

Service Plan for Environmental Protection

2016-2019
(2019)

Capital Regional District

Date updated: *July 24, 2018*



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1 Overview

1.1 Division & Service Summary

With an environmental management support role across the organization, the Division's focus will be on enhanced integration of (i) environmental regulatory oversight (sanitary sewers, storm water sewers, onsite systems), (ii) drinking water quality protection programs (water quality monitoring, demand management, cross-connection control), (iii) consolidation of all environmental monitoring and reporting, as well as (iv) integration of communication initiatives (planning, education, outreach, community engagement and program delivery) across the Parks & Environmental Services department.

The Division provides environmental management support and expertise to the organization, municipalities and electoral areas, with a key focus on climate action; drinking water quality and quantity; integrated watershed management; and contaminant reduction, monitoring and assessment associated with both liquid and solid waste treatment. Staff provide scientific, technical and regulatory expertise, and work with all internal departments and divisions, municipalities and electoral areas, external regulators and stakeholders, as well as community stewardship groups. The division assists the CRD's various services to meet human health and environmental protection requirements, support an environmental management context to multiple service delivery, and provide environmental data and research for local government commitments. The division is responsible for the preparation and management of the CRD liquid waste management plans. The division also has a strong communication focus that promotes resilient and sustainable communities within healthy natural environments.

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Regional Source Control</p> <p>Provides contaminant reduction oversight, monitoring, assessment and reporting related to the regional sanitary sewer service to meet regulatory requirements prescribed under provincial legislated frameworks</p>	<p>10 municipalities 3 electoral areas</p> <p>4 First Nations</p> <p>2 federal facilities</p>	<p>Requisition</p>	<p>Environmental Services Committee (ESC)</p> <p>Core Area Liquid Waste Management Committee (CALWMC)</p> <p>Saanich Peninsula Wastewater Commission (SPWWC)</p> <p>Ganges Sewer Local Service Commission (LSC)</p> <p>Highland Water and Sewer LSC</p> <p>Magic Lake Estates Water and Sewer LSC</p>
<p>Water Quality</p> <p>Provides monitoring, assessment, reporting and technical advice across the region, including the several local service areas, to meet regulatory requirements for safe and potable water quality</p>	<p>Municipalities of Regional Water Supply (RWS) area, JDF and various local service areas</p>	<p>Allocation from Integrated Water Services (IWS) and Local Service Areas (LSA)</p>	<p>Regional Water Supply Commission (RWSC), Regional Water Advisory Committee (RWAC) and various LSA Commissions</p>

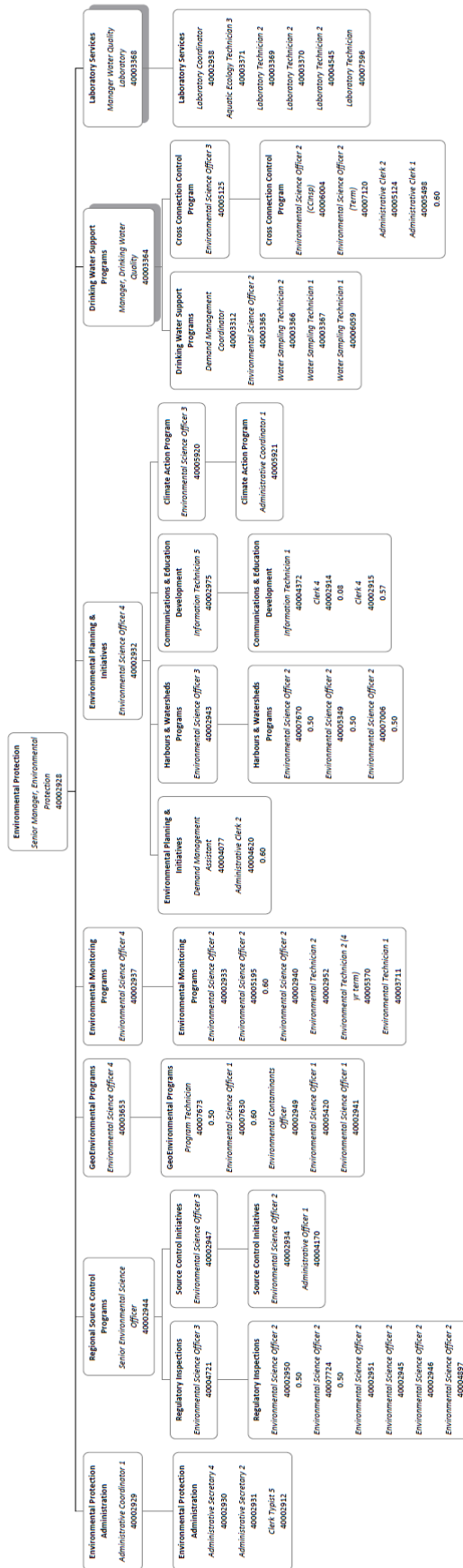
Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
	<p>Municipalities of RWS area, JDF and various local service areas</p> <p>Municipalities RWS area, JDF and various local service areas</p> <p>Sidney, North Saanich, Central Saanich and Peninsula FN</p>	<p>Allocation from IWS and LSA</p> <p>Allocation from IWS and LSA</p> <p>Allocation from IWS and LSA</p>	<p>RWSC, RWAC and various LSA Commissions</p> <p>RWSC, RWAC and various LSA Commissions</p> <p>SPWWC</p>
<p>Wastewater & Marine Environmental Programs</p> <p>Provides oversight for wastewater planning, monitoring, assessment and reporting to meet regulatory requirements prescribed under both provincial and federal legislated frameworks</p>	<p>Core municipalities</p> <p>Sidney, North Saanich, Central Saanich</p> <p>Salt Spring Island</p> <p>Salt Spring Island</p> <p>Pender Island</p> <p>Port Renfrew</p> <p>Sidney, North Saanich, Central Saanich,</p> <p>Salt Spring Island</p> <p>Salt Spring Island, Pender Island, Mayne Island and Galiano Island</p>	<p>Allocation from IWS</p> <p>Allocation from IWS</p> <p>Allocation from IWS</p> <p>Allocation from IWS</p> <p>Allocation from IWS</p> <p>Allocation from IWS</p> <p>Allocation from IWS</p> <p>Allocation from IWS</p>	<p>CALWMC</p> <p>SPWWC</p> <p>Ganges Sewer LSC</p> <p>Highland Water and Sewer LSC</p> <p>Magic Lake Estates Water and Sewer LSC</p> <p>Port Renfrew Utility Services Committee</p> <p>SPWWC</p> <p>Ganges Sewer LSC</p> <p>Salt Spring Island Liquid Waste Disposal LSC</p>
<p>Integrated Watershed Management Programs</p> <p>Provides environmental planning, monitoring and reporting for stormwater discharges associated with sub-regional liquid waste management plans; integrated watershed management, including rainwater management and contaminant reduction outreach and education; and facilitates community</p>	<p>Core municipalities (not Oak Bay)</p> <p>Oak Bay, Saanich, Victoria</p>	<p>Requisition and Grants</p> <p>Direct invoice</p> <p>Requisition</p>	<p>ESC or CALWMC</p> <p>ESC or CALWMC</p> <p>ESC or CALWMC</p>

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
stewardship initiatives around key urban watersheds	Core municipalities, Esquimalt FN and Songhees FN Sidney, North Saanich, Central Saanich and Peninsula FN Sidney, North Saanich, Central Saanich Salt Spring Island (SSI) Southern Gulf Islands Electoral Area (SGI) Juan de Fuca Electoral Area (JDF) Sooke	Requisition Requisition Requisition Requisition Requisition	SPWWC SPWWC Salt Spring Island Director, Electoral Areas Services Committee (EASC) Southern Gulf Islands Director, EASC Juan de Fuca Director, EASC Sooke Council
GeoEnvironmental Programs Provides regulatory, scientific and technical oversight, monitoring, assessment and reporting for the solid waste service, various miscellaneous contaminant programs, contaminated sites and associated liability	All municipalities and electoral areas All municipalities and electoral areas Core municipalities, Ministry of Forests, Lands and Natural Resources Operations (cost-share)	Allocation from IWS and ES Allocation from ERM Capital project Requisition	ESC ESC ESC
Demand Management Provides research and data to inform capital planning and water conservation.	13 municipalities 3 electoral areas	Requisition through water rate	RWSC, RWAC
Cross Connection Control Provides oversight, monitoring and reporting of potential sources of contamination that may flow in a reverse direction into the Regional Water Supply	13 municipalities 3 electoral areas	Requisition through water rate	RWSC, RWAC
Climate Action (mitigation and adaptation) Supports local governments in climate goals/commitments and supports CRD in	All municipalities, electoral areas (EA) and First Nations (FN)	Requisitions and Grants	ESC

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>corporate climate goals/commitments, liaises and advocates to senior levels of government</p> <p>Provides climate data and indicators, public education and outreach</p>			
<p>Onsite Program</p> <p>Provides regulatory oversight for onsite wastewater management (monitoring and compliance) for several local governments</p> <p>Provides education and outreach services for onsite treatment systems across the region</p>	<p>4 municipalities</p> <p>13 municipalities</p> <p>1 electoral area</p>	<p>Requisition</p> <p>Internal recoveries</p>	<p>CALWMC, ESC</p>
<p>Communications and Environmental Education</p> <p>Provides public education and engagement in the region to promote sustainable behavior through departmental campaigns, initiatives and services</p>	<p>13 municipalities</p> <p>3 electoral areas</p>	<p>Internal recoveries</p>	<p>ESC</p>

1.2 Organization Chart

Environmental Protection



1.3 Key Trends, Issues & Risks – Service Specific

- **Climate Action Demand:** In 2008, the region and corporation set greenhouse gas emission (GHG) reduction (mitigation) targets for 2020 and beyond; however, community and corporate GHG trends remain stagnant. The region should also anticipate climate change effects (adaptation), such as shifting weather patterns and sea level rise in the coming decades. *Demand for climate action support will continue to increase* as energy prices increase, deadlines for emission reduction targets approach, impacts on local services and assets are identified, and regulatory direction from higher levels of government are implemented. Impacts to service delivery across the organization need to be considered in upcoming service plans.
- **Meeting Regulatory Requirements:** Open transparent data and regulatory reporting amidst changing regulatory frameworks continue to focus our program delivery. The updated Contaminated Sites Regulation has implications for contaminated sites and property management, but also all contaminant management programs. Proposed regulatory changes (i.e., new landfill criteria) or landfill upgrades (expansion or expanded services) have the potential to significantly impact the level of monitoring required for both operational and compliance requirements. Further, additional requirements may result from planning and implementation of integrated waste management decisions as they relate to the liquid waste management project for the core area municipalities. Finally, federal wastewater monitoring requirements are dependent upon flow volumes. Currently, the Macaulay and Clover systems require weekly monitoring, but the flow volumes of these two facilities are approaching the threshold that would require monitoring three times per week. *If this flow threshold is exceeded in the 2016-2019 time period, additional funds would be required for the extra wastewater monitoring.* Federal-provincial harmonization of the wastewater regulatory framework is underway and may also have implications for monitoring and reporting requirements in advance of the new core area treatment plant.
- **Changing Service Needs:** The dynamic regulatory framework will require additional resources for some programs. For example, corporate liability and reporting requirements, along with remediation of contaminated sites within our service scope require additional resources for the division. A review of the drinking water protection regulation indicates additional monitoring requirements for local governments that have asked the CRD to provide this service on their behalf. Increased demolition waste, as a result of a booming local construction industry, requires increased resources to ensure worker health and safety at the landfill. New federal funding will allow technical staff to support abandoned boat grant applications. We are asking for an extension of the Elk-Beaver Lake Coordinator term position to 2021 to support the capital planning for the entire lake system. We have expanded the education liaison position to full time (using the existing FTE complement) to include content from all environmental services. And finally, the organization added a part-time coordinator (Q3 2018) to oversee coordination of invasive species management. Strategic planning initiatives (e.g., Regional Drinking Water Strategic Plan update, Regional Climate Action Strategy, Integrated Resource Management, Emergency Planning) and major capital projects (e.g., core area wastewater treatment plant, drinking watershed dam upgrades, drinking water treatment plant) will influence modifications to ongoing work plans.
- **Lab Accreditation:** The analytical labs achieved accreditation to *ISO 17025: General Requirements for the Competence of Testing and Calibration Laboratories* to meet current industry standards and maintain regulatory and public confidence in our drinking water quality. To provide more efficient and effective support to CRD-owned systems on Salt Spring Island and the Southern Gulf Islands, the laboratory services also brought most analyses in-house. This will lead to an increase in overall workload by 30%, making *expansion and updating of the CRD Water Quality Labs a key issue for 2016-2019.*

- **Communication:** Various strategies and initiatives related to public and targeted outreach, education and incentives to improve environmental stewardship associated with key service delivery will be required in the areas of climate action, water quality and quantity protection, contaminant reductions, marine conservation and watershed stewardship. Partnerships with multiple agencies and community groups is a key focus for the Division's mandate.

1.4 Link to Board Strategic Priorities

The Division will provide support to all departments across a variety of services on corporate projects and in support of core service delivery and, as such, may have a role in supporting numerous priorities. Specifically, the division has a direct link to the following priorities:

ENVIRONMENTAL PROTECTION

- Undertake research, monitoring, reporting and communication to support decision-making and management of natural resources related to regional services

CLIMATE CHANGE

- Focus climate change projections on key service delivery and lead the implementation of the Regional Climate Action Strategy

DRINKING WATER

- Protect and maintain an adequate supply of safe, reliable drinking water
- Assist with risk management of vulnerable infrastructure

BIODIVERSITY & ECOSYSTEM HEALTH

- Provide research, information, and data to support regional responsibilities to protect biodiversity and support advocacy to senior levels of government

PUBLIC ENGAGEMENT & COMMUNICATIONS

- Develop education, outreach and various campaigns to promote sustainable, resilient communities within healthy natural environments

INTEGRATED WASTE MANAGEMENT

- Provide direct and indirect planning, research, monitoring and assessment of liquid and solid waste management

2 Services

2.1 Service Levels

Service Level Adjustments in Role/Scope			
Service		Base Year	Year 4 (2019)
Regional Source Control	Sanitary Sewer – Source Contaminant Reduction	Conduct inspections, monitoring and enforcement for 2,000 businesses and institutions connected to sanitary sewer	Review & Assess
	Planning, compliance monitoring and assessment, reporting, education and outreach	Deliver 55 outreach campaigns, events and educational initiatives for residents, businesses and schools	Review & Assess
Water Quality	Drinking Water Quality Monitoring	Provide monitoring, assessment, reporting and operation support services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas	Adjust to meet service delivery needs, as required
	Drinking Water Quality (Main) Laboratory Services	Provide laboratory analytical and reporting services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas, and Regional Parks campgrounds and regional trail fountains	Adjust to meet service delivery needs, as required
	Drinking Water Quality Aquatic Ecology (AE) Laboratory Services	Provide laboratory analytical and reporting services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas, Regional Parks campgrounds and regional trail fountains	Review and Assess
	SPWWTP Laboratory Analytical Services	Provide laboratory analytical and reporting services for SPWWTP, and CRD-operated wastewater treatment facilities and outfalls on SSI and SGI	Adjust to meet service delivery needs, as required
Wastewater & Marine Environmental Programs	Core Area – Sanitary Sewer Outfalls (2)	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services	Adjust to meet service delivery needs, as required
	Compliance monitoring, assessment and reporting 5-year dynamic monitoring cycle		
	Saanich Peninsula - Sanitary Sewer Outfall (1)	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services	Adjust to meet service delivery needs, as required
	Compliance monitoring, assessment and reporting 4-year dynamic monitoring cycle		

Service Level Adjustments in Role/Scope

	Service	Base Year	Year 4 (2019)
	Electoral Areas (JDF, SGI, SSI) Sanitary Sewer Outfalls (5) Compliance monitoring, assessment and reporting 4-year dynamic monitoring cycle	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services (wastewater assessment monitoring – Ganges Harbour only)	Adjust to meet service delivery needs, as required
	Biosolids Monitoring (Saanich Peninsula, Electoral Areas facilities) Compliance monitoring, assessment and reporting Annual monitoring program	Sludge assessment monitoring	Adjust to meet service delivery needs, as required
Integrated Watershed Management	Stormwater Discharges (Core Area) Compliance monitoring, assessment, reporting, education and outreach	Monitor 650 discharges	Adjust to meet service delivery needs, as required
		Hold 6 IWM inter-municipal meetings	Adjust to meet service delivery needs, as required
	Stormwater Discharges (Saanich Peninsula) Compliance monitoring, assessment, reporting, education and outreach	Monitor 290 discharges	Increased efforts to locate sources of contaminants and additional non-regulatory contaminant source control work
Integrated Watershed Management		Monitor all high public-use beaches in winter for enterococci	n/a
	Stormwater Discharges Source Control (Saanich Peninsula) Compliance monitoring, assessment, reporting, education and outreach	Monitor and oversee all industrial and commercial connections to the Saanich Peninsula stormwater sewer system	Increased inspection and communication efforts Increased chemical contaminant monitoring
	Stormwater Discharges (Salt Spring Island) Compliance monitoring, assessment and reporting	Support watershed protection initiatives as required through the Salt Spring Watershed Protection Authority	Adjust to meet service delivery needs, as required
	Stormwater Discharges - Southern Gulf Islands Compliance monitoring, assessment and reporting	Monitor 80 discharges	Adjust to meet service delivery needs, as required

Service Level Adjustments in Role/Scope

	Service	Base Year	Year 4 (2019)
	Stormwater Discharges (Juan de Fuca) Compliance monitoring, assessment and reporting	Monitor 97 discharges	Service suspended per Director's request
	Stormwater Discharges (Sooke) Compliance monitoring, assessment and reporting	Provide monitoring services Modify program to meet Ministry of Environment (MOE) requirements for Sooke	5 year cycle
	Harbours & Watersheds (Core Area) Facilitation of multi-stakeholder engagement, education and outreach for Bowker Creek Initiative, Gorge Waterway Initiative, Esquimalt Lagoon Initiative, Victoria and Esquimalt harbours	Provide monitoring, assessment, reporting and coordination services for 5 harbour systems and various multi-use watersheds	Adjust to meet service delivery needs, as required
	Elk & Beaver Lake Watershed Coordination Facilitation of multi-stakeholder engagement for Elk/Beaver Lake watershed	n/a	Review and Assess
Geo-Environmental Programs	Environmental Contaminants Reduction Compliance monitoring, assessment, reporting and education for Trucked Liquid Waste, Controlled Waste, Septage and Odour (Regional Trunk System)	Manage 1 septage disposal contract servicing approximately 30 truck liquid waste service providers	Adjust to meet service delivery needs, as required
	Hartland Landfill Environmental Compliance monitoring, assessment and reporting Operational support	Regulatory compliance monitoring at 178 locations	Adjust to meet service delivery needs, as required
	Millstream Meadows Contaminated Site (Remediation) Monitoring, site management and reporting	Implement remediation and investigation to achieve Certificate of Compliance Rezoning	Adjust to meet service delivery needs, as required
Demand Management	Drinking Source Water Conservation Monitoring, assessment, reporting, education and outreach	Deliver 24 water conservation educational workshops	Review & Assess
		Conduct 5-10 water audits for local businesses	Review & Assess

Service Level Adjustments in Role/Scope			
Service		Base Year	Year 4 (2019)
Cross Connection Control	Drinking Water Contamination Prevention	Conduct 500 facility audits for backflow prevention devices	Review & Assess
	Monitoring, assessment and reporting	Monitor and track 28,000 back flow prevention devices	30,000/yr
Climate Action	Mitigation and Adaptation Research, planning, monitoring, reporting, stakeholder engagement, education and outreach	Advance local and regional climate mitigation and adaptation goals Facilitate regional coordination	Adjust to meet service delivery needs, as required
Onsite Wastewater Management	Onsite Septic Systems Compliance monitoring, assessment and reporting (4 municipalities under bylaw) and regional education and outreach	80% compliance with bylaw	Review & Assess
		Deliver outreach to 27,000 households with onsite sewage systems	Review & Assess
		Deliver pilot maintenance assessment program (25 system assessments)	Adjust to meet service delivery needs, as required
Communications and Environmental Education	Communications Planning, implementation, assessment and reporting	Deliver outreach and education through participation in 52 facility tours and 74 school presentations	Review & Assess
		Deliver Hotline service – currently 7 hours per day	Review & Assess

2 Services

2.1 Workforce Considerations

Work force (FTE) including all supplementary and term					
Service	Base Year	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Senior Manager	2	2	2*	2 ^a	2
Administration	3	3	3	3	3
Regional Source Control	8	8	8	8	8
Water Quality Operations and Laboratories	10	11	11	12 ^b	12
Wastewater & Marine Environmental Program (1 term FTE create prior to 2015)	3.6	3.6	3.6	3.6	3.6
Integrated Watershed Management Program (1 term FTE created in 2016)	6	6	6.5	7 ^c	7
GeoEnvironmental Programs	4	4	4	5.1 ^d	5.1
Demand Management	2.6	2.6	2.6	2.6	2.6
Cross Connection Control (1 term FTE)	3.6	3.6	4.6	4.6	4.6
Climate Action Program	2.5	1.7	1.7	2 ^e	2
Onsite Wastewater Management	3	3	3	3	3
Communications and Environmental Education	3	2.65	2.65	2.65	2.65
TOTAL FTE	51.3	51.5	53	55.55	55.55

2018 FTE Variance:

- a. *divisions combined under one Senior Manager July 2017, 1 FTE not filled
- b. Water Quality Operations will increase by 1 FTE
- c. IWMP will increase by 0.5 FTE
- d. Geo-E will increase by 1.1 FTE (0.6 – contaminated sites officer; 0.5 – clean waste tech)
- e. Climate Action Program will increase by 0.3 FTE, lifting existing Program Asst. to 1.0
- f. re-filling of existing exempt position to oversee regulatory and administrative functions

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority	Budget Implications
2019			
Nutrient Analyzer	Expand and improve capital for internal analysis	Environmental Protection Regional Infrastructure	\$60,000 single supplemental Capital budget
pH and Corrosion Study	Undertake a pH and corrosion study of distribution system to evaluate risks to infrastructure and compliance with Drinking Water Guidelines	Regional Infrastructure Environmental Protection	\$30,000 single supplemental Capital budget

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Contribute to community and corporate climate action goals	<ul style="list-style-type: none"> Number and impact of projects and partnerships that demonstrate support for reductions in greenhouse gas (GHG) emissions and for increased climate resiliency*
Provide specialized information and technical support	<ul style="list-style-type: none"> Percentage of environmental water quality sampling plans reviewed and updated* Achieve lab accreditation to ISO 17025 Provide monitoring for streams with continuous flows and/or water flows annually (target 9 streams by 2019) 90% of sewer odor monitoring assessment stations monitored and reported on annually
Maintain regulatory compliance monitoring activities for government agencies, member municipalities or other stakeholders	<ul style="list-style-type: none"> Provide sampling, analysis and reporting of in-house drinking water samples within 5 business days 95% of the time. 100% of operational and compliance samples (outfall, stormwater, landfill) collected, analyzed and reported on annually Conduct a minimum of 4 landfill gas ambient, foundation and perimeter well monitoring activities annually Percentage of businesses in compliance with Sewer Use Bylaw Requirements* 80% or better compliance rate with bylaw for Type 1, 2 and 3 onsite systems
Maintain assessment requirements for government agencies, member municipalities or other stakeholders	<ul style="list-style-type: none"> 90% of sludge assessment samples collected and reported 20% of all stormwater discharges sampled annually 80% of all high-rated stormwater discharges investigated annually

	<ul style="list-style-type: none"> • Reduction in days of blue-green algae blooms compared to previous years at Elk/Beaver Lake • 15% of businesses inspected annually as a part of Stormwater Source Control on Saanich Peninsula • Conduct a minimum of 12 controlled waste audits annually • Annual % reduction in water consumption by ICI sector • Inspect 33% of all food service facilities annually for compliance with source control bylaw • Decrease or maintain priority contaminant loadings to the core area marine environment on results of 3-5 year trend assessment cycles • Target of 0 or no annual backflow incidents reported in Regional Water Supply • Target of 900 cross-control audits conducted annually
<p>Increase community and municipal engagement opportunities</p>	<ul style="list-style-type: none"> • Number of community outreach events the CRD participates in and/or supports annually* • Number of CRD educational workshops delivered or partnered on annually * • Number of stakeholders engaged through educational programming on biodiversity and ecological health issues * • Number of volunteer hours leveraged in restoration or stewardship activities (target 300 hours annually) • Increased participation in Onsite Wastewater Management workshops over 2015 levels

** Corporate indicator – more than one division may contribute to this measure.*

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