

Land Use and Environmental Protection

Presentation to Land Matters Committee
by
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Outline

- Climate change and development
- Nitrate issues from land use
- Water and sewer servicing planning gaps
- Wetland and sand dune conflicts with development

Climate Change and Development

Climate change will impact all aspects of land use in PEI

- Warmer Drier Summers
- Warmer Wetter Winters
- More Frequent and more Intense Post-Tropical Storm Events



Adaptation and Land Use Plans and Policies



Land use plans and policies are necessary to ensure new subdivisions and development are not constructed within known high risk areas.

Development regulations and shoreline armouring



Shoreline armoring is prevalent in the absence of adequate development regulations in the coastal zone.

Shoreline structures disrupt natural coastal processes which support beach formation; impact coastal and marine habitat; and, present a hazard to public safety.

Protection of natural assets for carbon sequestration and increased resilience



Land use plans and policies for the protection, conservation, and restoration of forest cover and coastal wetlands will improve carbon sequestration and increase our coastal resilience.

Sustainable settlement patterns to support climate mitigation



When community planning guides settlement patterns, we can achieve walkable communities, with connectivity and access to local services – reducing our dependency on cars, improving human health and reducing greenhouse gas emissions.

Municipal Services and Emergency Preparedness



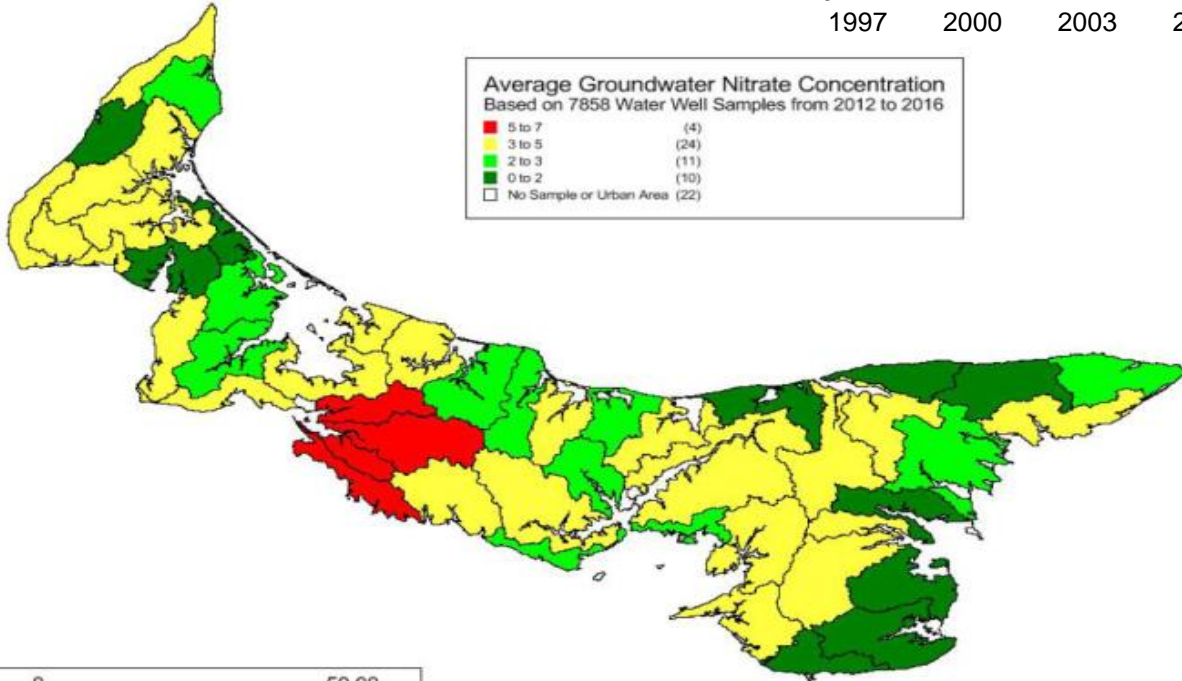
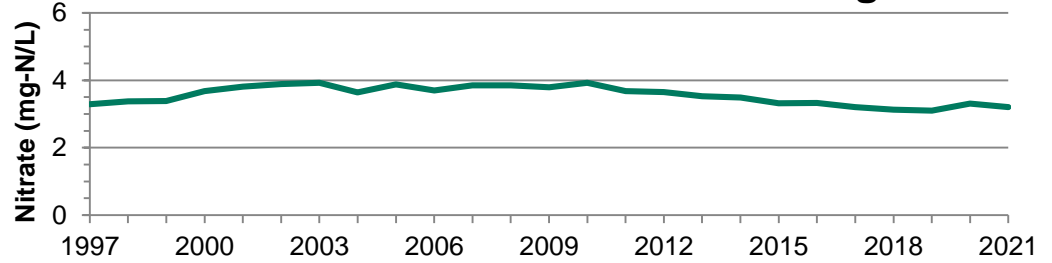
Local municipal governments support residents and property owners during extreme weather events and in dealing with the cleanup in the aftermath.

Equitable access to such services and supports, requires policies for sustainable settlement patterns within municipalities.

Nitrate Issues from Land Use

Nitrate – Groundwater Average

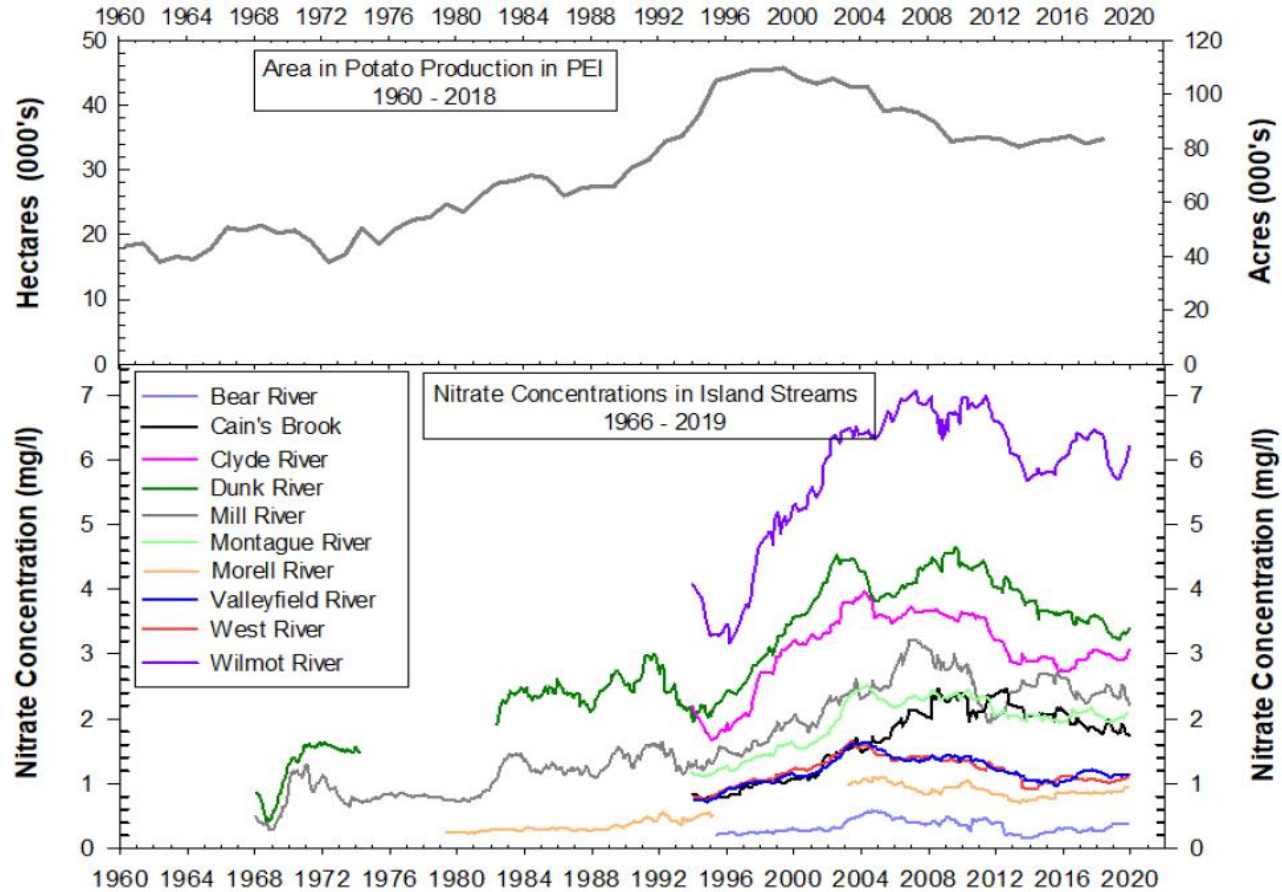
Provincial Groundwater Well Average



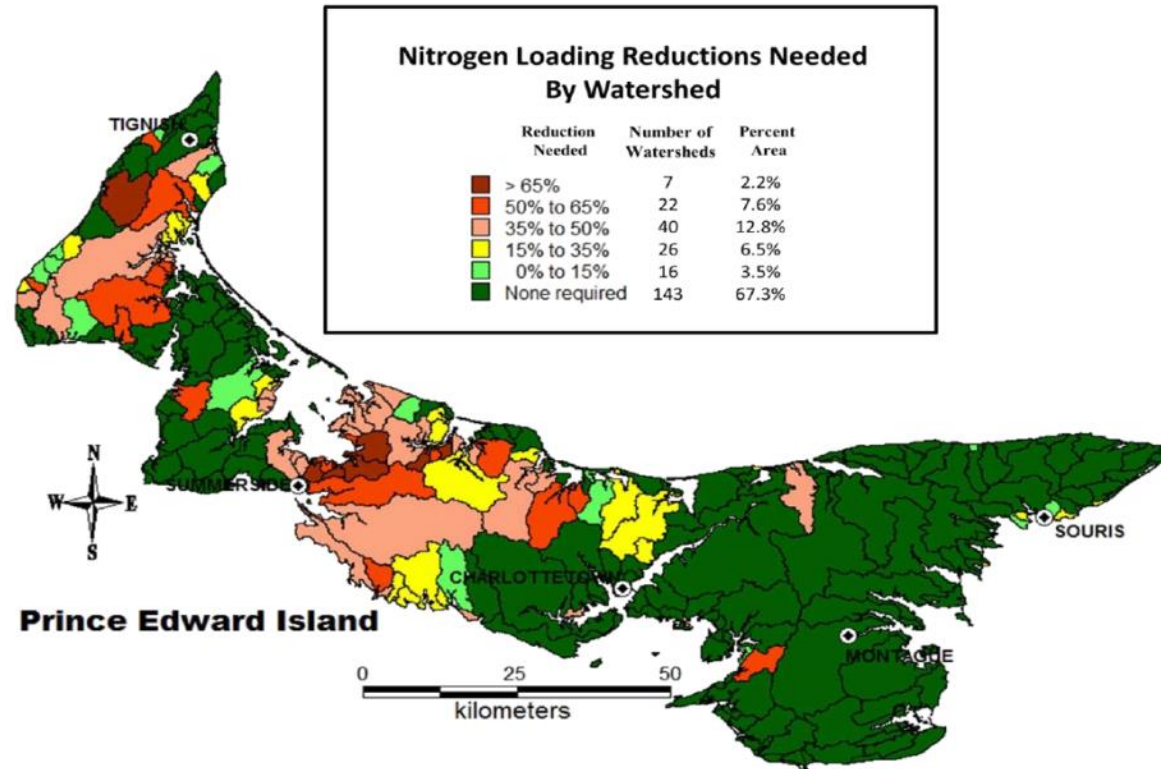
- Nitrate contamination is pervasive
- Highly variable depending upon land use
- Sources dominated by potato sector

Nitrate – Stream Trends

- Enters streams primarily from groundwater
- Concentration varies due to watershed land use



Nitrate Reduction – Reduce Anoxia



- Massive impact by deposition in estuaries
- 11-25 estuaries with anoxic events **each year**
- Loading reductions required to remedy are very large
- *Water Act* enables regulated Water Management Plans
- *Water Act* and *Planning Act* must complement each other

Water and Sewer Servicing Planning Gaps

Subdivision Approvals and conditions with respect to water and sewer servicing (1)

- Frequently there is a lack of consensus by residents in developments with respect to central water and sewer servicing
- Developments must have an entity that can speak for residents with respect to servicing issues, and that can accept responsibility for implementation of servicing requirements.
- The development approval process must include steps to ensure a legally constituted authority is identified as being responsible for representing the development's interests with respect to servicing issues.

Subdivision Approvals and conditions with respect to water and sewer servicing (2)

- An important part of the approval process for developments is the assessment of the most appropriate water and sewer servicing options.
- The determination of the servicing approach (central vs, on-site) is a major determinant of lot size and layout, overall development density, phasing etc.
- Failure to adhere the servicing conditions of a sub-division approval
 - Ignores the advice of scientific/technical assessments conducted to support the proposal.
 - Undermines the financial viability of water or wastewater utilities
 - Stands in the way of orderly extension of water and sewer services

Wetland and Sand Dune Conflicts with Development

Conflict between *Environmental Protection Act (EPA)* and *Planning Act*

- Thousands of subdivided privately owned lots across the province, majority along the coast (many created thru poor planning practices in 70-80's)
- 100's of these lots contain wetlands (mostly unmapped) which are protected under the EPA
- Property owners believe that because their lot was subdivided at some time in the past that this is a green light to construct their dream home on the water
- Not true as EPA affords protection to these sensitive features and landowners maybe left with a property they can't develop

Subdivided Properties that are Wetlands - Examples



Subdivided Properties that are Wetlands

0270



2787



Conflict between *EPA* and *Planning Act* Disturbance on Tertiary Dunes

- Under the *EPA* disturbance of any sand dune is largely prohibited.
- Under the *Planning Act* development is not permitted on primary or secondary dunes but Section 40 allows for development on tertiary dunes where the development is unlikely to adversely alter the natural, topographical and biological features of the dune (10% factor)
- Woody bushes and trees on tertiary dunes can create a unique "maritime forest" habitat in old, well-developed dune fields with their own unique plant and animal communities.
- These robust systems provide yet more protection from storms for humans and other terrestrial systems behind them.

Disturbance on Tertiary Dunes – Real Life Examples



Wrapup

Takeaways



- Province-wide land-use policy is needed for sustainable settlement practices that protect the environment, people, and infrastructure
- Nitrate leaching is a ‘wicked’ issue needing complementary legislation and extreme involvement by all Islanders to work on needed improvement
- Protection of our valuable wetlands and sand dunes from development is a priority, and can be enhanced with simple legislative changes to the *Planning Act*
- Legally responsible bodies must ensure that servicing conditions of subdivision approvals are followed to maintain sustainable water and sewer services