific issues to discussing the risk of various land uses. In addition, Northeast Rural Water Association can assist Public Water Systems in writing and reviewing a Source Protection Plan.

Financial assistance will be provided to water systems through a variety of means. The Water Supply Division will pursue rule changes to establish a Source Protection Assistance Fund using

Drinking Water State Revolving Fund Source Water Assessment Set-aside money. The Source Protection Assistance Fund will be used to provide grants to water systems to delineate a more accurate Source Protection Area and to develop Source Protection Plans for large or complicated Source Protection Areas. In addition, the Water Supply Division will use some of the set-aside money to fund studies to establish meaningful Source Protection Areas for Public Water Systems served by Lake Champlain.

The Water Supply Division proposed that the Technical and Citizens Advisory Committee continue meeting on a semiannual or annual basis as needed to provide guidance on program implementation issues. The Advisory Committee agreed to meet if specific issues needed to be addressed, but felt establishing a specific meeting interval was unnecessary.

The Department of Environmental Conservation believes coordination is a cornerstone for successfully implementing the Source Water Assessment Program. With this in mind, the Department will take full advantage of the interstate coordination functions of the New England Interstate Water Pollution Control Commission (NEIWPCC) to address watersheds that cross into other states. Coordination with other state agencies, including the Department of Health and the Department of Agriculture, Food, and Markets, will occur both at the staff level on a regular basis, and at the policy level through the Groundwater Coordinating Committee and other mechanisms.

#### **D. Reporting to EPA**

Progress on the Source Water Assessment Program development and implementation will be reported to EPA through the Wellhead Protection Program Biennial Report, the Safe Drinking Water Information System (SDWIS), the Drinking Water State Revolving Fund Biennial Report, and the Performance Partnership Agreement. These reports contain information about the number of public water systems, the related populations, the number and type of systems with source protection plans and source water assessments, the types of sources for the water systems, general information about the progress and problems identified during program implementations, and how information about source protection plans and source water assessments are shared with the public. In addition to these reporting mechanisms, the Advisory Committee recommended convening a workgroup after approval of the Source Water Assessment Program to examine other measures of success that are not included in the “bean counting” of the other reports. These other measures of success could be reported to EPA, but should be intended for use by Vermonters to determine how successful the Source Water Assessment Program is at protecting their public drinking water sources. The Water Supply Division intends to pursue this recommendation.

#### **E. Updating the Assessments**

The federal guidance encourages states to develop “a plan to update the assessments, particularly if the state decides not to modify the scope of its previous groundwater delineation approach in anticipation of its systems’ needs under forthcoming rules providing for flexibility.” The Water Supply Rule (Subchapter 21-9, Section 9.1.4) already requires water suppliers to submit an update on activities in their Source Protection Area at the time of a scheduled sanitary survey. This requirement has not been fully implemented by the Water Supply Division. In general sanitary surveys are conducted every year for Public Community Water Systems with surface water sources; every five years for Public Community Water Systems with groundwater sources; and every five to ten years for Non-transient, Non-community Water Systems. Transient Non-community Water Systems do not have sanitary surveys conducted by Water Supply Division staff unless they are served by a surface water source.

The Advisory Committee discussed the issue of how often assessment and Source Protection Plans should be updated. As noted in the minutes of the August 26th Advisory Committee Meeting, the Advisory Committee recommended that the timing of updates should be based on the size of the water system, the population served, and the source type. The Advisory Committee chose not to provide specific recommendation and instead recommended that the Water Supply Division resolve the issue through future rulemaking. The Water Supply Division agrees with this recommendation and will likely await future federal regulations (i.e., Ground Water Rule, Chemical Monitoring Reform Rule and Alternative Monitoring Rule, Underground Injection Control Class V Rule and Enhanced Surface Water Treatment Rule), which may affect this decision, before making changes to the Water Supply Rule.

In addition to the regulatory requirements for updating Source Protection Plans, the financial assistance program which will be established using money from Drinking Water State Revolving Fund Set-aside will encourage public water systems to redelineate more accurate source protection areas and to refine their source protection plans.

## **VI. Source Water Protection Program**

### **A. Future Source Water Protection Efforts**

As with a number of other states, the Water Supply Division intends to integrate the federal requirements of the Source Water Assessment into the existing Source Water Protection Program which includes the requirements of the federally approved Wellhead Protection Program. The Water Supply Division intends to continue requiring Source Protection Plans of all Public Community Water Systems. These Source Protection Plans meet the requirements of the federal Source Water Assessment Program, but also include requirements for managing the protection of the water source and creating contingency plans. As mentioned elsewhere, authority to require Source Protection Plans of Non-transient, Non-community Water Systems will be pursued and these Source Protection Plans will also meet the minimum requirements of the Source Water Assessment Program.

The Water Supply Division intends to educate and inform the Transient, Non-community Water Systems about potential protection measures during the initial assessment. Initially, this effort will need to be minimal due to limited resources. It will likely include handouts and information about septic system maintenance and the advantages of regular monitoring. Potential informational and educational opportunities with the Department of Health's sanitarians and public health nurses will be investigated as the Transient, Non-community Source Water Assessments are initiated.

After completion of the federal requirements of the Source Water Assessment Program, the Water Supply Division plans to continue to work with all Public Water Systems at improving protection measures for their water sources and educating the public about ways they can help protect drinking water sources. These efforts will likely be tied into future federal regulatory requirements.

### **B. Time line of the Wellhead Protection Program**

The time line of the Wellhead Protection Program does not need to be altered since all Public Community Water Systems are already required to complete Source Protection Plans in order to be in compliance with the regulations. If a Source Protection Plan is not already completed, the system is required to complete one as a condition of a Temporary Operating Permit.

## **Appendix A Source Water Assessment Program Technical and Citizens Advisory Committee Development**

- Section 1. Newsletter Sent with DWSRF Priority List Application and Mailing List
- Section 2. Letter sent to Stakeholders Requesting Their Participation on Advisory Committee and Mailing List
- Section 3. Advisory Committee Mailing List

**Appendix B Source Water Assessment Program Technical and Citizens Advisory Committee Documents**

- Section 1. Meeting Materials and Meeting Minutes from 6/4/98
- Section 2. Meeting Materials and Meeting Minutes from 6/29/98
- Section 3. Meeting Materials and Meeting Minutes from 7/28/98
- Section 4. Meeting Materials and Meeting Minutes from 8/26/98
- Section 5. Meeting Materials and Meeting Minutes from 12/10/99

## **Appendix C Source Water Assessment Program Public Outreach Documents**

- Section 1. Newsletters
- Section 2. Public Notices and Mailing on Proposed Program
- Section 3. Copies of Newspaper Notices

**Appendix D** Comments and Response to Comments on Proposed Program

- Section 1. Written Comments and Response to Comments
- Section 2. Verbal Comments and Response to Comments
- Section 3. Lake Champlain Coalition of Water Supplies Comments, Response to Comments, and Draft Great Lakes Protocol
- Section 4. Green Mountain Water Environment Meeting Attendees

**Appendix E** *Protecting Public Water Sources in Vermont*