

Oct 1, 2024

To:

Honourable Tim Houston, Premier, Province of Nova Scotia,
Mayor Mike Savage, Halifax Regional Municipality
Honourable John Lohr, Minister of Municipal Affairs and Housing
Honourable Timothy Halman Minister of Environment and Climate Change

From:

David Patriquin
Prof. of Biology, Dalhousie University (retired)

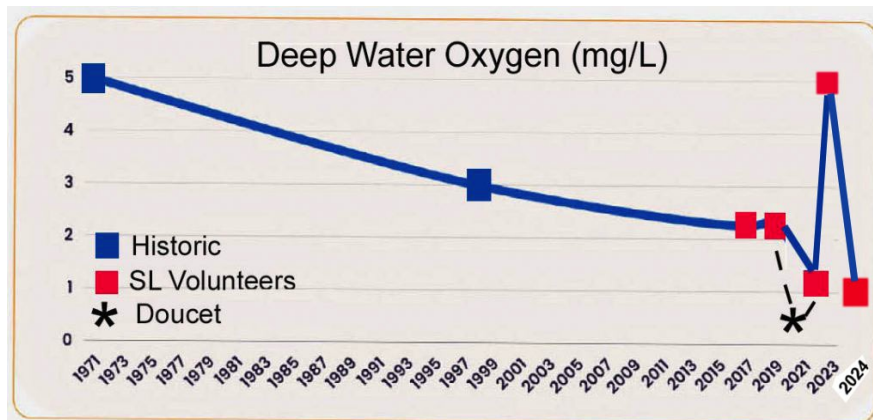
Subject:

The precarious state of Sandy Lake (Sandy Lake Special Planning Area)

I am writing to you as key decision-makers in relation to a major challenge that faces us in HRM and Nova Scotia at large: the need to address the housing crisis and the combined Climate/Biodiversity crisis simultaneously, and as much as possible with approaches that are not compromises, that are win-win for both housing and our environment.

Specifically I want to bring to your attention a key issue pertaining to the state of Sandy Lake which lies within the Sandy Lake Special Planning Area in HRM. I suggest it is serious enough to warrant not proceeding with the development as currently envisaged, if at all; that if we do, we are very much addressing housing at the expense of Climate/Biodiversity, and also in the intermediate to longer term, the well being of the surrounding communities.

On The “key issue”. With the help of volunteers from the Sandy Lake Conservation Association, I conducted a set of limnological (lake) observation in 2017, 2018, 2022, 2023 & 2024. Those observations, together with independent observations on Sandy lake in 2021 by Casey Doucet in relation to her Masters of Applied Science research at Dalhousie University and some historical data (1971, 1998), illustrate very clearly a long term decline in the deep water, near-the-bottom oxygen levels. Since 2021, with the exception of 2023, values they have been well below 2 ug/L; such low lvalues are usually associated with anoxia (no oxygen) at the sediment surface, a condition that is conducive to release of P (phosphorus) from the sediments, or what's termed “Internal P loading”.



That can set off a “run-away” process of P-enrichment and deterioration of lake health, and we have now some evidence of that occurring. More details including what was involved in the curious exception of 2023 are in the attached documents.

So Sandy Lake is in a highly precarious state *now* and likely highly sensitive to processes in the watershed that increase inputs of P, sediment, and oxygen-consuming organic materials. Against this backdrop, we have the prospect of a new residential development to support 6000 units (or even 9000 according some comments) placed not only in the watershed but directly on headwaters and associated wetlands close to Sandy Lake, a location where it would be most harmful. I suggest no amount of Best Management Processes could prevent significant impacts on the lake, and in its precarious state, its rapid deterioration. More details, evidence etc are in the attached documents.

I am fully aware that a new Watershed Study is in progress and should be available sometime this fall. I hope that will address, critically (with rigor), the issues I cite above. I chose not to wait for the Watershed Study because I have no idea when it will come out (except sometime this fall) and it seems likely or at least many people are anticipating that it will be accompanied by or be followed shortly afterwards by some sort of final decision about the Sandy Lake development. So I felt these concerns needed to be brought to the attention of decision-makers as early as possible after we completed the final limnological observations for this year, which was on Aug 12, 2024.

From early on I have communicated with the consultants conducting the Future Serviced Communities Studies for the Sandy Lake Study Area, given them all of the results and my interpretations and I discussed earlier results with them in two online meetings in 2023. So I was somewhat shocked when the [Draft LSA](#), issued in April 2024, referenced only the "LakeWatcher observations" at Sandy Lake, i.e. only to those from 2022 onward conducted in collaboration with the HalifaxLakeWatchers program, and not our earlier 2017 & 2019 results nor those in 2021 by Casey Doucet. Further, they concluded from a narrow interpretation or narrow selection of the data they did look at that "Sandy Lake is not significantly affected by urban runoff or erosion within the watershed". That assertion is simply at variance with our observations, with a lot of science and particularly with the evidence and assumptions underlying the use of phosphorus load models to anticipate or estimate impacts of development on receiving waters so routinely used by HRM and many other jurisdictions.

I appreciate that the [Draft LSA](#) document was indeed a DRAFT and hopefully the final report will be more rigorous in these regards – as I would expect of Stantec. As well as for decision-makers, I wrote the attached document for consideration by the consultants as they prepare those final reports.

So I am asking you to consider seriously these issues, to ask your experts to address my comments and critique them as they might wish or have them critiqued by an independent 3rd party. I am very willing to discuss them further. I am a scientist, retired, and while the observations were done voluntarily without support from grants etc., and are not formally published, I have applied scientific rigour to the observations and interpretations and believe they will stand up to peer review and I would be happy to see it. (I have, informally, discussed these issues and received and responded to comments from two research scientists and one limnologist/engineer.)

Beyond the issue of the state of Sandy Lake itself, there are many reasons why the development as envisaged is highly problematical from an ecological perspective, notably (i) the loss of habitat in what is essentially a hotspot of bioiversity (13 Species-At-Risk), and (ii) the loss of a now more-critical-than-ever wildlife corridor, albeit pretty well reduced to a "stepping stone" corridor, between the lands of the Chebucto Peninsula and the greater NS mainland.

Finally, if this development goes ahead as envisaged, it will eclipse the prospect of realizing a Sandy Lake-Sackville River Regional Park first elucidated in 1971 (with a fairly detailed conceptual map produced in 1979). It made sense then, and given the rapid growth in the surrounding communities, it makes even more sense today and into the future.



Fig 5. The proposed Sandy Lake – Sackville River Regional Park lies between growth areas on all sides. What a precious gift to future generations that would be. Map from Appendix L in the **RP+10 Submissions (2020) from the Sandy Lake – Sackville River Regional Park Coalition. This version of the park is not very different from that detailed in 1979 – surely its time has come.**

Surely for the sake of Sandy Lake & Environs remaining a precious recreational and ecological asset within a 'Growth Landscape', we can place the currently proposed development on some of the already ecologically degraded lands or lands of much lower ecological value in the same general area – and there appear to be `ample of them - and take the steps needed to finally realize a Sandy Lake – Sackville River Regional Park.

Most importantly, by doing so we would indeed be addressing both the Housing Crisis and the combined Climate/Biodiversity Crisis simultaneously; and conserving a significant natural heritage/outdoor recreational area for the benefit of very many folks in the future.

Respectfully,

– David Patriquin

<p>cc: Waye Mason (my HRM Councillor) Stantec (Halifax branch) OurHRMAlliance Sandy Lake Conservation Association Halifax Field Naturalists* NS Wild Flora Society* *Members of these societies have contributed observations at Sandy Lake & Environs</p>	<p>Attached: - PatriquinFootnotes1Oct2024.pdf - PatriquinInConclusion1Oct2024</p> <p>These two documents can be viewed online: Go to www.versicolor.ca/sandylakebedford Go to Quicklinks on the Main Menu Select – In Conclusion... & – Footnotes</p>
--	--