Fall River- Lakes Secondary Plan Policy

Environment and Sustainability Standing Committee

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Request

That the Environment and Sustainability Committee request a presentation on the current policies of the River-Lakes Secondary Plan relative to ‘no net increase in phosphorous’, how it is applied, lessons learned, and any changes to regulations at the provincial/ federal governments that may promote a review.

Shubenacadie Lakes Watershed Study Findings

Vaughan 1993

- Shubenacadie Headwater lakes are under significant stress due to malfunctioning treatment plants and inadequately installed on-site systems and pollution from stormwater runoff, mine tailings, and pyretic slates.

Jacques Whitford 2009

- Lake William and Thomas will become mid-range mesotrophic;
- Lake Fletcher will become upper-range mesotrophic; and
- Grand Lake will become upper-range oligotrophic.

AECOM 2013

- Most lakes were mesotrophic and Grand was Oligotrophic due to malfunctioning treatment plants and failing on-site systems;
- Lake Charles, Lake Thomas, and Lake Fletcher would remain mesotrophic at full build-out; and
- Grand Lake could become lower-range mesotrophic at full build-out or remain oligotrophic with low impact development approaches.

Regional Plan Water Quality Objectives

The following water quality objectives were adopted under the Regional Plan (2014):

1. Achieve public health standards for body contact recreation; and

2. Maintain the trophic status of lakes and waterways to the extent possible.

River-Lakes' No-net Phosphorus Policy

River-Lakes Secondary Municipal Plan

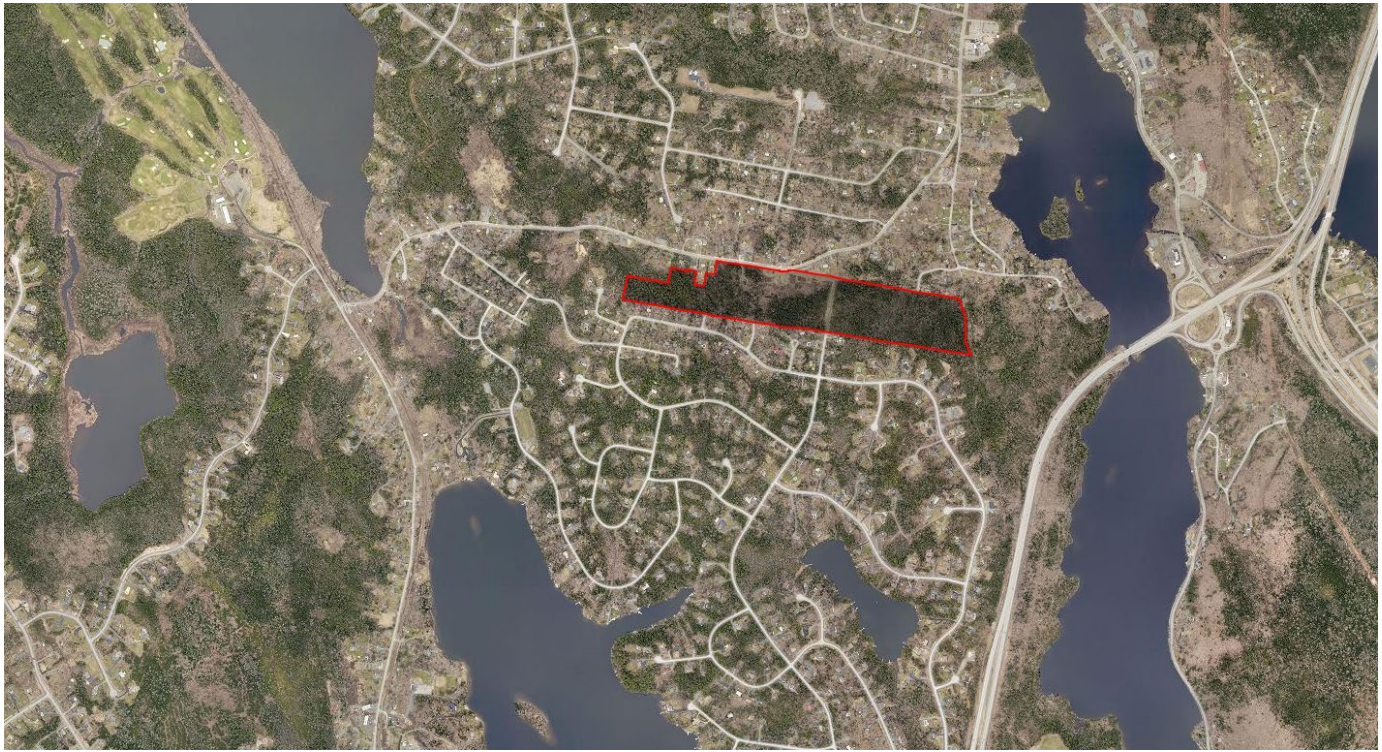
- Requires a Phosphorus Net Loading Assessment (PNLA) for any large-scale residential developments proposed by development agreement or site plan approval.

- If phosphorus estimated for a proposed development is predicted to exceed the phosphorus estimated to be emitted from the current land use, then the developer has to propose measures to reduce phosphorus before the development can take place.

PNLA Study Requirements

- Can use published literature to estimate phosphorus emissions.
- Features taken into account:
  - proposed buildings
  - roads
  - vegetation
  - slopes
  - soil cover
  - depth to bedrock
  - rainfall
  - surface drainage
  - buffers
  - set-backs of septic systems from lakes
  - wetlands and any other sensitive natural feature
- Use reductions in density, or other best management practices to match pre-development and post-development demands.

Site B – A Different Approach



Site B – A Different Approach

- Proposed Development on Site B is regulated by Site Plan Approval and permit process, both decided upon by the Development Officer.
- PNLA Study is required to be submitted and accepted by the Development Officer before a development permit is issued.
- Development Officer reviews for completeness and satisfaction of LUB requirements, relies on certification of authoring professional that the outcomes are accurate.
- Consideration of wastewater treatment facilities is not listed as a requirement under the PNLA Protocol.
- Since the proposed wastewater treatment facility provided treatment for phosphorus, it was not considered relevant under the PNLA Study.

Is PLNA Working?

- PNLA for larger development was proposed as a means for HRM to determine the feasibility of future implementation.

- Need a variety of mechanisms to control point-source and non-point source pollution.

- Need to apply a variety of mechanisms to the whole watershed to achieve the Regional Plan Water Quality Objectives.

Current Policy to Future State

Current Policy

- Riparian buffer protection (20 m)
- Site non-disturbance
- Protection of natural heritage assets – Green Network Plan
- Erosion and Sedimentation Control
- Stormwater Management
- Wetland protection

Future Potential Considerations

- Riparian Buffer Increase under review
- Low Impact Development approaches under review
- Septic Tank Maintenance Program
- Public Awareness Campaign to reduce fertilizer use
- Identify and protect significant ecological features (e.g. water recharge areas and forested river valleys)
- Shoreland restoration opportunities
- Holistic PNLA policy review

What is being done?

HRM Environment and Climate Change – Watershed Working Group

- Bringing together municipal and provincial departments to examine our business practices
- Understand the challenges we face with watershed management
- Work toward solutions

Regional Plan Review

- Further refine water quality objectives.

Rural Plan Review

Thank You

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PNLA Assessments

- 5 PNLA assessments have been submitted
  - Challenges in achieving a 100% match between pre-and post-phosphorus emissions
  - Typically finding that post-development estimates are predicted to meet around 95% of the pre-development estimates
  - Reviewers have found that outcomes achieving around 95% are in keeping with the intent of the PNLA Protocol as a residual amount.

PNLA Mitigation

- As part of a PNLA Assessment the proponent must use the following mitigative measures:
  - Stormwater Management Plan
  - Erosion and Sedimentation Control Plan
  - Low Impact Development approaches
- River-lakes policies also require retention of:
  - riparian buffers
  - site no-disturbance areas for development