

Service Plan for Watershed Protection

2016-2019
(2019)

Capital Regional District

Date Updated: July 24, 2018



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Table of Contents

1	Overview.....	1
1.1	Division & Service Summary.....	1
1.2	Organization Chart.....	2
1.3	Key Trends, Issues & Risks – Service Specific	3
1.4	Link to Priorities.....	4
2	Services.....	5
2.1	Service Levels.....	5
2.2	Workforce Considerations.....	6
3	Divisional Initiatives & Budget Implications	6
4	Goals & Performance Indicators	7
	<i>*Corporate indicator – multiple divisions may contribute to this measure.....</i>	<i>7</i>
	<i>Please see revised table below.....</i>	<i>7</i>
	Contact	8

1 Overview

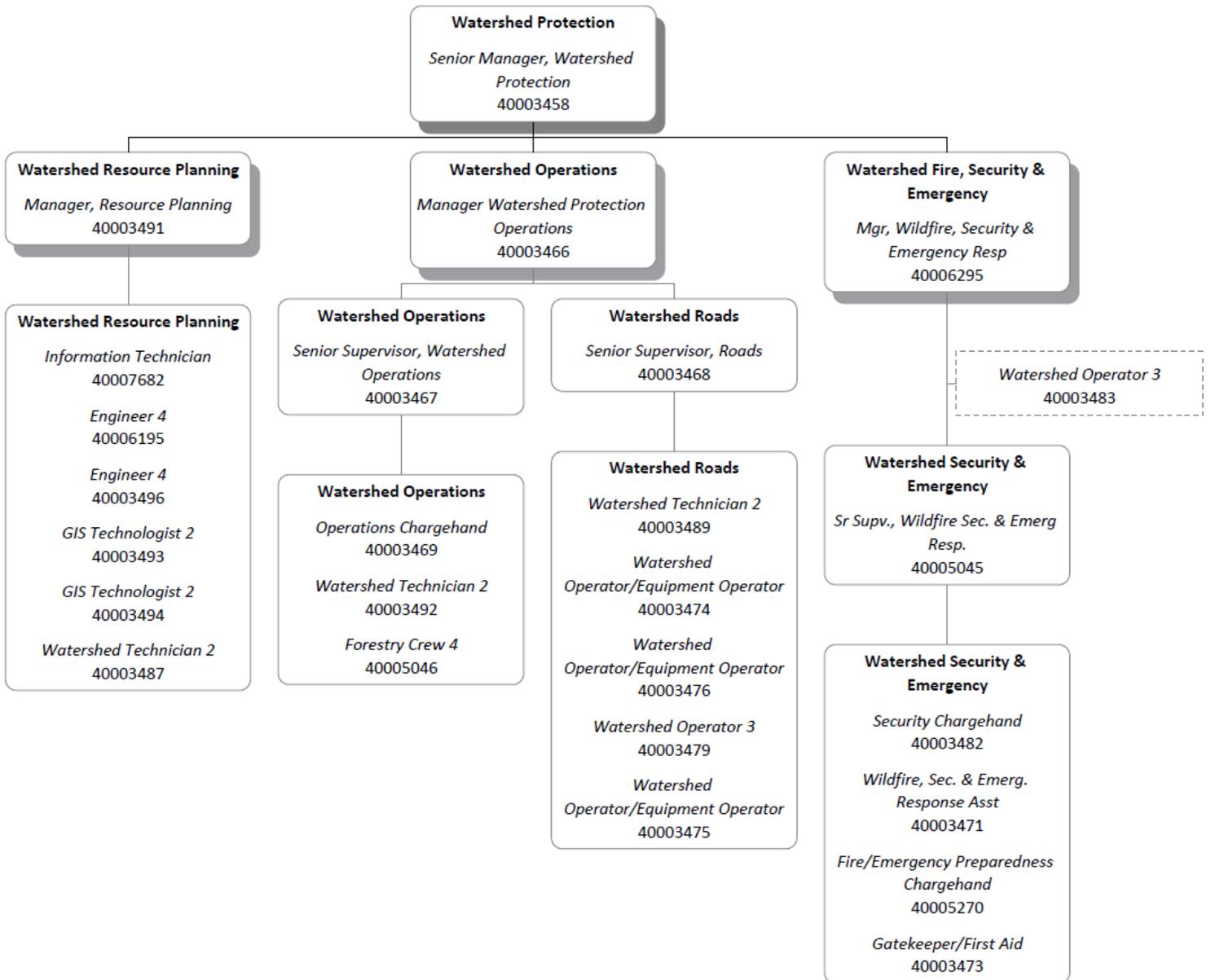
1.1 Division & Service Summary

The Watershed Protection Division provides forest land management of the 20,550 hectares of the Greater Victoria Water Supply Area to ensure high-quality source drinking water for the Regional Water Supply System. The Division provides management in the following areas:

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Wildfire, Security & Emergency Response:</p> <ul style="list-style-type: none"> • Watershed security • Wildfire and spill preparedness, prevention and response 	<p>Regional Water Supply Service All municipalities</p>	<p>Bulk water rate</p>	<p>Regional Water Supply Commission; Water Advisory Committee</p>
<p>Watershed Operations</p> <ul style="list-style-type: none"> • Silviculture, forest health and forest fuel management • Invasive plant management • Vegetation management (previously referred to as Facilities maintenance) • Road maintenance, upgrades and rehabilitation 	<p>Regional Water Supply Service All municipalities</p>	<p>Bulk water rate</p>	<p>Regional Water Supply Commission; Water Advisory Committee</p>
<p>Resource Planning</p> <ul style="list-style-type: none"> • Wildlife management • Watershed hydrology • Ecological inventories and analyses • Risk assessment and management • GIS and data management • Research and monitoring 	<p>Regional Water Supply Service All municipalities</p>	<p>Bulk water rate</p>	<p>Regional Water Supply Commission; Water Advisory Committee</p>

1.2 Organization Chart

Watershed Protection



1.3 Key Trends, Issues & Risks – Service Specific

- **Closure of the Leech Water Supply Area (WSA)** to unrestricted access through amendment of the Greater Victoria Water Supply Area Protection Bylaw no. 2804 is expected to be the predominant issue for 2016 – 2019. Decisions made by the RWSC whether to fully close, allow recreational access by permit and other decisions will require implementation and may require new ways of doing business for Watershed Security.
- **2019 Update:** Closure through Bylaw amendment was completed in 2016 along with provisions for recreational access by permit application. One application for recreational fishing was received and granted (2017). Security infrastructure (new fence and gate) was installed in 2016 to provide a physical barrier and few incidents have occurred since closure.
- **2017 Regional Water Supply Strategic Plan:** Preparation of the 2017 Regional Water Supply Strategic Plan has highlighted the need for detailed knowledge of the hydrological and biological parameters that affect future drinking water quantity and quality in the Leech Water Supply Area for the Regional Water Supply System.
- **2019 Update:** Hiring of Senior Hydrologist within the Division is advancing the program of monitoring and understanding forest hydrology within the GVWSA. A forest hydrology monitoring plan for the Leech WSA was completed in 2017 with instrumentation planned for 2018-2020 through capital funding.
- **First Nations** are increasingly interested in access into the GVWSA. There is uncertainty regarding the applicability of Douglas Treaty rights and the degree to which interests can be accommodated. Accommodation will require resources to implement. Negotiations between Regional Parks and First Nations may influence expectations for access to the GVWSA.
- **2019 Update:** A Traditional Use Access Agreement for the Leech WSA was ratified by the T'Sou-ke First Nation (FN) and the CRD Board in 2016. There have been no further requests or entries by T'Sou-ke FN since signing of the Agreement. Pacheedaht First Nation have expressed interest and concern regarding FN activities in the Jordan Meadows area of the Leech WSA.
- **The opening of the Trans Canada Trail and Sea to Sea Regional Park** will increase trespass pressure and require greater security monitoring and infrastructure. Increased risk of trespass, wildfire, invasive species and other issues from changes in ownership, development and activities on adjacent lands (catchment and non-catchment) from sale of private forest lands and First Nations treaty settlements.
- **2019 Update:** The Sooke Hills Wilderness Trail portion of the Great Trail opened in 2017. Increased security has been required and the trail has been a vector for increasing trespass off the trail into the GVWSA. Bylaw amendments allowing for Parks and Watershed Security Officers to enforce both GVWSA and Parks Bylaws, as well as a good working relationship with CRD Regional Parks staff has proven beneficial in managing the increased trespass in the area.
- **Climate Change** is expected to provide a longer period of high/extreme fire danger conditions and greater fuel availability within the GVWSA. Firefighting equipment upgrades will continue and there will be more emphasis in staff readiness (training, fitness and experience) for initial attack, and leadership development by gaining firefighting experience with the provincial Wildfire Management Branch. A warming climate also increases the risk of a large wildfire affecting the quality of source water. The large proportion of young stands in the Leech, and younger stands in the Goldstream and Sooke Water Supply Areas will continue to accumulate forest fuels in the short and medium term. Forest fuel management is laborious and therefore costly. There will be continued effort in the next 4 years to create fuel breaks in strategic locations to protect Sooke Lake Reservoir. Climate change has the potential to increase threats to water quality and forest health in the GVWSA and the potential for undesirable species to invade or expand their populations. Climate change will be considered in the watershed assessment and integrated into the risk assessment framework developed to protect water quality and ecosystem integrity in the GVWSA.
- **2019 Update:** GVWSA fuel management has been a priority throughout the planning period. Fuel break corridors have been completed on the southern boundary of the Sooke WSA, between Sooke and Leech WSAs (Horton Ridge) and are beginning in 2018 on the northeast boundary of Sooke and Goldstream WSAs.
- There is a lack of comprehensive training and practical experience in responding to **hazardous materials spills** into water. Although the likelihood of a large spill into a source reservoir or main tributary is low, the potential consequences dictate a renewed emphasis on training and preparedness in the next four years.
- **2019 Update:** Two advanced spill-on-water training courses to teach and train staff have been held (2016, 2018). A review and update of spill preparedness plans and response procedures is pending in 2019.

- The effort and cost of **management of invasive plant and animal species** that may have a detrimental effect on water quality continues to rise. Public awareness and expectation regarding invasive species management is also growing in the Region. Greater emphasis will be placed on prevention of new species from entering and existing species from being spread within the GVWSA
- **2019 Update:** Management of existing invasive or detrimental species has continued throughout the period (bullfrogs, Canada geese, beaver, knotweed, blackberry, gorse, and other invasive plant spp.). The Division is providing funding for an Invasive Species Coordinator for the region (beginning in 2018). An assessment of invasive species risks to the GVWSA and recommendations will be completed in 2018 which will guide procedures and development of any additional facilities for watershed protection.

1.4 Link to Priorities

FIRST NATIONS

- Prepare agreements to enable traditional uses of CRD lands and identify First Nations partnership opportunities for economic development activities

CLIMATE CHANGE

- Realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations
- Develop a climate framework to guide decision-making, establish a working group to identify climate change priorities and maximize partnerships

DRINKING WATER

- Protect and maintain an adequate supply of safe, reliable drinking water
- Invest in the renewal and replacement of aging infrastructure to deliver an adequate supply of safe, reliable drinking water

REGIONAL INFRASTRUCTURE

- Ensure that resources are available for investment in current and future infrastructure, demonstrating efficiency and value for money and meeting regulatory and service requirements
- Develop and implement asset management planning framework and tools to continue proactive and responsible management of assets and infrastructure, both natural and engineered

BIODIVERSITY & ECOLOGICAL HEALTH

- Assess service needs, respond to issues that threaten ecological health such as wildlife and invasive species, and profile best practices
- Integrate a climate lens in our land acquisition strategies

PUBLIC ENGAGEMENT & COMMUNICATIONS

- Develop public participation strategies, including implications and performance metrics, as part of all major initiatives and implement more options for two-way dialogue and engagement
- Share stories of collaboration and accomplishments

EDUCATION, OUTREACH & INFORMATION

- Expand on successful education partnerships and program delivery to include innovative in-person outreach and educational programs
- Demonstrate transparency and increase visibility through the provision of accessible, relevant, timely and usable data and information

2 Services

2.1 Service Levels

Service Level Adjustments in Role/Scope		
Service	Base Year	Year 4 (2019)
Wildfire, Security & Emergency Response	<p>Goldstream gate security and first aid: weekdays 7:30 – 4:30</p> <p>Watershed emergency duty officer (WEDO) standby: 24h/day 365/year</p> <p>Security patrols: weekends and holidays year round</p> <p>Maintenance of 11 km of security fencing and > 50 gates</p> <p>Wildfire detection / suppression patrols during \geq moderate fire hazard: daily</p> <p>Wildfire suppression standby \geq moderate fire hazard: daily</p> <p>Wildfire detection air patrol: 1 – 2 times daily during high and extreme fire hazard</p> <p>Monitoring and distribution of fire weather data and preparedness: daily May to Oct.</p> <p>Delivery of capital projects</p>	Adjust to meet service delivery needs, as required
Watershed Operations	<p>Winter road maintenance: 94km</p> <p>Summer road Maintenance: 367 km</p> <p>New road construction: 1–2 km</p> <p>Roads brushed: 125 km</p> <p>Roads assessed and managed for danger trees: 210 km</p> <p>Roads upgraded: 5 km</p> <p>Roads reclaimed: 5 km</p> <p>New bridges installed: 2</p> <p>Culverts installed/replaced: 25</p> <p>Crossings maintenance: 20 bridges, 479 stream culverts and 1,122 drainage culverts</p> <p>Invasive plants: 15-20 sites treated twice annually</p> <p>Silviculture surveys: 50 ha per year</p> <p>Silviculture brushing: 10 ha/year</p> <p>Brushing: 18 ha dams and infrastructure once or twice per year as required;</p> <p>Brushing/fire smarting facilities: 5 ha</p> <p>Dams and reservoirs – inspection and removal of woody debris accumulations: monthly on 38 booms, dams, spillways</p> <p>Delivery of capital projects</p>	Adjust to meet service delivery needs, as required

Resource Planning	<p>Ecosystem information updates e.g. wetland mapping, TEM, forest cover.</p> <p>Orthophotography update: every 2 years</p> <p>Forest health survey: annual</p> <p>Risk assessment and management planning</p> <p>Partnering in climate change and other research in the GVWSA</p> <p>Monitoring of weather station fire weather data: daily May to October</p> <p>Monthly monitoring and management of beaver</p> <p>Monitoring and management of American bullfrogs: 3 times weekly for 6 months</p> <p>Monitoring and management of Canada geese: daily for 6 months</p> <p>Public Tours – 18 tours over 6 days</p>	<p>Update of the Watershed Assessment</p> <p>State of the GVWSA Report</p> <p>Expanded public, First Nations and school tours program</p> <p>Fish stream assessments for Water Network project implementation</p>
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2.2 Workforce Considerations

Workforce (FTEs)					
Service	Base Year	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Wildfire, Security & Emergency Response	8.33	8.33	7.33	7.33	7.33
Watershed Operations	11.33	11.33	11.33	11.33	11.33
Resource Planning	6.33	6.33	6.33	7.33	7.33
Total	26 FTE	26 FTE	25 FTE	26 FTE	26 FTE

- 1.0 FTE decrease in 2017 in Wildfire, Security & Emergency Response with (Exempt) Resident Caretaker position moved to the Infrastructure Engineering division.
- 1.0 FTE increase in 2018 in Resource Planning for a Watershed Technologist/Information Officer to provide capacity for resource planning projects, hydrology field monitoring and public tour expansion.

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority	Budget Implications
2019			
Leech Watershed Restoration	<p>Leech road maintenance</p> <p>West Leech road upgrades/deactivation</p>	Regional Infrastructure	<p>Core budget (continuous supplemental request of \$50,000 in 2018)</p> <p>Capital</p>
Leech River/Weeks Main Bridge Replacement and Weeks North Bridge Construction	The Leech River crosses Weeks Main through a large culvert. The culvert is undersized and needs to be replaced with a concrete	Regional Infrastructure	Capital

Title & Estimated Completion Date	Description	Priority	Budget Implications
	bridge to restore proper water flow and safe road passage. Upgrade of Weeks Main north access		
State of the GVWSA Report	Development of a set of sustainability indicators for the health and management of the GVWSA.	Drinking Water Climate Change	Core budget
Update Watershed Assessment	Update the 1999 Watershed Assessment	Drinking Water Biodiversity & Ecological Health	Core budget
Support Regional Invasive Species Management Coordination	The CRD Board directed staff to fund a part-time invasive species coordinator to leverage and coordinate regional resources to manage priority invasive species in the region.	Biodiversity & Ecological Health	Single supplementary request for 2019 \$30,000

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Increase Strategies and Activities to Protect the Drinking Water Supply and Improve Access to Catchment Lands	<ul style="list-style-type: none"> • Bylaw 2804 Amended - Leech entrances secured and new enforcement procedures in place • Increase the number of staff with fire suppression fitness and training, as well as qualified and experienced initial attack crew leaders by 2018 (baseline 2015 levels) • # of kilometers of roads maintained, upgraded or reclaimed associated with drinking watershed operations annually* • Number of watershed forest fuel management projects completed annually* • % of capital projects completed on time and on budget* • Completion of Biosecurity Strategy by end of 2018
Enhance Information and Data Collection Activities to Support Resource Planning	<ul style="list-style-type: none"> • Completion of Watershed Assessment by end of 2019.
Contribute to Corporate and Regional Climate Action Objectives	<ul style="list-style-type: none"> • Completion of GVWSA climate change adaptation strategy by end of 2017.
Increase Public Engagement and Educational Efforts	<ul style="list-style-type: none"> • Total participation in watershed public tours annually*

**Corporate indicator – multiple divisions may contribute to this measure.*

Please see revised table below

Indicator Name	2018 Planned	2018 Projected	2019 Planned
Watershed Roads: <ul style="list-style-type: none"> • Maintained • Upgraded • Reclaimed 	367 km 5 km 5 km	300 km 5 km 5 km	367 km 5 km 5 km
Capital projects <ul style="list-style-type: none"> • % on time • % on budget 	100% on time 100% on budget	73 % on time 64 % on budget	100% on time 100% on budget
Participation rates in CRD public tours annually <ul style="list-style-type: none"> • 2015 = 682 • 2018 and 2019 includes new tour resource (Watershed Technologist/ Information Officer) 	36 tours 1080 participants	34 tours 985 participants	36 tours 1080 participants

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