

-----Original Message-----

From: Paul Anderson [mailto:paul.anderson@epa.state.oh.us]

Sent: Monday, August 23, 2010 9:42 AM

To: Walter Samson

Subject: Re: Lake Roaming Rock

Mr. Samson,

Thank you for your inquiry about management of Lake Roaming Rock.

You have asked for guidance regarding the discharge of bottom (hypolimnetic) water from Lake Roaming Rock to Rock Creek as a lake management tool. Unfortunately, there is no easy answer for the questions you have raised. However, I can give you several important points to consider:

1. There are currently no permitting requirements for installation of a lake siphon as you describe under the National Pollutant Discharge Elimination system (NPDES). However, the issue of requirements for discharge permits for these devices has been examined several times over the years, and it is possible that they may come under regulation at some point in the future.
2. Should the discharge of hypolimnetic water via a siphon device cause violations of the Ohio Water Quality Standards in the receiving water (Rock Creek), corrective measures would be required to alleviate those problems. Creation of water quality problems in the stream may result in an unexpected liability. Monitoring of stream conditions during periods of discharge from the siphon to ensure that the stream is protected would be highly advisable.
3. The Roaming shores Wastewater Treatment Plant (WWTP) discharges to Rock Creek just downstream of the lake. The release of hypolimnetic water may reduce the quality of the water in the stream upstream of the WWTP and could potentially result in water quality problems downstream of the discharge which might affect the permit for the facility. The design of any lake treatment program should bear this complicating issue in mind.
4. Ohio EPA surveyed Rock Creek in 2007 and found that the stream was in partial attainment of the water quality criteria downstream of the lake and Roaming Shores WWTP. The causes of partial attainment were determined to be a combination of elevated nutrient concentrations and low flow conditions. The biological and water quality report for this survey can be downloaded via the following web link:  
<http://www.epa.ohio.gov/portals/35/documents/UpperGrandTSD2007.pdf> (the appendices can be found here:  
[http://www.epa.ohio.gov/portals/35/documents/UpperGrandTSD2007\\_appendices\\_p](http://www.epa.ohio.gov/portals/35/documents/UpperGrandTSD2007_appendices_p)

df). Ohio EPA will be developing Total Maximum Daily Load (TMDL) report for the upper Grand River Watershed in the future. However, at this time it is premature to determine what steps will be recommended to address the water quality issues in Rock Creek downstream of the lake. As stakeholders in the watershed, both the village and the lake association will have the opportunity to be involved in this process. The link for the upper Grand River TMDL can be found at the following address: <http://www.epa.ohio.gov/dsw/tmdl/GrandRiverUpperTMDL.aspx> . As the TMDL process progresses, this web site will be updated. I suggest that you contact Trinka Mount of the Ohio EPA Central Office to ask to be part of the mailing list for future information about the development of the TMDL. She can be reached via e mail at [trinka.mount@epa.state.oh.us](mailto:trinka.mount@epa.state.oh.us) .

5. Finally, there is a practical limitation to the use of a siphon that should be considered. The benefits of hypolimnetic siphons are maximized when the lake is thermally stratified, since the siphon is designed to remove water with low dissolved oxygen and high nutrient concentrations. However, these conditions usually manifest themselves in the warm periods of the summer when stream flows are very low. Therefore, it is possible that use of the siphon at times when it would be most effective would result in reduced water levels in the lake. Any management plan would need to recognize this potential limitation.

As we have discussed in the past, management of your lake will require a balanced approach that takes into account the varying needs of the lake users and the applicable restraints relating to downstream water quality. I hope that these points will assist you as you work with the environmental professionals you have enlisted to design a management plan.

Please feel free to contact me with any additional questions you may have.

Paul

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>>> "Walter Samson" <[wrsamson@windstream.net](mailto:wrsamson@windstream.net)> 8/20/2010 12:43 PM >>>  
Mr. Paul Anderson

Roaming Shores is a lakeside community in Ashtabula County.

We have two governing bodies.

1. Roaming Shores Village has a Mayor and elected Council members.
2. The Roam Rock Association that operates with a paid Manager and elected Directors.

Since the health of the Lake is vital to the community, the Board of Directors established an advisory Lake Management Committee. The Committee, in turn, draws upon the expertise of the firm of EnviroScience, usually represented by Mr. Marty Hilovsky. I am a member of the Lake Management Committee and our Chairman asked me to contact you.

The Association is continually seeking better ways to manage the Lake, and some of the Directors suggest that a siphon system taking Lake water over the top of the dam would allow more precise control of the lake level. Periodic draw downs would be faster, the peak level increase after heavy rains could be buffered and some of the water below the oxygen level could be moved out.

Preliminary costs indicate a siphon system would be an expensive venture that justifies detailed examination before proceeding. One area that needs early resolution is EPA constraints. Individual comments range from "We checked, no problem." to "After you build that siphon you'll find you're going to have to recycle that discharge water, and that is a whole new system"

Rather than being blindsided later, the Lake Management Committee wants to learn now, generally, whether the EPA would become involved in a siphon system and, if so, to what extent. Certainly we need to know before any detail designs are made.

I called before lunch on Friday the 20th, and you were not available. Probably that was good because an email better expresses our concerns. We meet next Wednesday and I certainly would appreciate receiving your comments

before.

I am:

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