

Septic Social Template Agenda

- 15 minutes – Arrive, Check in, Browse

Displays of simple tests discussed in the Washington Sea grant pamphlet Sense, Scents and Cents (<https://wsg.washington.edu/wordpress/wp-content/uploads/outreach/Septic-sense.pdf>)

- Comparison of different toilet papers (pg 4)
- Shampoo/soap separation (pg 5)

Examples of lake-friendly septic care products:

[Seventh Generation](#) - cleaning products

[Smart Waterways – home improvements](#)

Vermont Agency of Natural Resources hazardous waste brochure

http://www.anr.state.vt.us/dec/wastediv/HHW/Pubs/HHW_Brochure_Revised_20071121.pdf

Examples of different soils <https://www.agric.wa.gov.au/land-use-planning/identifying-soil-types>.

Snacks and Beverages

- 5 minutes - Welcome by host and co-host
- 15 minutes – Lake Leader: Septic systems and water quality
 - Lake Leader should address water quality issues in general, but the local connection will go a long way to help your audience appreciate why it's important that they take action on their property.
- 15 minutes – Septic Specialist: Septic system basics
 - The Septic Specialist could be a septic engineer or a local septic-related business owner, but should be someone knowledgeable about functions and operation of septic systems
- 30 minutes – explore the homeowner's system
 - Review the basic system and function of each component. Have them marked on the property using flagging.
 - Septic tank
 - Distribution box/pump station
 - Leachfield
 - Learn how to check a basic system. Use some type of visual (a 3D model or a poster)
 - measure sludge and scum level
 - check and clean effluent filters and look for warning signs of problems
 - record keeping
 - Discuss minimum setbacks from shorelines and drinking water wells
- 15 - 30 minutes – Q&A and discussion of available resources/assistance
 - Hand out resource package. Make people aware of what's inside and how they can use it
 - Fill out an evaluation form for the social
 - Door prizes?
 - Discounts or incentives for septic system- related services for those in attendance could be provided by the Septic Specialist or another local business
 - Samples of lake-friendly laundry detergent or dishwashing liquid
 - 1 year membership in your association

Talking Points for the Local Lake Leader

1. Clean water is needed by all life.
 - a. Different species have different requirements but in general, as water contains more dissolved and suspended materials, there are fewer species living in it.
 - b. Some of these species can grow exceptionally well in poor quality waters.
2. Human activities strongly influence the quality of water and the types of materials dissolved or suspended in it.
 - a. The change from forest to lawn can increase the amount of nutrients washing off during storms by 10x or more.
 - b. Scientists have documented that water quality in lakes begins to deteriorate when more than 20% of a watershed is covered by impervious surface such as pavement and buildings.
3. Lakeshore residences are physically connected to their lakes by land, surface water and groundwater.
 - a. Share some specific information about this particular lake and watershed
 - i. How is the water quality in general?
 1. Are there water quality or watershed improvement activities occurring?
 - ii. How many homes around the lake?
 - iii. How many camps?
 - iv. What is special about your lake?
 - b. Your activities in your home and on your land do affect water quality.
 - i. The effect can be good or bad, depending on the choices you make
4. Septic systems are designed to protect water quality and human health
 - a. The average home uses about 225 gallons of water each day - showers, toilets, washing machines
 - b. Human waste, soaps, detergents and other cleaning agents used in the home contain phosphorus and nitrogen
 - i. These nutrients are needed for healthy plant growth, but too much in a lake or waterway can lead to excessive plant and algae growth
 - ii. Human waste also contains pathogens that can cause illness
 - c. The average lifetime of a typical septic system is about 25 years. Around this time, it is no longer reliably treating wastewater and should be replaced.
 - i. Activities in the home have a direct effect on the life of your septic system
 - ii. Your choices also have a direct effect on the quality of water released to your septic system and eventually into the environment.
 - iii. Proper maintenance protects water quality and avoids costly emergency repairs.
 1. That's why we have asked ** here today to teach you how to take care of your septic system.

Talking Points for the Septic Systems Expert

1. How does a septic system contribute to water quality protection?

- a. Onsite systems are designed to capture solids for later disposal, protect human health and maintain local water quality.
- b. Onsite systems, particularly old substandard ones, can have negative impacts on groundwater and surface waters by releasing pathogens and nutrients (nitrogen and phosphorous) into the environment
- c. Many of the original camps on VT lakes and ponds were built in the 1950's and 60's when we did not understand how soils can treat wastewater
- d. Onsite systems can be stressed by high water use, particularly on weekends or high occupancy periods, which can lead to failures (surfacing wastewater or backing up into the building)

2. What is a septic system? – the basics of how they function, key design and maintenance points

- a. Septic Tank – typically minimum 1,000 gallons, stays full of water, will fill up with solids if not pumped
 - i. Risers and lids – there should be access to the ground surface for easy checking and pumping
 - ii. Effluent filters – many tanks have a filter at the outlet of the tank – this needs to be cleaned maybe once or twice per year – (describe process for cleaning)
 - iii. When to pump? – Yes, septic tanks do need to be pumped. It's time for a clean-out when the volume of solids in the bottom and top of the tank is more than two-thirds full. Most septic tanks need to be pumped every 3 – 5 years, but systems serving homes with higher occupancy may need more frequent pumping.
- b. Distribution Box – many systems include distribution boxes to split the flows from the septic tank among separate leach lines in the leach field – these boxes can go out of level, meaning one line may take more flows than the others, which can lead to failure. Check the outlets of the box to make sure equal distribution is happening.
- c. Pump Tank – some systems require a pump to lift the water to a higher elevation or for equal distribution in the leach field. These pump systems should be checked annually by a professional. They check for solids build-up, leaks, and to make sure the floats and alarms work.
- d. Innovative/Alternative (I/A) System – some properties have systems that include advanced treatment before discharging into the leach field. I/A systems typically follow or replace the septic tank, and will treat the wastewater to a high degree. These systems allow for smaller leach fields (50% smaller), and reductions to vertical separations to groundwater and difficult soils or bedrock. Most I/A systems are required to have an Operation and Maintenance contract at all times. Service Providers visit the system once or twice a year, perform maintenance activities, handle any emergency conditions, and do a general inspection of the system.
- e. Leach fields – the leach field can be made of perforated pipe and stone, or gravel-less chambers or piping systems. Some mounds and other systems are pressurized with a pump tank. Soils are very important for wastewater treatment. Soils can include well-drained sands, fine silts, or very fine clays, or a mix of these. The depth to the seasonal groundwater table and the “perk” rate of the soils define the type and size of leach field needed, along with the number of bedrooms in the camp.

3. State Regulations – What are they, when do they come into play?

- a. Vermont's regulations call for a 50 foot setback from leach fields and tanks to surface waters, and a 3 foot separation in the soils from the bottom of the leach field to the groundwater table. If you upgrade your system, the designer will design the “best fix” for your property, typically including variances. In the worst cases, you may need to install a holding tank and greatly reduce flows.
- b. You can repair a pipe or replace a tank without a permit, but most other construction activities like upgrades or replacements to leach fields require a permit from the state. You will need to hire a Professional Engineer or Licensed Designer to evaluate the site and prepare the design. Applications are sent to one of the 5 Regional Offices depending on the Town (except Colchester and Charlotte administer their own program).
- c. Go to <http://dec.vermont.gov/water/ww-systems> for information on applying for a permit, names of qualified Licensed Designers, map of Regional Offices, and information on financial assistance.

4. **Keeping your septic system in excellent condition**

- a. Use water efficiently and don't overload the system.
 - i. Avoid washing multiple loads of laundry in a single day
 - ii. Fix plumbing leaks
 - iii. Spread out high water use activities
- b. Keep toxic and harsh materials out of your system
- c. Conduct regular inspections
 - i. Hire a licensed designer to evaluate your system
 - ii. Learn how to recognize the signs of an impending crisis
 - iii. Learn how to clean your effluent filter
- d. Routinely pump out your septic tank
- e. After 25 years or so, your system may need replacement even if nothing appears to be wrong

Other things that may be of interest

- Soil types
- Set backs with respect to waterways, neighbors and structures
- Innovative designs for sensitive locations like lakeshores