

Southern Gulf Islands Groundwater Sustainability Strategy Master Project Charter

A collaboration of Southern Gulf Island Local Trust Committees

Date: 04 July 2019

Endorsed by Galiano, Mayne, North Pender, South Pender, and Saturna Local Trust Committees

Version: 2019.003

Purpose

Identifying evidence-based adaptation measures is imperative to protecting aquifers and preserving groundwater dependent communities and ecosystems in a changing climate. With vulnerabilities of seasonal precipitation changes, evapotranspiration forcing, recharge alterations, and saltwater intrusion, groundwater resources are a metric of climate change. Protection of aquifer recharge areas is identified in the Policy Statement and this project advances that commitment.

Background

Groundwater is a unique amenity supporting ecosystem health and overall hydrological function of watersheds. Southern Gulf Island Local Trust Committees have identified groundwater resources as a priority in their Official Community Plans and as part of land-use applications over the past decades. In March 2019 the Islands Trust Council declared a climate emergency in the Islands Trust Area, directing staff to include a central focus on equitable climate change mitigation, adaptation, and resilience into strategic planning. Actions with respect to an ecosystem vulnerability approach to groundwater sustainability strategy have been recommended by previous researchers, and the Province of BC supports deep collaboration in groundwater focused projects at the Local Government level, expressing interest as an external partner in this sustainability strategy.

Overall Objectives	
Data Stewardship Strategy	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.
Scientific Analysis Strategy	Coordinate community groundwater monitoring network and determine analysis strategies to address how natural and anthropogenic changes will impact watershed hydrological function and groundwater use.
Groundwater Planning Strategy	Develop a groundwater sustainability strategy toolkit for Local Trust Committees to protect aquifers, preserve groundwater resources, and water plan for a sustainable future.
Community Outreach Strategy	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.

In Scope	
Data Stewardship Strategy	<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
Scientific Analysis Strategy	<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
Groundwater Planning Strategy	<ul style="list-style-type: none"> • Review regulatory approaches to watershed protection and groundwater preservation • Identification of potential policy and regulatory changes. • Strategy development
Community Outreach Strategy	<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	
<ul style="list-style-type: none"> • 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 are groundwater regions that provide significant volumes of groundwater to domestic, commercial, agricultural, and water supply wells. This groundwater management unit is defined by topography, watershed ecology, aquifer geology, resource use distribution, and climatic risk and will be the unit of investigation in this project.

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.

Community Aquifer Seasonal Water Availability

Monthly groundwater balances at this scale of inquiry will include many existing datasets including climate, topography, drainage, land-use, geology, water-use data, hydrometric data, and climate change scenarios to determine seasonal stresses on the aquifer and contribute to future climate change scenarios and island zoning build out analysis.

Work Plan	Task	Start Date	Status	Budget	Staff Hours
Data Stewardship Strategy	Information Inventory	June 2019	Active	In-house	70
	Data Gap Analysis	June 2019	RFP	\$2000	35
	Data Management Dashboard	June 2019	RFP	\$8000	140
Scientific Analysis Strategy	Community Aquifer Boundary Mapping	Sept 2019	RFP	In-house	70
	Community Aquifer Recharge Areas Mapping	Sept 2019	RFP	\$10,000	35
	Community Aquifer Water Balance Analysis	Sept 2019	RFP	\$30,000	70
Groundwater Planning Strategy	Regulatory and Reference Review	June 2019	Active	In-house	140
	Groundwater Planning Strategy Workshop	Jan 2020	Proposed	In-house	70
	Groundwater Authorizations Harmonization	Jan 2020	Proposed	In-house	TBD
Community Outreach Strategy	Community Workshop #1	Fall 2019	Proposed	\$500	35
	Community Workshop #2	Spring 2020	Proposed	\$500	35
	Groundwater Sustainability Strategy Toolkit	Jan 2020	Proposed	\$1000	140

Project Team

William Shulba, Freshwater Specialist	Project Manager
Robert Kojima, Regional Planning Manager Morgan Henderson, Co-op Student	Planning Support
Maple Hung, Office Admin Asst.	Admin Support
Mark van Bakel, Technical Analyst	Technical Coordination
TBD	Project Consultant (s)

Director Approval: Approved

Date: June 5, 2019

EC Endorsement: Endorsed

Date: June 5, 2019

Budget

Budget Sources: LTC Special Projects (2019/20);
LPS Project Budget (2019/2020)

Fiscal	Item	Cost
2019-20	Community Workshops	\$1000
2019-20	Consultation & Communications	\$1000
2019-20	Consulting Services	\$40000
2019-20	Technical Services	\$10000
	Total	\$52000