

Sewer Project Q & A

This represents new questions raised by Lake Parker owners and answered by Jack Sumberg, Glover Selectboard. (March 26, 2013)

1. Q: First we must be sure there is a problem. If there is, what is the nature of the lake water quality problem? Is it suspended solids, diseased fish, organic material growth due to nutrients inflow, or what? Where are the state or federal agency reports on the problem? Are there existing appropriate water quality study documents that provide conclusive answers to the above questions.

A: *The Lake Parker Watershed Survey Results and Recommendations*, published in March, 1999 by the Lake Parker Association and the Vermont Agency of Natural Resources, on page 4, under the heading *Survey Methods*, states:

*“The Survey does not attempt to carefully quantify the various potential sources of pollution, which would involve an **expensive multi-year sampling program**. Rather, by observing conditions in the watershed and inventorying the land uses, a complete list of probable sources and impacts can be compiled. It is the nature of lake protection that past present and future conditions must be understood and ‘best management practices’ be developed and implemented locally. By considering all that is going on in a watershed and addressing all potential sources of problems, the lake can be protected into the future. **Everyone in a lake watershed has the potential to affect the lake, and everyone needs to become aware and take action to best manage their little piece of the big picture.**”*
(emphasis added)

The survey adds (page 4):

“In-lake conditions and Observations

Lake Parker is a eutrophic lake with abundant plant growth in several locations around the lake. Water clarity, as measured through the VT Lay Monitoring Program, has averaged about 3.5 meters since 1979. The long-term total phosphorus concentration in the lake is 16 micrograms per liter, classifying the lake as ‘eutrophic’ or nutrient enriched. Occasional algae blooms have been reported in years past, and some areas of shoreline, due probably to prevailing winds, experience regular build-up of algae scums. While eutrophic conditions are not entirely unexpected for a shallow, relatively small lake such as Parker, it is believed that the lake has experienced ‘cultural eutrophication.’ Lake Parker is classified as ‘threatened’ by nutrient enrichment by VTDEC’s Lake Protection Classification System.”

In the *Vermont Inland Lakes Lay Monitoring Report 2011*, issued by the Water Quality Division of the Agency of Natural Resources, data is given on the 3 tests performed by lay monitors. Secchi Disk Transparency is a measure of clarity of lake water. A black and white patterned disk is slowly lowered into the water and the maximum depth recorded at which the disk can be seen. The average Secchi depth in Lake Parker from 1979 to 1999 was 3.66 meters, and the average depth

Sewer Project Q & A

from 2000 to 2011 was 3.23 meters. Chlorophyll-a concentration is a measure of the algal population in the lake water. A higher reading indicates more algae. The average reading from 1979 to 1999 was 7.5 and the average from 2000 to 2011 was 8.59. Phosphorus is the nutrient in shortest supply in VT lakes and therefore the one most likely to stimulate plant productivity. Average total phosphorus in Lake Parker from 1983 to 1999 was 16.6 and from 2000 to 2011 it was 19.9.

In *Detecting Failing Septic Systems on Your Lake*, published by the Warren County Soil and Water Conservation District of Warrensburg, NY, it says:

*“Septic systems are designed to treat liquid wastes from your house in order to prevent contamination of your well and nearby waterbodies. The problem is that all septic systems will eventually fail. Adding to that problem, due primarily to the fact that these systems are underground, many homeowners don’t regularly think about their septic system and don’t perform the necessary maintenance required to ensure that their septic system operates properly. As a result, the homeowner often doesn’t realize there is a problem with their septic system until contamination has occurred and manifests itself at the surface. This usually takes the form of a soggy lawn, a backup of water or smell in the house or organic matter surfacing over the leach field; **but these symptoms don’t emerge until major contamination has occurred.***

*Before these signs of failure are evident, **smaller amounts of contamination either leak from the septic tank, remain untreated in the soils of the leach field or pass untreated into the local groundwater supply.** Once the groundwater has been contaminated, that contamination may spread to nearby wells and **waterbodies** connected to the groundwater system. Leakage from a septic tank or contamination due to an ineffective leach field can result in the release of a complex mixture of materials including bacteria, nitrates, metals, trace quantities of toxic materials, and salts. If a drinking water well or waterbody used for recreational purposes becomes contaminated it can lead to ailments caused by the ingestion of microorganisms such as *E coli*, *Giardia*, *Cryptosporidium*, *Hepatitis A*, and helminths (Craun, 1986).”*

2. Q: Next we must be sure of what is causing the water quality problem? Is it acid rain, surface runoff material, lake water catchment area factors including dairy farm manure and fertilizer nutrients, camp septic system inadequacy pollutants, or other factors? Again, are there existing appropriate water quality study documents that provide conclusive answers to the above questions.

A: The *Lake Parker Watershed Survey Results and Recommendations*, published in March, 1999 by the Lake Parker Association and the Vermont Agency of Natural Resources, on page 6, under the heading *Shoreline Observations*, states:

Sewer Project Q & A

“The town of Glover does not have either shoreline zoning or a sewage disposal ordinance, and many camps have been in place for decades. This older pattern of building location raises several potential nutrient and sediment sources from the shoreline including:

It is not known how many of the existing camps have septic systems built to minimum state health standards. A failing or sub-standard septic system can be a source of both pathogens and nutrients to the lake. The state standards require a 50 foot setback from surface water and three feet of soil between the leachfield and groundwater. From an initial first look, it appears many of the existing camps’ septic systems are closer to the lake shoreline than 50 feet.”

The Adirondack Aquatic Institute *Septic System Self-Evaluation Form* lists the following factors that put septic systems at **high risk** of contributing pathogens, nutrients, and other pollutants to nearby water bodies:

The system is more than 20 years old

The system is subject to annual flooding or groundwater comes within 2 feet of the surface

*The drainfield (leachfield) is less than 100 feet from the edge of the lake or stream
Trees and shrubs are growing on or near the drainfield, roots can have a negative impact on drainfield function*

All or nearly all runoff (from roofs, driveways, etc) flows onto drainfield

Standard high volume plumbing fixtures are in use (toilets, showers, etc), no effort is made to conserve water

There is heavy use of a garbage grinder (particles in wastewater have a negative impact on drainfield function)

There is heavy use of strong cleaning products that end up in wastewater.

Hazardous chemicals or cooking grease and oil are disposed of in the wastewater system

Vehicles, livestock, heavy objects, structures or other disturbances are permitted in the drainfield (compaction has a negative impact on drainfield function)

Location of septic system is unknown and records of pumping and repairs are not kept. The septic tank is not pumped. The condition of the tank and baffles are unknown (tank could be leaking or solids that should settle in tank are flowing into drainfield and clogging it)

Household drains back up, sewage odors can be noticed in the house or yard, soil is wet or spongy in the drainfield area.”

All camp and home owners should be encouraged to complete one of these *Septic System Self-Evaluation Forms*.

Soils are grouped in four Hydrologic Groups, A, B, C, & D. Groups C & D are the least suitable for onsite septic systems. It should be kept in mind that the soils surrounding Lake Parker are classified in groups C & D and are commonly shallow to ledge or a high water table.

Sewer Project Q & A

The USDA Natural Resources Conservation Service describes these soil groups as follows:

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Septic systems depend on treatment of pathogens by soil bacteria and uptake of nutrients by plants growing above the drainfield. Wastewater that hits shallow impervious layers or high groundwater is carried, untreated or partially treated, more quickly downslope. In this case, downslope is Lake Parker.

3. Q: What is the number of camps who have new and/or adequate private sewer systems versus those who have inadequate systems that need to be remedied? If this is not known then what is the process of finding out?

A: Completion of *Septic System Self-Evaluation Forms* by all home and camp owners, with the assistance of Lake Parker Association volunteers if necessary.

4. Q: What is the cost difference between remedying individual camps' sewer systems and the proposed common system?

A: It would vary with the individual case, but engineered septic systems which meet Vermont's new more stringent standards, in soil types and lot sizes common around Lake Parker, can be quite expensive. Replacement would probably require new septic tanks and mound systems. The cost of these engineered systems can range from \$20,000 to \$40,000 depending on individual conditions.

5. Q: What is the legality of the whole town voting on this bond proposal and having only the camp owners pay for it? Has the town lawyer's advice on this question been made available to the public?

Sewer Project Q & A

A: According to Vermont law, the legal voters of the town must approve borrowing by bond. The sewer project will not be forced on lake property owners. The project must be desired by a significant majority of lake property owners. The legal voters of the town would be approving the bond issue in order to facilitate a project desired by property owners who are not legal voters.

6. Q: What is the legal process for requiring individual camps to install proper sewer systems?

A: The Sewer Use Ordinance of the Town of Glover sets forth a process for requiring property owners within a certain distance of a sewer line to connect to that sewer line.

7. Q: What is the process for giving a credit on charges for the new system for camps that have already purchased adequate private systems.

A: There is none. USDA Rural Development funding includes the requirement that all property owners within the project area contribute to the debt service.

8. Q: What protections are there against cost overruns, for example if extensive ledge must be removed to install the system? If there are no absolute protections, who will be liable to pay for them?

A: Ledge probes would be done as part of the design phase. Thorough planning and well-written specifications would contribute to a successful bid process.

9. Q: I hope you appreciate how disruptive such a project can appear to the camp owners property and finances and this proposed project will be explored with consideration of that.

A: I do appreciate the expense and potential disruption that Lake Parker property owners will be exposed to *if* this project goes forward. My hope would be that if the lakeshore property owners decide to connect to the sewer line, the long-term positive effect on lake water quality and the maintenance of lakeshore property values would make that expense and temporary disruption worthwhile.

10. Q: Could you provide a more complete accounting of the finances for the Bean Hill project including total costs, town share, cost to users, methods of funding, etc. Does everyone that now has access have to pay the loan even if they did not hook up? How many gained access to the sewer vs how many hooked up?

A: The total cost of the sewer extension to W.Glover was \$1,243,000. It was funded by the USDA Rural Development grant/loan program: 45% grant (\$559,500) and 55% loan (\$683,500). The loan is at 2.75% for 30 years. The annual payments are \$41,104.00 and they are split as follows: 50% (\$20,552)

Sewer Project Q & A

paid by all property tax payers and 50% paid by all sewer users. The property tax share adds about \$14.10 per assessed value of \$100,000 to tax bills. The single-family home share of the sewer user's portion (with the present number of users) is \$140. Sewer users pay both the user's portion and the property tax portion.

The purpose of this project was not to add new users to the sewer system, it was to remedy the problems associated with the failed on-site treatment facility in W. Glover by piping the wastewater from that system to Glover village and on to the treatment plant in Barton. The two systems were built in 1982 and the best option at that time seemed to be combined on-site treatment in W. Glover while Glover Village was piped to Barton. The W.Glover system never worked properly and after many attempted fixes the town was given an Executive Order by the State of Vermont to rectify the failed system. The decision was finally made to extend the sewer pipe and abandon the W.Glover on-site treatment. There are 20 sewer users in W. Glover and 73 in Glover.

In the course of this project, permission was given to add 3 new users to the system as part of the project, one on Bean Hill Rd and 2 on Larose Lane. Permission was also given to use remaining funds to upgrade the main pump station on Rte. 16 at the Glover/Barton town line. This upgrade is a benefit to all sewer users. No one else along the route is paying additional debt service because they are not part of the sewer system. If other residents or businesses along Bean Hill Rd applied to hook up to the system, they would be charged a fee that would be some portion of the debt service and they would pay all costs associated with the hookup.

11. Q: We understand that there is a deadline for the grant application that leaves little time for discussion. Since most homeowners do not open their camps until May or June can you seek an extension of least 4 months so owners can make a more informed decision?

A: We can submit a preliminary application in April so the project is on the list for USDA funding. They cannot obligate funds to the town without a positive bond vote. The bond vote should probably be done by July 30. It would require at least one informational meeting before the vote. Only voters registered in Glover would be eligible to vote.

12. Q: There are several owners who live away from the lakefront but do have access lots, some buildable and some not. Would those people be required to participate or help pay the debt?

A: A decision would have to be made on whether owners of buildable lots are included in the debt service for the proposed project. The more people paying for the debt service the cheaper it will be for all. If lot owners buy in now, the line would be run to their lot and be ready for connection with limited expense. If they

Sewer Project Q & A

wait until later they would be charged a fee as stated above in answer #10 and would pay the hookup costs.

13. Q: It seems very likely that our property taxes may go up as a result of this improvement. Is there a factor you add to the value of a home with town sewer? Have there been any increases in valuation on Bean Hill as a result to the hook ups? Can you address this concern?

A: In terms of assessed values, sewer connections are considered the same as on-site treatment (septic) systems. Values for existing homes & camps would not change. A sewer hookup would, however, add to the value of an undeveloped lot (it eliminates the expense of engineering and installing a septic system). There has been no increase of valuation for homes on Bean Hill Rd.

14. Q: Let's assume someone who was not required to pay the loan because of the distance from the sewer line later decides to hook up. Do they have to pay the loan amount and if so how does that affect the other owners?

A: This would be similar to the answer under #10 and #12. A fee would be assessed which would go against the debt service, thereby reducing the cost to existing users, and the new user would pay the cost of the hookup.