

Groundwater Sustainability Strategy Project Charter

North Pender Local Trust Committee

Date: April 15, 2019

Groundwater Sustainability Project

Version: 2019.001

Purpose

In March 2019 the Islands Trust Council declared a climate emergency in the Islands Trust Area and directed staff to include a central focus on equitable climate change mitigation, adaptation, and resilience into strategic planning. Groundwater resources are a metric of climate change with vulnerabilities of seasonal precipitation changes, evapotranspiration forcing, recharge alterations, and saltwater intrusion risk. Groundwater recharge protection is identified in the Islands Trust Policy Statement.

Background

The North Pender Island Local Trust Committee has identified groundwater resources as a priority in its Official Community Plan and as part of land-use applications over the past decades. Groundwater is a unique amenity supporting ecosystem health and overall hydrological function of watersheds.

An ecosystems approach to groundwater sustainability strategy has been researched and recommended by J.D. Henderson in a master of science thesis (1998) and PhD dissertation (2008) outlining potential framework for aquifer protection and groundwater resource preservation. The recommendations and sentiments of this work resonate symbiotically with emerging scientific inquiry, technical tools, and current regulatory environment to help manage and plan groundwater use in a changing climate.

Objectives

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|---|--|
| Information Inventory and Data Stewardship | <i>Collate and synthesize existing groundwater information, data, references, and regulations into a common information dashboard providing access to information for climate change research and water use planning.</i> |
| Monitoring and Analysis | <i>Coordinate community groundwater monitoring network and determine analysis strategies to address how natural and anthropogenic changes will impact watershed hydrological function and groundwater use.</i> |
| Policy and Planning | <i>Develop groundwater sustainability options for Local Trust Committees to protect aquifers, preserve groundwater resources, and water plan for a sustainable future.</i> |
| Coordination and Education | <i>Participate in community knowledge building initiatives and coordinate with other Local Trust Committees, regional districts, improvement districts, community organizations, and the Province on aquifer protection and groundwater preservation strategies.</i> |

In Scope

| | |
|---|--|
| Information Inventory and Data Stewardship | <ul style="list-style-type: none"> • Consolidation of existing information and identification of knowledge gaps • Define Community Aquifer • Create an information and data dashboard for research and regulation |
| Monitoring and Analysis | <ul style="list-style-type: none"> • Investigation into potential funding sources for monitoring and analysis • Coordinate a Community Aquifer Monitoring Network • Define Community Aquifer Recharge Areas |
| Policy and Planning | <ul style="list-style-type: none"> • Review regulatory approaches to watershed protection and groundwater preservation • Strategy Development |
| Coordination and Education | <ul style="list-style-type: none"> • Community workshops and community education initiatives • Advocacy/Education/Consultation/Coordination with other agencies and First Nations • Development of Groundwater Sustainability Strategy Toolkit for Local Trust Committees |

Out of Scope

- OCP or Land Use Bylaw amendments
- Preparation of a Water Sustainability Plan under the Water Sustainability Act (WSA)
- North Pender Local Trust Committee Associated Islands

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Community Aquifer Concept

A first phase of an ecological approach to groundwater management is to identify an investigation scale that is symbiotic with ecosystem mapping. *Community Aquifers* which are regions of regional aquifers that are emerging as a groundwater management unit that takes an ecological and community approach to groundwater management.

Community Aquifers provide significant volumes of groundwater shared by domestic, commercial, agricultural, and water supply wells and are defined by topography, watershed ecology, aquifer geology, resource use distribution, and climatic risk.

Community Aquifer Recharge Areas

Community Aquifer Recharge Areas promote replenishment of water to subsurface hydrogeological networks via bedrock fractures, geological faults, and watershed ecosystems. Identifying recharge area for planning and conservation is a vital first step in an ecosystem approach to groundwater management using existing aquifer and watershed mapping in concert with ecological, geological, climatological, land-use, and water-use data and information.

| Workplan | Task | Start Date | Status | Budget |
|--|---|-------------|----------|--------|
| Information Inventory and Data Stewardship | Information Inventory | May 2019 | Proposed | TBD |
| | Data Gap Analysis | May 2019 | Proposed | TBD |
| | Community Aquifer Boundary Mapping | May 2019 | Proposed | TBD |
| Monitoring and Analysis | Community Aquifer Recharge Area Mapping | Sept 2019 | Proposed | TBD |
| | Community Aquifer Monitoring Program | Sept 2019 | Proposed | TBD |
| | Community Aquifer Water Balance | Sept 2019 | Proposed | TBD |
| Policy and Planning | Regulatory and Reference Review | May 2019 | Proposed | TBD |
| | Water Authorizations Terms of Reference | Sept 2019 | Proposed | TBD |
| | Groundwater Sustainability Options | Sept 2019 | Proposed | TBD |
| Coordination and Education | Community Aquifer Workshop #1 | Summer 2019 | Proposed | TBD |
| | Community Aquifer Workshop #2 | Fall 2019 | Proposed | TBD |
| | Groundwater Sustainability Strategy Options | Jan 2020 | Proposed | TBD |

| Project Team | |
|--|------------------------|
| William Shulba Freshwater Specialist | Project Manager |
| Robert Kojima, Regional Planning Manager | Project Support |
| Maple Hung, Office Admin Asst. | Admin Support |
| Mark van Bakel, Technical Analyst | Info. Coordination |
| TBD | Project Consultant (s) |

RPM Approval:
Date: April 18, 2019

LTC Endorsement:
Date: April 25, 2019

| Budget | | |
|---|-------------------------------|----------------|
| Budget Sources: NP LTC Special Projects (2018/19); LPS Project Budget (2019/2020) | | |
| Fiscal | Item | Cost |
| 2019-20 | Community Workshops | \$1000 |
| 2019-20 | Consultation & Communications | \$1000 |
| 2019-20 | Consulting Services | \$50,000 |
| 2019-20 | Coordination Services | - |
| | Total | \$52000 |