

Community Need

2022 Summary



Water

Strategy

Target Outcome

We envisage a sustainable and resilient water supply.

Strategic Context

Strategies

- [Regional Water Supply Strategic Plan](#)
- [Regional Growth Strategy](#)
- [Special Task Force on First Nations Relations](#)
- [Statement of Reconciliation](#)

Trends, risks and issues

- **Security and patrols:** there have been an increased number of security incursions/recreational pressure into the Greater Victoria Water Supply Area (GVWSA) from Sooke Hills Wilderness Regional Park and from the rapidly developing residential area around Langford and Goldstream. This is putting additional pressure on the Watershed team.
- **Climate Action:** the most significant risks for water services relate to climate and environmental changes. Predicted trends of drier, hotter summers will impact the water services in a number of ways:
 - Demand for water, including for local agricultural activities – this is monitored closely and evaluated against historical trends. Model predictions are updated for areas exhibiting higher than predicted demands, this will inform future infrastructure upgrades to meet growing demands.
 - Water quality may be affected due to increased biological growth in the source water and distribution system; expecting to see increasing pressure to include filtration as a step in the RWS treatment process
 - In the GVWSA, increasing periods of elevated wildfire risk, peak flows from winter storms, drought stress on trees which could lead to increased mortality and forest pests/diseases
 - Increased risk of power outages
- **Infrastructure Vulnerability, resiliency, and Emergency Preparedness:** we are seeing increases in operation and maintenance demand from a growing region combined with aging infrastructure. An updated Water Management Plan for water supply will identify a strategy to address supply (quantity) and critical delivery infrastructure (redundancy) needs
- **Asset Management:** the ongoing trend in reviewing, updating and completing asset management plans and the continuous upgrading, replacement and growth of assets in the water and wastewater systems

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rely on having an up-to-date asset registry as well as an asset onboarding process. Both the Scottish Water Review in 2018 and the EMA Readiness Assessment of 2020 highlighted the need for a reliable asset registry for Water and Wastewater.

- The risk of assets not being maintained, replaced in a timely manner and failing could impact the CRD's ability to provide the expected water and wastewater level of service and could even result in environmental and public safety risks.
- The asset registry is an important step in ensuring that assets are captured in the Maintenance Management System and Preventative Maintenance Plans are developed. This information is also critical with regards to capital and financial planning for the utility services.

Services

Core Services Levels	
Service	Levels
Regional Water Supply (RWS), Juan de Fuca (JdF) Water Distribution, Saanich Peninsula Water and Small Water Systems in the Electoral Areas (EAs) Wholesale water supply to the 370,000 consumers in Greater Victoria and residents in three municipalities on the Saanich Peninsula, water distribution system within Langford, Sooke, View Royal, Colwood, East Sooke, Metchosin and Highlands and the small water systems in the EAs supported through following key service areas:	
Water Systems Operations and Maintenance Water treatment, supply and distribution system operation and monitoring. System and facility maintenance, consumables management and preventative maintenance	<ul style="list-style-type: none"> • 24/7 water treatment operations for two facilities for Greater Victoria <ul style="list-style-type: none"> ↳ Service level adjusted (absorbed), assessment following recent reclassification of two facilities to level III treatment plants showed need to increase staffing levels & operator certification level; addressed through internal staffing shifts • Supply and distribution system operation • System monitoring • Customer service • System and facility maintenance • Consumables management • Component preventative maintenance
Emergency Response/System Failure Water main breaks	<ul style="list-style-type: none"> • 24/7 emergency response to water main breaks and other system emergencies
Infrastructure Planning	<ul style="list-style-type: none"> • Asset management and capital planning <ul style="list-style-type: none"> ↳ Service level adjusted, see IBC 10a-2

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Strategic asset management for all services/systems including modeling and capacity analysis, vulnerability assessment, infrastructure renewal plans.	<ul style="list-style-type: none"> • Adjust plans for 15 water services • System expansion and growth planning
Capital Project Delivery and Works Project design, procurement and delivery of capital projects annually on time/budget. Main installations, dam upgrades, equipment replacement and capital projects support	<ul style="list-style-type: none"> • Capital program delivery • Water main installations and equipment replacement • Dam maintenance and upgrade projects • Capital project support & contract management ↪ Service level adjusted, see IBC 10e-1
Engineering Services Development referrals, survey and mapping, engineering support to utility operations, and dam safety inspections and administration.	<ul style="list-style-type: none"> • Engineering support of utility operations for the 15 water services.
Watershed Protection 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 through following service areas:	
Wildfire, Security & Emergency Response: Watershed security, and wildfire and spill preparedness, prevention and response	<ul style="list-style-type: none"> • 24/7 watershed emergency duty officer standby • Security/wildfire patrols (weekends and holidays; daily during elevated fire conditions) • Wildfire detection air patrol during high and extreme fire hazard
Watershed Operations Silviculture, forest health and forest fuel management; invasive plant management; vegetation management and road maintenance, upgrades and rehabilitation	<ul style="list-style-type: none"> • Winter/summer road maintenance • Culvert and bridge upgrades to accommodate higher peak flows to higher standards and changing climate • Fuel management treatment and fire smarting maintenance • Brushing around facilities, dams, for tree release • Danger tree assessment and removal along roads and powerlines • Invasive plant management
Resource Planning Wildlife management, ecological inventories and analyses, risk assessment and management, and GIS and data management	<ul style="list-style-type: none"> • Development of a comprehensive hydrology monitoring program • Annual forest health survey • Partnering in climate change and other research in the GVWSA • Management of beaver, Canada geese and bullfrogs • Public tours of the Water Supply Area and facilities

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Environmental Protection Regulatory and non-regulatory services and a support role across the organization that focuses on enhanced integration of drinking water quality protection programs and integration of communication initiatives.	
Water Quality Monitoring, assessment, reporting and technical advice to meet water quality regulatory requirements	<ul style="list-style-type: none"> • Source water and distribution system monitoring, assessment and reporting • Physical, chemical and biological analytical services, assessment and reporting
Demand Management Research and data to inform capital planning, water conservation, and communications and education	<ul style="list-style-type: none"> • Accurate data • Per capita targets (residential and ICI)
Cross Connection Control Oversight, monitoring and reporting of potential sources of contamination that may flow in a reverse direction into the Regional Water Supply	<ul style="list-style-type: none"> • Contamination prevention through facility inspections, testing and education for backflow prevention devices • Monitor and track (>28,000) backflow prevention devices
Communications & Environmental Education Public education and engagement in the region to promote sustainable behavior through campaigns, initiatives and services	<ul style="list-style-type: none"> • Increased public awareness of CRD messages and subsequent behavior changes (declining trend in per capita and per sector water use)
Support Services	
Support Services The core services listed rely on the support of several corporate and support divisions to effectively operate on a daily basis. These services are reported on in the Accountability Community Need Summary.	<ul style="list-style-type: none"> • Services include Human Resources & Corporate Safety, Corporate Communications, Asset Management, Financial Services, Information Technology & GIS, Information Services, Legislative Services, Facility Management, Fleet Management, Legal Services, Risk & Insurance and Real Estate Services.

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Initiatives					
Ref	Initiative	Description	Year(s)	2022 impacts	
10a-2	Infrastructure Integration Technician	Proactively monitor and manage of assets conditions and develop preventative maintenance plans	2022	+1.0 FTE regular	\$65K allocation
10d-3	Watershed Hydrology Monitoring*	Expand and increase watershed hydrology monitoring in the Greater Victoria Water Supply Area	2022	--	\$150K fee-for-service
10e-1	IWS Contracts Coordinator	Departmental contract coordination and support for corporate & legislated procurement policies & procedures	2022	+1.0 FTE ongoing	\$94K allocation

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Business Model

Funding

Who contributes

Water Supply and Distribution:

- Regional Water Supply: All Municipalities, JDF EA, First Nations (via Distribution Systems)
- Saanich Peninsula Water Supply: Municipalities (Central Saanich, North Saanich, Sidney)
- JDF Water Distribution: Langford, Colwood, View Royal, Metchosin, Highlands, Sooke, JDF EA
- Local Water Service Areas in the EAs

Environmental Protection

- Water Quality Service: Allocation from Integrated Water Services and Local Service Areas (LSA) from municipalities of RWS area, JDF and various local service areas, Sidney, North Saanich, Central Saanich and Peninsula First Nations
- Demand Management, Cross Connection Control Services: water rate from all Municipalities and EAs
- Communications and Environmental Education: all Municipalities and EAs

Support Services

- Varies per service

Funding Sources

- **Regional Water Supply:** Bulk water sales revenue
- JdF Water Distribution System: Retail water sales revenue in West Shore Municipalities
- **Saanich Peninsula Water:** Wholesale water sales revenue
- **Environmental Protection services:** water rate and requisition

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Reporting Structure

[Regional Water Supply Commission](#) – [Water Advisory Committee](#) – [Saanich Peninsula Water Commission](#) – [JDF Water Distribution Commission](#) – [Various LSA Commissions](#) (Port Renfrew, Lyall Harbour/Boot Cove, Magic Lake Estates, Skana, Beddis, Cedar Lane, Cedars of Tuam, Fernwood, Fulford, Highland, Sticks Allison, Surfside Park, Wilderness Mountain)

Performance

Definition and Source	Service	2020 Actual	2021 Forecast	2022 Target
Metric 1: Regulatory Compliance Non-compliance with Island Health, provincial and federal regulatory requirements and operational certificates that result in Boil Water Advisories or Do Not Consume Events	Regional Water Supply	None	None	None
	JDF Water Distribution	None	None	None
	Saanich Peninsula Water Supply	None	None	None
	Local Services	6	4	None
Metric 2A: Water Quality Sampling – Raw water Water quality samples analyzed annually from source reservoirs (raw water)	Regional Water Supply	12,090	12,585	15,392
	Local Services	4,181	3,670	3,670
Metric 2B: Water Quality Sampling – treated water Water quality samples analyzed annually from transmission/distribution systems (treated water)	Regional Water Supply	1,753	1,787	1,787
	JDF Water Distribution	7,675	7,531	7,531
	Saanich Peninsula Water Supply	1,979	2,102	2,102
	Local Services	31,216	24,903	24,904
Metric 3: Average day per capita water use (litres per capita per day)	Regional Water Supply	340	337	334
	JDF Water Distribution	301	299	297
	Saanich Peninsula Water Supply	435	424	413

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	Local Services	215	192	202
Metric 4: Annual operating cost per megaliter of drinking water treated and supplied/distributed	Regional Water Supply	\$93.80	\$100.00	\$100.00
Metric 5: Annual Energy use (kWh) per megaliter of drinking water treated and supplied/distributed	Regional Water Supply	66	66	66
Metric 6: Volume of raw water released annually from RWS watersheds to rivers to support fish habitat (megaliters)	Regional Water Supply	11,489	10,500	12,200
Metric 7: Number of watermain leak repairs and service line leaks annually per 100 kilometers of pipe (distribution systems)	JDF Water Distribution	0.9	0.9	<1
	Local Services	33.2	35	<30
Metric 8: Preventative maintenance completed	Regional Water Supply	85%	97%	100%
	JDF Water Distribution	91%	96%	100%
	Saanich Peninsula Water Supply	95%	100%	100%
	Local Services	79%	99%	100%