

**Source Water Protection Committee**  
**Approved Minutes of Meeting 12/01/08**

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman; John Bergeron, Secretary, Edward Berger.

Nancy Toth, who has been engaged to prepare a Site Specific Program Plan, was also in attendance.

Meeting called to order at 7:00 PM by chairman Shinnlinger at the town offices

Minutes of 10/06/08 & 11/03/08 were read and approved.

Edward Berger has joined the committee and was introduced and welcomed by the committee.

Bob Reagan reported upon the status of a well drilled behind the filtration plant. Initial test results look good, but not all testing has been completed. The next test is to draw heavily from the well and examine nearby wells to see if there is any problem related to water levels in those other wells.

Watershed boundary signs have been erected and a reimbursement request has been sent to DES.

It was agreed that organizations who pledged matching funds should be requested to submit those funds to the town. Dave Shinnlinger will contact the Conservation Commission and Cardigan Mountain School. John Bergeron will contact Canaan Lake Association.

Dave reported that he met with Canaan Village Association, where he provided them with our current status and they offered to assist us with mailings, meetings, or other efforts.

Nancy Toth presented a summary of her work on the Site Specific Program Plan.

Additional volunteers should be trained by DES and John will obtain the VLAP training dates for 2009.

Septic system activity and plans were briefly discussed.

Impact fees were discussed. The town has authorized implementation of impact fees, but no action has been taken.

Stormwater near the beach and on Canaan Street was discussed. No additional word has been received from NH DOT on their preliminary concepts. The pros and cons of salt versus sand were discussed.

Outreach activities need additional planning before next spring.

Easements may be a possibility and sponsoring organizations and funding sources were mentioned.

Respectively submitted,

John Bergeron

**Source Water Protection Committee**  
**Approved Minutes of Meeting 10/06/08**

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman; John Bergeron, Secretary

Meeting called to order at 7:05 PM by chairman Shinnlinger at the town offices

Minutes of 9/22/08 were read and approved.

The final design of the drinking water protection sign was discussed, as well as the purchase order procedure, and the potential vendors. Bob will complete the purchase order. The sign posts will be box channel similar to those used near Cardigan Mountain School, rather than U channel that the town has used in the past. The road agent concurs with this approach.

Word was received from Plymouth State University on 9/29/08 that they are still moving the subcontract with Canaan through there approval cycle.

There was a brief discussion of water testing parameters including conductivity. This lead to a discussion of storm water options on Canaan Street. We are waiting for NHDOT to complete some conceptual drawings.

Bob reported that the town has driven a new well about 600 feet deep near the water filtration plant. Initial estimate is that this will provide about 20 gallons per minute. A more extensive test is planned to measure the exact delivery rate of this well. If that is successful, several tests will be conducted for pollutants and hazards. Once the well has proven safe and is approved, it will begin delivering water to the filtration plant, where it will be mixed with the existing water supply. This should provide sufficient dilution to bring Canaan's water into compliance with EPA disinfection byproduct limits.

It was agreed that future meetings will be held on the first Monday of the month at 7PM in the conference room below the library.

Respectively submitted,

John Bergeron

Source Water Protection Committee  
Approved Minutes of Meeting 6/11/08

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman; John Bergeron, Secretary

Meeting called to order at 7 PM by chairman Shinnlinger.

The members discussed an implementation plan for the recently received NH DES Source Water Protection grant and that plan is attached. PSU CFE is working on a detailed plan for their portions of the grant. John Bergeron and Dave Shinnlinger will lead the septic survey activity and begin by assembling a spreadsheet of lake properties. Dave Shinnlinger will contact Alan Hanscomb, the NH DOT district engineer, to discuss DOT involvement in boundary signs, and Canaan Street stormwater management (road salt & sand). John Bergeron will contact the Meredith town planner to obtain a copy of the septic system survey conducted in their watershed. John will also contact Granite State Rural Water Association to obtain their PowerPoint slides used at a recent DES workshop, which may be useful in our outreach efforts. Additional discussion is needed and a will be continued to the next meeting.

Members also discussed an upcoming public meeting to be held at Cardigan Mountain School in early August to stimulate community interest in protecting the Canaan Street Lake Watershed. This will be held in conjunction with Canaan Lake Association and the Upper Valley Land Trust. Dave Shinnlinger will lead the committee's involvement in this activity.

Also discussed were plans for an informational booth at Canaan's Old Home Day celebration, for the purpose of educating the public about Canaan's drinking water source. Bob Reagan will make arrangements for a booth and try to locate a map of water district users.

The financial plan was distributed prior to the meeting, but time did not allow for discussion and will be addressed at the next meeting.

The next meeting is scheduled for June 30<sup>th</sup> at 7 PM below the library.

Meeting adjourned at 9:05 PM

Respectfully Submitted,

John Bergeron, Secretary

# **Canaan Street Lake Water Grant**

## **Summary of Tasks**

J. Bergeron 6/10/08

1. Comprehensive Testing Program (*Plymouth State Responsibility*)  
(*PSU is creating a detailed statement of work*) (*abbreviated task below*)
  - a. The CFE will develop a Quality Assurance Project Plan (QAPP). Samples will be collected by trained volunteers and delivered to CFE for analysis. All collected data will reside in the DES VLAP database.
  - b. Conduct additional chemical monitoring:
  - c. CFE will develop a proposed long term trend assessment plan
  
2. Septic System Management Plan
  - a. The Town will evaluate the impact of septic systems by conducting a septic system survey. The Town will collect and compile information on the type of system, installation date, location, and maintenance of septic systems within 250 feet of Canaan Street Lake. For older systems an onsite inspection will be conducted by the Town to assess the risks associated with older systems. Older systems will include any high risk sewage disposal situation. Several factors will be evaluated to assess potential risk and the need for inspection including system age, seasonal usage, bedrooms, soils, gradients, wetlands, pumping history, and tank size. The Town will estimate the cost and feasibility of continuing a septic system management program.

*This task should include the following:*

- ◆ *Identify persons responsible for task*
- ◆ *Identify all waterfront lots and lots within 250 feet of waterfront*
- ◆ *Capture septic data from DES files and possibly town*

*files*

- ◆ *Record data in spreadsheet*
- ◆ *Develop owner questionnaire for mail, phone, and/or personal interview*
- ◆ *Identify high risk septic systems*
- ◆ *Seek competitive bids for on-site inspections (MBE/WBE)*
- ◆ *approach owners and offer on-site inspections for high risk systems*
- ◆ *Evaluate risk and recommend future solutions in final report*
- ◆ *Complete task in 2008*

### 3. Watershed Boundary Signs

- a. Install watershed protection signs along the watershed boundaries. Submit pictures and invoices to DES.

*This task should include the following:*

- ◆ *Identify persons responsible for task*
- ◆ *Identify possible sign locations at watershed boundaries*
- ◆ *Identify sign design and text*
- ◆ *Approach DOT and seek permission and sign suggestions for Canaan Street*
- ◆ *Approach Highway department for comments and installation labor (grant pays labor)*
- ◆ *Ask DES for comment*
- ◆ *Hold public hearing perhaps at a selectman's meeting*
- ◆ *Revise sign and seek appropriate approvals*
- ◆ *Seek competitive bids, including minorities & women, for signs & posts (DOT sign standards)*
- ◆ *Install signs*
- ◆ *Complete task in 2008*

### 4. Planning Review and Education and Outreach Program

- a. CFE will work with UVLSPC to research the Town's current Master Plan and land use regulations to assess how the community addresses water quality for the Lake through the land use process. Develop recommendations for

improvement and present to the Town at a public meeting along with information regarding watershed planning. The land use/planning recommendations will also reflect the recommendations of the road maintenance and management plan. CFE will ask the Planning Board and the Board of Selectmen to designate representatives from each board or relevant committee members to review recommended improvements. Submit assessment and recommendations to DES for review and comment.

*(PSU is developing a plan for this task)*

- b. The Town, with assistance from CFE will distribute educational materials regarding watershed management, the comprehensive shoreland protection act (as amended in 2007), and proper septic system use and maintenance. Task 2 findings will be used to guide development of outreach and education materials. The Town will also distribute information regarding the recreational usage of the public water supply.

*This task should include:*

- ◆ *Identify persons responsible for this task*
- ◆ *Coordinate with PSU to establish plan*
- ◆ *summarize shoreland protection act*
- ◆ *summarize proper septic usage*
- ◆ *summarize proper recreational usage*
- ◆ *summarize human caused risks and solutions*
- ◆ *consult watershed plan*

- c. CFE and UVLSP will provide a public education program session on land use and water quality. Findings of the research on the land use process will be forwarded to DES for review and then will be presented at a public meeting to help guide the Town's future development around the Lake. The session will be publicized through mailings, newsletter articles and newspaper articles.

*(PSU is developing a plan for this task)*

*Road Salt is not mentioned in the grant but we promised to do it in the proposal*

*This task should include the following:*

- ◆ *Identify persons responsible for task*
- ◆ *Approach DOT to find possible options for Canaan St*
- ◆ *Approach Highway Dept and Selectmen to identify possible options (Back Bay Rd uses Sodium Chloride and Fernwood Farms Road uses Calcium Chloride)*
- ◆ *Consider impact and solutions for sand on all roads*
- ◆ *Implement quick fixes if possible and include longer range solutions in final report*
- ◆ *Coordinate with PSU to understand salt and sand risks and solutions*



- ◆ *Consult watershed plan*
- ◆ *Start in 2008 and complete in 2009*

Source Water Protection Committee  
Approved Minutes of Meeting 6/30/08

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman; John Bergeron, Secretary

Meeting called to order at 7 PM by chairman Shinnlinger.

The meeting discussed watershed boundary signs. The state is unlikely to approve watershed boundary signs on Canaan Street within the state's right of way. They have suggested that we locate the Canaan Street signs on private property outside of the state right of way. Canaan Street would have two signs, one located near Fernwood Farms Road and one located near the old north church. Other signs would be located on town roads as each road enters the watershed. Dave Shinnlinger described text and graphic options for the signs. Possible sign suppliers were discussed.

Bob Reagan provided several maps that could be used for the Old Home Day booth. These were discussed and Bob will obtain additional copies which will be highlighted to show water users and the watershed.

Dave has attempted to contact Alan Hanscomb about road salt options, but has not had a discussion at this point.

Members also discussed an upcoming public meeting to be held at Cardigan Mountain School August 5, 2008 to stimulate community interest in protecting the Canaan Street Lake Watershed. This will be held in conjunction with Canaan Lake Association and the Upper Valley land Trust. Dave Shinnlinger will lead the committee's involvement in this activity. Various topics will be presented at this meeting, including history of how the lake was created, the drinking water protection grant, the Comprehensive Shoreland Act, and conservation easements.

John & Dave will meet July 9<sup>th</sup> to work on the septic survey.

The status of Plymouth State University Statement of Work was reviewed. PSU submitted their recommendations on 6/25 and Canaan comments were returned to them on 6/27.

The next meeting is scheduled for July 14<sup>th</sup> at 7 PM below the library.

Meeting adjourned at 8:53 PM

Respectfully Submitted,

John Bergeron, Secretary

**Source Water Protection Committee**  
**Approved Minutes of Meeting 7/14/08**

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman; John Bergeron, Secretary

Meeting called to order at 7 PM by chairman Shinnlinger

This past week Dave, Bob, & John met with Alan Hanscomb of NH DOT to review potential stormwater solutions near the beach, and to review potential locations for boundary signs on Canaan Street. Several stormwater alternatives were discussed, but the most likely stormwater solution is to place buried concrete pipes and periodic catch basins along Canaan Street. DOT is preparing a sketch that would have catch basins just north of the beach driveway, in front of the museum, on the common, and in front of Brightman's. The drains would terminate in a low spot in Ritchie's field. If DOT determines this design or an alternate is feasible, discussions will be held with land owners, the selectmen, and other interested parties.

An Old Home Day booth was discussed and it was determined that we will set up outside the library Friday night and at 7 PM Bob will place the booth equipment, maps, tables, chairs, inside the basement conference room below the library. Dave will assemble one or two A-frames to display maps and other large items. Bob will open the booth at 8 AM and stay until Dave arrives around 10 AM. John will run the booth from noon until 2 or 3 PM.

Dave showed a version of the boundary sign and will work to complete some samples for the Old Home Day booth. John gave Dave the sign quote which was used in the proposal and will provide Dave with regulatory information on sign text size. John and Dave were able to speak with Fred Majewski about placing a sign on Canaan Street in front of his home. Dave will contact the Carter's and discuss sign placement on the hill south of Canaan Center.

John and Dave have completed collecting septic data from NH DES One Stop database. The next step is to examine town records, which they will do on 7/17. It is then anticipated that a trip to Concord will be needed to examine hard copies in DES files.

On 7/12 John presented a summary to the Canaan Lake Association of the DES water protection grant and shoreland rules effective 7/1/08. Information distributed is attached to these minutes.

On 7/30 John & Dave will meet to prepare material for use at the Canaan Street Lake meeting to be held 8/5 6:30 PM Humann Theatre, Cardigan Mountain School. The public is invited.

The next meeting is scheduled for August 11th at 7 PM below the library.

Meeting adjourned at 8:45 PM

Respectfully Submitted,

John Bergeron, Secretary

{Attachment to minutes: Information presented to Canaan Lake Association 7/12/08}

## **Water Protection Grant**

In 2006 DES awarded Granite State Rural Water Association and Canaan a grant to prepare a watershed protection plan for drinking water protection. The Selectmen appointed a drinking water protection committee, and a plan was prepared to protect Canaan Street Lake Watershed.

This year, DES has awarded Canaan \$19,424 to implement some 2006 recommendations.

Tasks include:

Increased water testing and long term recommendations; work to be done by Plymouth State University.

Septic system survey to identify high risk systems and recommend solutions.

Erect watershed boundary signs on all roads entering the watershed.

Review Canaan's land and water protection plans, ordinances, regulations and recommend improvements. PSU & UVLSRPC will assist.

Educate landowners and recreational users about watershed threats and solutions.

Work is to be completed by June 2010.

{Attachment to minutes: Information presented to Canaan Lake Association 7/12/08}

## **Shoreland Protection Effective July 1, 2008**

### **Applicable surface waters:**

- Bear Pond
- Bryant Pond
- Canaan Street Lake
- Clark Pond
- Crystal Lake Brook Pond
- Derby Pond
- Enfield Reservoir
- Goose Pond
- Lary Pond
- Little Goose Pond
- Mirror Lake
- Mascoma River downstream of Canaan Center
- Indian River downstream of junction with Lary pond outflow
- Goose Pond Brook
- Orange Brook

### **Within 250 feet of the high water mark of the surface waters listed above:**

- Construction, excavation, or filling requires a Shoreland Permit from NH DES.
- Subdivision requires approval from NH DES.
- Alteration of terrain permits are required at 50,000 square feet.
- No more than 20% of lot may be impervious, without remedial action.
- No establishment/expansion of salt storage yards, auto junk yards, solid waste and hazardous waste facilities.
- For new lots with on-site septic, the number of dwelling units per lot shall not exceed 1 unit per 150 feet of shoreland frontage.
- No footprint expansion for non conforming structures

### **Between 150 feet and 50 feet of the high water mark of the surface waters listed above:**

- For lots that are ½ acre or more, the vegetation within at least 50 % of the area, exclusive of impervious surfaces, shall be maintained in an unaltered state. For smaller lots, change 50% to 25%.

### **Within 50 feet of the high water mark of the surface waters listed above:**

- No primary structures are allowed within 50 feet.
- Tree coverage is managed with a 50-foot x 50-foot grid and points system. Tree coverage must total 50 points in each grid. 1" diameter = 1 point, 6" = 5 points, 12" = 10 points.
- Natural ground cover, including the duff layer, shall remain intact except for footpath
- No cutting or removal of vegetation below 3 feet in height (excluding lawns)
- Stumps, roots, and rocks and stumps must remain
- Pesticide or herbicide applications must be by a licensed applicator only
- Low phosphorus, slow release nitrogen fertilizer may be used between 25 and 50 feet
- Limestone only within 25 feet of water
- No accessory structure within 20 feet of water
- One dock allowed per lot, perpendicular to shore

{Attachment to minutes: Information presented to Canaan Lake Association 7/12/08}

## **DES Shoreland Information Meetings**

Sunday July 20 at 11:00 AM (regular meeting starts at 10:00) Canaan Meeting House, Goose Pond Lake Association, annual meeting. Canaan Lake Association members register with CLA president. He will forward count to Dave Barney by 7/14. Others contact Dave directly. No Charge.

Saturday July 26 at 9:30 AM Enfield Village School, \$15 admission, seniors free, call Cantlin Associates, 603-632-7955 to Register

Monday August 11 8:30 AM to 4 PM Meredith, register on DES website, \$30 fee.

## **Conservation Commission and Upper Valley Land Trust meeting**

- August 5, 2008 6:30 pm Cardigan Mountain School
- Lake history & geology
- Water quality and threats
- Preservation and conservation easements

**Source Water Protection Committee**  
**Approved Minutes of Meeting 8/12/08**

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman; John Bergeron, Secretary  
Meeting called to order at 7 PM by chairman Shinnlinger

Minutes of 6/30 and 7/14 were read and approved.

Brief discussion covered the Canaan Lake meeting which was held 8/5/08. The slides used at this meeting are now on the Canaan Lake Association website [www.canaanlake.org](http://www.canaanlake.org) and also the Town website [www.townofcanaanh.us](http://www.townofcanaanh.us)

The results of the Old Home Day booth were discussed. Interest in this year's booth was far above prior years and location was considered to be the main difference. Bob will contact Helen to reserve the same location next year.

The town is close to requesting bids on drilling a well close to the filtration plant. The goal is to drill a well with a yield of at least 12 gallons per minute. If an uncontaminated source can be found it will be added to the water supply at the filter plant. This hopefully will relieve the present problem with excessive levels of disinfection byproducts. Bob will locate a letter from Tim Jennings to Kris Burnett which discusses the troubles Enfield encountered when they drilled their wells.

Bob explained the sewerage system. Each village property has a septic tank which is periodically pumped by a town truck. The effluent from the septic tanks is piped and pumped to the sewerage treatment plant.

Signs design has been postponed until September due to Dave's other commitments. On Monday 8/18 Dave and John will locate sign positions on town roads and photograph most proposed locations. A sign mockup will be photographed at these sites. Also on Monday and as time permits, a few septic sites will be examined to determine locations relative to the lake.

The Statement of Work (SOW) with PSU is still not signed and PSU promises to provide it next week. We discussed SOW activities that have taken place. Steve Kahl appears not to be as involved as originally planned and we need to hear from PSU how this project will be staffed. Since testing can't begin until the QAPP is approved, and the QAPP can't begin until the SOW is signed, we continue to be stalled.

There are reports of increased weed growth in some north coves. Perhaps some limited testing can be done under VLAP. John will approach Canaan Lake Association to discuss.

There is a soil workshop in Concord on Wednesday afternoon 8/20 which John plans to attend, and that may be an opportunity to examine some state septic records in the morning.

The next meeting is scheduled for September 8th at 7 PM below the library. Meeting adjourned at 8:45 PM

Respectfully Submitted,  
John Bergeron, Secretary

**Town of Canaan**  
**Drinking Water Source Protection Committee**  
**Approved Minutes of Meeting 9/22/08**

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman; John Bergeron, Secretary

Meeting called to order at 7:05 PM by chairman Shinnlinger at the town offices

Minutes of 8/12/08 were read and approved with a minor editorial change.

A discussion of analytes covered those in the original proposal, those in the VLAP program, and those currently being recommended by Steve Kahl. John explained that Steve's list was the best fit between lake risks, VLAP standards, and available budgets. Most importantly, PSU CFE now recommends that we test for total organic carbon (TOC) which is the highest risk analyte for Canaan's drinking water. It is TOC that reacts with chlorine and is causing Canaan's drinking to be above EPA limits.

Dave is working on the final sign design and should have it complete in two weeks. At that time he will begin discussions with sign vendors.

Bob discussed how the accounting on this program should be handled. Should there be a single account to collect all grant receipts and expenses, so that grant funds don't distort other accounts? He will discuss this with other town officials.

Dave expressed concerns about the high density of individual sewer lines at Crescent Campsites and the steep driveway. Should there be interceptor trenches or other mechanisms installed to address the risk of sewerage spills reaching the lake from the numerous above ground pipes in case of an accident?

John explained some results of a Labor Day weekend interview of about 20 seasonal residents around the lake. That weekend was selected to maximize the number of seasonal people available. Information gathered included history of septic systems at individual lots, such as installation, repairs, problems, and pumping. Also collected was information on bedrooms, occupants, and water appliances such as washing machines, dishwashers, and etc. The questionnaire was discussed and a question relating to other problems in the neighborhood should be added. Some residents disclosed gray water dumping practices, which we need to assess to determine the level of risk. There appears to be some activity around the lake with unlicensed contractors working on septic systems. These will require additional consideration. A meeting should be held with the health/building inspector, Bill Wilson, to discuss these matters.

Dave will approach Alan Hanscomb NH DOT to get a status on Canaan Street storm drain status.



Recent VLAP test results were discussed. The phosphorous level in the lake looks very good but it is elevated in the tributary next to the Fiske property on Back Bay Road. This may be a one-time abnormality, and we will ask PSU CFE for comment.

Meeting adjourned at 9:15

Respectively submitted,

John Bergeron

**Source Water Protection Committee**  
**Approved Minutes of Meeting 11/03/08**

Members present: Dave Shinnlinger, Chairman; Bob Reagan, Selectman

Discussed concerns over Steve Kahls' PSU departure  
Do we need other testing venue?  
Do we contact Paul Susca?

Bob and Dave completed NH water plan survey.

Meeting adjourned at 8:00

Respectively submitted,

David Shinnlinger