

Subject: VERY IMPORTANT- The Glen Arbor residential project at Hammonds Plains and the upgrading of the Springfield Lake Municipal STP

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I hope you will follow through with the two(2) issues we discussed in detail by phone on Thursday, 05 June 1997, and they were about setting a 'phosphorus objective' for Sandy Lake, Hammonds Plains (a headwater lake) and regulating the size/density of onsite system lots (i.e. w/in 300m of the lakeshore), and a limnological assessment of the effects of the municipally operated STP at Springfield Lake. If you recall, I had written numerous E-mails and faxes over the last 2 years on these issues and copied to several senior staff at your Department (actually it was 3 long years in the case of the Springfield Lake STP), but to date all I received was a general "PR" type of E-mail from Mr. Taylor in the case of the STP, and a verbal commn. w.r.t. the Glen Arbor Development wherein he "passed the perpetual buck" back to the HRM and its volunteer Advisory Board. I herewith beg for a written pragmatic (E-mail) reply with limnological facts.

As I told you by phone, only an incompetent professional (or Department) will keep downloading professional responsibility(ies), and it is indeed your Department which is 'paid by taxpayers' to protect the present and future water quality of our lakes. No other agency has the responsibility, and as Mr. Naipal Tomar P.Eng. of the HRM Environmental Services Division pointed out 2-3 weeks back, the Provincial Act amalgamating the Halifax municipal units (allegedly) does not even mention lake water quality in its mandate (as approved by the NS Legislature).

[I] Springfield Lake (w/in Shubie R headwaters) Municipal STP, Middle Sackville:

We are quite aware that your Dept did indeed have a Limnologist on staff when the Springfield STP was originally approved, and that was Dr. John K.

Underwood Ph.D. I know John quite well, and he does not LIE to me like his successors did/do, and he told me honestly last year that nutrient enrichment of the downstream lake, Fenerty Lake was NOT a criteria when it was approved and designed by Porter Dillon Ltd. Now that the HRM is about to upgrade the plant (to correct for some inadequacies in its flow equalization tanks, etc.), it would be a good time to assess its present and future impact on Fenerty Lake (STP's outflow is the Lisle Lake brook which drains into the fascinating Fenerty Lake). I do not at the present time think a full blown tertiary plant is needed (mainly because of its cost), but perhaps an enhanced secondary plant with TP removal may suffice.

In addition, I ask that "alum" (or sodium aluminate for low pH waters) not be used for P-removal (like in the Lake Fletcher plant), but consider using "lime", and the Dorset Research Centre of the OME&E tells me that Ontario has been going away from "alum" and requiring "lime" in its new plant approvals (and in old ones whenever opportunities arise). I am aware "lime" produces greater amount of sludge on many occasions, which would (may) mean upgrading of the volume of the sludge capacity in the plant, etc.

No matter what, I like to see a scientific assessment carried out and it MUST be done by a genuine Limnologist (or a Certified or a Professional Lake Manager), and not by a fisheries (or marine) biologist, and definitely NOT by a professional engineer. Though actual design has to be indeed carried out by a professional environmental engineer, but since local universities are not allowed to award full fledged degrees in environmental engineering, the second best option will be design by an experienced professional civil engineer.

[II] Glen Arbor project, Sandy Lake (w/in Sackville R headwaters), Hammonds Plains:

We want your Department to set a FINAL (total)phosphorus objective for this headwater lake at 50% over the natural background value, background value being ascertained based on the latest updates of the Ontario Trophic Status Model. The outdated Chlorophyll-a objective as recommended by the Kings County study is NOT to be used, and please consult the leading Canadian expert in this, Dr. Peter J. Dillon Ph.D. of the Dorset Research Centre on this. My next E-mail to you (and CCd to all of you) will outline some severe shortcomings of the heavily provincial/federal funded Kings County study which your Department failed to have rectified.

Until the Health Inspections services amalgamated with your Dept. about 3 or so yrs back, your Dept had a genuine excuse of not having any control on the density of onsite systems, and indeed Mr. Lee Lewis P.Eng., and Mr. Andy Cameron among others of your Dept had an excuse that NSDoE had no control on onsite systems. Now you do not have that excuse as your Dept's regional offices make the FINAL DECISION w.r.t. size and densities of onsite systems. As I told you during our meeting, Nov-1996, Health Dept. over the years past had one respected research-minded engineer, and that was David Pask P.Eng. I dealt with Mr. David Pask on several occasions, and I recall his last words before he emigrated to the University of West Virginia that he was aware that "all/most phosphorus" in septic effluent eventually (over decadal time scales) reaches the downstream watercourses.

Further, Dr. Peter J. Dillon of the Dorset Research Centre and Prof. Dr.

Lewis A. Molot of York University published a leading paper on the Ontario Govt.'s approach on this in Water Research-1996, and I had sent copies of their draft paper about 2 years back to many of you. I hope you read and digested it. Now, since it has been published in the respected Water Research Journal (a refereed journal), it attains worldwide credibility. Further, as all of you know, Dr. Dillon himself being a senior civil servant in Ontario, he imparts to the paper that much more credibility from an official Government perspective as opposed to an intellectual paper from a university. Incidentally, Prof. Dr. Lewis Molot co-publishes (or is a lead author) along with Dr. Peter Dillon of many of the latter's papers dealing with lakes on an "Applied Limnology" level.

PS: I hope you will reply PRAGMATICALLY on the above 2 issues. I do not need long replies, just focused ones, and if you have any scientific conclusions in written format (I do not need copies), I just have to know where they are kept (hopefully at the NSDoE Library or on your Web pages preferably), and if you or your reps. send me the info, I will look at them within 24 hrs if I am in town.

TIME IS OF THE UTMOST ESSENCE!!

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      ^                Shalom M. Mandaville (Prof. Lake Manage.)                ^
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