Comox Valley REGIONAL DISTRICT

Staff Report

DATE: May 5, 2022

FILE: 5340-04

TO: Chair and Directors
Electoral Areas Services Committee

FROM: Russell Dyson
Chief Administrative Officer

Supported by Russell Dyson
Chief Administrative Officer

R. Dyson

RE: **Ongoing Initiatives to Mitigate Environmental and Public Health Impacts from On-site Septic Systems**

Purpose

To update the committee on a recent norovirus outbreak related to the consumption of raw oysters and seek direction on multiple initiatives being undertaken to mitigate impacts from on-site septic systems in the electoral areas.

Recommendations from the Chief Administrative Officer:

1. THAT staff continue to collaborate with Ministry of Health and Island Health to implement septic regulatory changes to ensure on-site septic systems are being properly maintained.

2. THAT staff report back to Electoral Areas Services Committee with proposed amendments to the Zoning Bylaw that would restrict the development of second dwelling units in Electoral A until such time as community services (water and sewer) are in place.

Executive Summary

The communities of Royston and Union Bay were developed in the early 1900s with lot sizes and densities that would not be permitted under modern land-use regulation (i.e. reliance on on-site sewer services). Many of the lots in these communities have no reserve area for a replacement septic field and higher standards for the design of new septic systems provide further constraints.

A recent survey of Island Health's land records show that close to 70 per cent of the systems in this area are over 25 years old. According to a septic system risk framework published in the Canadian Water Resources Journal, septic systems in excess of 25 years old present a higher risk of failure. In Union Bay, records indicate that 44 per cent of occupied properties have never had a legal system installed in over 50 years since permitting was required.

There also exists significant environmental constraints which impact the performance of onsite sewage systems in this area. Island Health has indicated soils along the waterfront, which tend to be a mix of sand and gravel, may not allow for adequate attenuation of wastewater before it travels into the waters of Baynes Sound. In areas away from the beach, tight soils are often found with restrictive clay and silt layers and a high seasonal water table, which can be shallower than 18 inches in some areas. Island Health subdivision standards (link) recommend a lot size of at least 2.0 hectares (5 acres) for properties with a water table shallower than 18 inches and a slope of 15 per cent or less. What results is potential cumulative impacts from numerous poorly functioning septic systems that can adversely impact the environment and public health.

Baynes Sound Water Quality

A recent norovirus outbreak linked to the consumption of raw oysters harvested from Baynes Sound has brought renewed attention to the risks that sewage contamination poses to marine waters and in particular the Baynes Sound growing area which produces 70 per cent of BC's cultured oysters. This outbreak follows similar norovirus outbreaks that have occurred in the area over the past number of years.

Repeated norovirus outbreaks are damaging to the economy and reputation of the Comox Valley and BC. Baynes Sound is a critical food production area for the K'ómoks First Nation (K'ómoks) and continued contamination of these waters impact K'ómoks rights and economic development opportunities. Efforts need to be made to protect water quality in Baynes Sound and support the sustainability of this food source.

A working group chaired by BCCDC Environmental Health in 2017 (link) concluded there were several transmission routes of norovirus into the marine environment. Septic field seepage was among those identified as a plausible explanation for contamination. Some areas mentioned to be potentially problematic included Royston, Union Bay, Ships Point and Bowser.

The 2018 summary report of the working group (link) included some septic related mitigation measures to prevent untreated sewage entering the marine environment including a combination of improved infrastructure, regulation, compliance, education and enforcement.

Some key measures identified include:

- Moving community and individually-owned septic system discharges to municipal treatment systems.
- Including an environmental impact assessment prior to approval and issuance of building permits in communities that do not have adequate wastewater treatment facilities in place to meet current and projected development.
- Developing accountability for untreated sewage in the marine environment by actively auditing discharges (e.g. dye marker studies in community septic systems).
- Educate homeowners with septic systems about their responsibilities for maintenance, and the impacts failing systems have on neighboring marine environments and farmers. Offer rebate programs for inspections and repairs of private on-site septic systems.

Many of these mitigation strategies are being actively pursued by the Comox Valley Regional District (CVRD), including implementation of the Sewer Extension South project to bring community sewer to Royston, Union Bay and K'ómoks south lands, the CVRD's septic education program (link) and continued work towards improved regulation of on-site septic systems. Additional land-use related controls are also being considered as described below.

Sewer Extension South Project

Longstanding concerns regarding septic systems in the Royston and Union Bay area is a key driver supporting efforts to bring sewer servicing to these communities. The provision of community sewer service is understood to be the most reliable, sustainable and long-term means of wastewater management for this area. The CVRD, in partnership with the K'ómoks First Nation, continues to pursue this important project and has recently submitted a grant funding application for the first phase of the project. To meet technical requirements and ensure a reasonable cost for area residents, the CVRD is pursuing a phased approach to the project with the first phase of funding supporting those areas with the most urgent environmental need. This phased approach will allow for the efficient expansion of the system over time, ensuring protection of Baynes Sound and the surrounding areas.

Regulation of On-Site Septic Systems

Should the Sewer Extension South project proceed, and eventually provide sewer servicing to electoral area neighborhoods between Union Bay and south Courtenay, this would remove one potential source of water-borne pathogens from the north end of Baynes Sound. However, technical and financial constraints would likely prevent further extension of sewer servicing to other electoral area neighborhoods along the central and southern portions of Baynes Sound. Wastewater management in these areas will therefore continue to be provided by private on-site septic systems, regulated under the Sewerage Systems Regulation, for the foreseeable future. Improved oversight to ensure proper septic maintenance is being carried out is one option to mitigate threats to the marine environment from upland development; this would also be required for Royston/Union Bay neighborhoods should sewer servicing not proceed as proposed.

Since 2016, the CVRD has done significant work to develop and deliver a septic education program for electoral area residents, and to investigate options for regional district involvement in enhanced septic system regulatory measures. The septic education program has delivered workshops and webinars to over 350 electoral area residents since the fall of 2018. The septic regulatory options study completed by WSP in 2020 included a preliminary assessment of risks to public and environmental health in CVRD electoral area neighborhoods (link); Royston, Union Bay, Ships Point, and parts of Hornby Island were all found to be areas at higher risk per this assessment. Other high-risk areas outside Electoral Area A included Robinson Lake, Saratoga Beach and Bates Beach.

The WSP report described four septic management program options, including cost estimates for program implementation across the CVRD's three electoral areas. The option of a homeowner education program is now in place in the CVRD; additional septic management program options include the following:

- Mandatory Pump-Out
- Mandatory Inspection
- Mandatory Inspection and Maintenance

Where sewer servicing is not an option, areas with a higher risk profile would see the greatest benefit from a program that mandates inspection and maintenance of septic systems, rather than simply mandating septic tank pump-outs. However, even a mandatory inspection and maintenance program would be challenged in effectively resolving septic-related issues in areas with poor ground conditions, high winter water table or urban levels of dwelling density.

Currently, staff are looking into options for environmental monitoring study work to assess septic system impacts in higher risk areas, and to establish a baseline from which to compare monitoring results in the future should a regulatory program be implemented. Following on the success of a CVRD/Island Health agreement to access septic system records for Royston/Union Bay in support of the Sewer Extension South project, staff will continue working with Island Health to gain access to septic system records for neighborhoods beyond the Royston/Union Bay area. This will help confirm risk profiles in these neighborhoods, in order to prioritize areas for program implementation and allocation of resources.

For the CVRD to move forward with a mandatory maintenance program, updated guidance from provincial staff and Island Health (Appendix A) suggests a process to enable CVRD authority in the area of septic system regulatory measures may be quicker than previously estimated. Per the Public Health Bylaws Regulation, if a proposed local government public health bylaw does not impact health authority resources nor restrict access to health services, the local government needs to:

- Consult with the local health authority (i.e. medical health officer); and
- Deposit a copy of the proposed bylaw with the Minister of Health prior to it being brought into force.

The background work the CVRD has completed thus far in accessing Island Health records and assessing program options for improving compliance with septic system maintenance plans is in alignment with related provincial initiatives to improve access to septic system records and to collaborate with health authorities and local governments to ensure septic systems are being properly maintained. The CVRD will continue to work closely with provincial and Island Health representatives on advancing septic maintenance initiatives.

Land-Use Controls

An additional regulatory tool that may be considered is the Zoning Bylaw. Presently, zoning in the area enables development of a second dwelling unit on almost every residential property. This provision has been in place since at least 2005 in most neighbourhoods within the proposed Sewer Extension South service area. This enabling zoning has been important as a mechanism to improve affordability and to enable aging in place in these rural areas. The zoning assists in implementing key Regional Growth Strategy and Official Community Plan policy.

That said, staff suggest that these neighbourhoods are at a tipping point in their ability to accommodate additional dwelling units that are served by on-site servicing in at least two ways.

1. Although development of second dwelling units does require, through the building permit review process, confirmation of suitable sewerage on a property by property basis, staff suggests that enabling second units with on-site servicing undermines the broader community interest in establishing a community system. Ultimately, creating additional units that depend on on-site sewerage services detracts from the individual interests of property owners to support investment in a community system.
2. Additional dwelling units on private services can result in a cumulative impact in neighbourhoods where soil conditions and lot densities cannot sustain continued reliance on septic systems (i.e. negatively impacting the entire area and Baynes Sound). This is supported by the conclusions of a 2017 onsite sewage inspection industry backgrounder by Coast Mountain Earth Sciences (link).

For these reasons, it is recommended that staff return to the Electoral Areas Services Committee with possible zoning amendments to restrict development of second dwelling units in the proposed Sewer Extension South service area until such time as connection to a community sewer system is possible.

Prepared by:	Prepared by:	Prepared by:
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Concurrence:

M. Rutten

Marc Rutten, P.Eng.
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Government and Community Interests Distribution (Upon Agenda Publication)

K'ómoks First Nation	✔
Island Health	✔

Attachments: Appendix A – "Island Health Support of Local Government Involvement in Oversight of Sewerage System Maintenance"

Excellent health and care, for everyone,
everywhere, every time.

island health

Sent via email

May 5, 2022

Darry Monteith
Comox Valley Regional District
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Dear Darry Monteith:

RE: Island Health Support of Local Government Involvement in Oversight of Sewerage System Maintenance

Island Health is aware and supportive of the Comox Valley Regional District's efforts to investigate options for local government involvement in improving oversight of onsite septic system maintenance requirements. As you are aware, since 2005 the Health Authorities no longer have a dedicated inspection role of sewerage systems, as this is when the Sewerage System Regulation changed to one of a professional reliance model.

Island Health has been working in collaboration with the CVRD to share data on the sewage records for the Royston / Union Bay areas as we are in support of the community sewer-servicing proposal. We have provided a letter of support in the recent grant application to assist in funding that proposed project. The data sharing exercise demonstrated concerning results around the numbers of properties for which there is no record of any sewerage system (Royston 29% of properties had no file and Union Bay with 44% of properties with no file). This suggests either that the systems are exceptional old, pre-dating legislative requirements or that the systems have been installed or altered without following the legislated process and therefore may or may not meet minimum construction requirements.

Further to that, approximately 70% of the existing sewage files have systems installed prior to the year 2000. Although the life span of a sewerage system is quite variable depending on a multiplicity of factors, an average life span of 20 to 25 years is a rough estimate. This suggests that many of these systems are coming to the end of their operational life span and will soon need replacement.

The proper design, installation and maintenance of sewerage systems is essential to ensure its proper function and thus protect public health. Sewage that is not properly treated can impact drinking water by entering wells, leach onto the surface of the ground or into surface water (both fresh and marine) thus impacting public health and the environment.

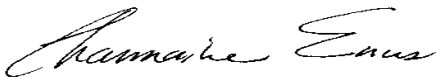
In 2016/2017 there was a Norovirus outbreak linked to the consumption of BC oysters. This outbreak affected more than 400 people and impacted the Baynes Sound shellfish farms that were some of the farms linked to Norovirus outbreak. In 2018, the BC Centre for Disease Control issued a final report of the findings of a working group (provincial and federal agencies as well as technical experts), that explored potential causes of Norovirus in the environment. The solution moving forward indicated that in order to prevent contamination of oysters with Norovirus we must control the amount of untreated

sewage entering the marine environment. Private septic field seepage was listed as one of these sources. The most recent Norovirus outbreak affecting the Baynes Sound shellfish producers reinforces the need to continue with actions to improve the disposal of wastewater in this area.

The adoption of a septic regulatory bylaw by the CVRD could be supported under the Public Health Bylaws regulation. This would address other areas of high density that would not be part of the proposed sewer expansion project, such as Ships Point. This would also support the Royston and Union Bay areas in the event that the sewer expansion project does not move forward.

We are committed to continue to work collaboratively with the CVRD and other stakeholders on efforts to advance the septic regulation work and encourage the CVRD to continue to explore options and proceed with work to provide enhanced local oversight of septic maintenance.

Yours in health,



Charmaine Enns, MD, MHSc, FRCPC
Medical Health Officer

cc: Nancy Clements, Healthy Built Environment/Drinking Water/Land Use Consultant, Island Health
Charlene MacKinnon, Senior Environmental Health Officer, Island Health
Ella Derby, Environmental Health Officer, Island Health