

HIGHLANDS REGIONAL CONTEXT STATEMENT

IMPLICATIONS FOR THE CORE AREA LIQUID WASTE MANAGEMENT PLAN

DISCHARGE TO THE CAPITAL REGIONAL DISTRICT'S TRUNK SEWER SYSTEM

Highlands is not a participant in the Core Area Liquid Waste Management Plan (LWMP) and therefore has no reserved capacity in the Core Area trunk sewer system. For Highlands to become a participant in the LWMP, it would be necessary to convey its sewage, either via the existing Langford system or via a new dedicated pipeline to the top end of the Capital Regional District (CRD) trunk system at Meaford Avenue and Veteran Memorial Parkway. Highlands would also need to acquire sufficient capacity in the CRD trunk system from Langford, which may only be available for a limited time, as Langford's capacity needs continue to grow.

DISCHARGE OF TREATED EFFLUENT TO MILLSTREAM CREEK

While discharging treated effluent from Highlands to Millstream Creek is not covered by the LWMP, it may have a significant impact on the implementation of the *Millstream Watershed Management Plan* prepared by the Millstream Water Management Forum in 1999. The executive summary of this report is attached along with a list of the individuals and organizations involved in its preparation. Much of the work of the Forum was based on a report prepared in 1996 by SHIP Environmental Consultants Ltd. entitled *The Millstream Watershed Prototype Study*. In Section 5.4, Water Quality, the study states the following:

it should be noted that the effluent discharge from the Phelps secondary sewage treatment plant complete with disinfection into Millstream Creek is not an acceptable long-term solution, as these discharges increase the overall levels of nutrients in the system and create potential concerns regarding residual chlorine levels.

CRD Scientific Programs staff have prepared a brief note (see attached) on the potential environmental impacts on Millstream Creek resulting from the discharge of effluent from the proposed Highlands/Bear Mountain treatment plant.

In discussing this matter with a consulting engineer involved in this project, the following was noted:

- (a) The proposed treatment plant is expected to be treating sewage from a population equivalent of about 12,000 by 2020, which includes about 90% of the Bear Mountain development. As most of this flow would be from the Langford portion of the development, the discharge would be in contravention of the LWMP.
- (b) A draft engineering report is expected to be completed by consultants on March 15, 2006 regarding the configuration of the proposed treatment plant. This report is an essential document to enable an assessment of the potential environmental impacts of the proposed discharge to Millstream Creek.

SBM/cl
Attachments

**Comments from Scientific Programs, Environmental Services Department
Potential Environmental Impacts Resulting from Discharge of Effluent to Millstream Creek**

Millstream Watershed Management Plan

A watershed management plan was developed for the Millstream Watershed by a 24-member forum which consisted of representatives from local community groups and governments. The District of Highlands, District of Langford, City of Colwood and the Town of View Royal participated in the development of the plan and are responsible for implementing various actions identified in the plan.

A major goal of the plan is to protect surface and ground water quality from human impacts. Key objectives under this goal are to minimize point and non-point sources of pollution by correcting sewer cross-connections and identifying and fixing failing septic systems. The need to identify and fix leaking septic systems that were discharging effluent to Millstream Creek was identified as one of the top 12 priorities of the management plan.

Ecological Values

Millstream Creek supports resident populations of native cutthroat trout. Small mouth bass and rainbow trout are reported to be present in some of the upper lakes. Local stewardship and angler groups have been working to bring coho salmon back to Millstream and stocking programs have been ongoing near Matson Lake and downstream of Highway #1. Sunfish and three-spined stickleback have also been reported throughout the creek.

The mouth of Millstream Creek, at the northwest end of Esquimalt Harbour, takes the form of a productive estuary and mudflats. The stream has tidal influence for a few hundred metres upstream of the harbour. This area provides a sheltered environment for fish and rich feeding grounds for seabirds, shorebirds and waterfowl and for mammals such as river otters.

Concerns and Potential Impact

Increased Nutrient Loading to Millstream Creek

Discharging treated sewage effluent to Millstream Creek would likely result in increased nutrient loadings to the creek. In freshwater systems, such as Millstream Creek, increased nutrient loading could result in increased algae growth. In stream segments where conditions are right, algae take the form of an attached growth on rocks, logs, and other substrate. Excessive growths of attached algae can cause low dissolved oxygen, unsightly conditions, odors, and poor habitat conditions for aquatic organisms. Historically when Phelps was discharging effluent into Millstream, there were problems with very low dissolved oxygen in the Millstream.

Public Health Concerns

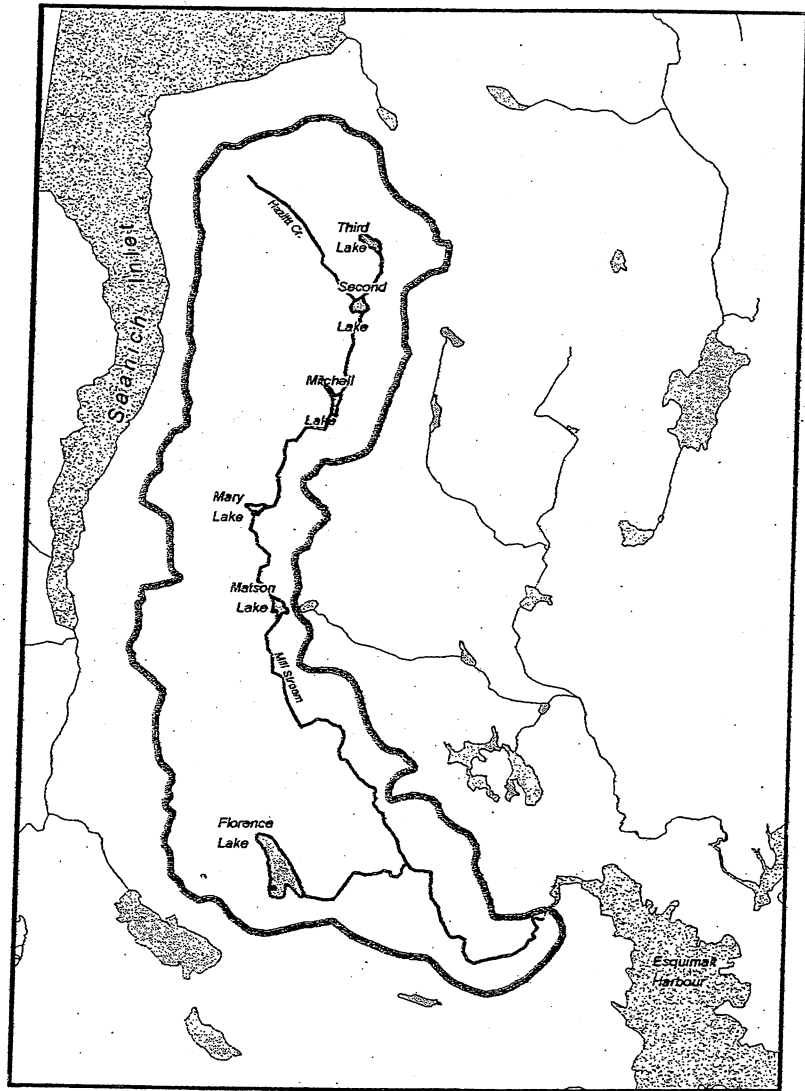
In 1999, there were 27 water licences for the use of surface water in the Millstream watershed - 19 were used for domestic water supply, 6 for land improvement (dams or drainage), 1 for irrigation and 1 for lawn and garden use. There may be cause for concern for public health.

Breakdowns of Sewage Treatment System

It is well known that sewage treatment systems can and do fail. Common causes of sewage treatment system failure include power outages, equipment breakdown and discharge of toxic substances into the sewers which can kill the biological process thereby rendering the treatment system ineffective.

In this circumstance, failure of the sewage treatment system could result in untreated sewage effluent discharging to Millstream Creek. The likelihood that there will eventually be a discharge of untreated effluent to Millstream as a result of a failure of the treatment system is thought to be significant. In the event of a system failure, the relatively large effluent volume could result in significant impact on fish populations and water quality in the creek.

MILLSTREAM WATERSHED MANAGEMENT PLAN



June 1999

Developed by



SUMMARY

The Millstream Watershed is located in the Capital Regional District (CRD), extending from the Gowlland Range in the District of Highlands, south through the District of Langford and City of Colwood, to the shores of Esquimalt Harbour in the Town of View Royal. As part of a Watershed Management Strategy endorsed by the CRD Environment Committee, the Millstream Watershed Management Forum was created to develop the Millstream Watershed Management Plan. The Forum consisted of 24 members, including representatives from residents associations, the development community, environmental groups, landowners, the school district, municipal planning and engineering departments, the regional district, senior governments, and BC Hydro.

The Forum reviewed the findings of the Millstream Watershed Assessment (SHIP 1996), confirmed the key threats and challenges to maintaining a healthy watershed, and prepared the following Watershed Management Plan to address these issues. Good watershed management can result in fiscal, health, safety, recreational and ecological benefits. Actions in one part of the watershed may have impacts elsewhere, so the Forum emphasized the need for an integrated and coordinated approach.

The Forum developed the following vision for the Millstream Watershed:

“The Millstream Watershed sustains and enhances a healthy environment for plants, animals, and people”

The vision is supported by six goals for watershed management:

- Goal 1:** Landowners, residents, community groups, and businesses will understand and support stewardship of the watershed
- Goal 2:** Municipalities, the CRD, and provincial and federal governments will develop and use regulatory and management tools to improve the health of the watershed.
- Goal 3:** Water flows will be managed to optimize groundwater recharge and summer flows, and minimize flood damage, while maintaining the natural integrity of the watercourse.
- Goal 4:** Surface and ground water quality will be protected from human impacts
- Goal 5:** The Watershed will contain healthy aquatic ecosystems to support fish, wildlife and biodiversity.
- Goal 6:** Native flora and fauna will be protected and restored throughout the watershed, wherever feasible.

The Forum developed an Action Plan for meeting these goals, including 17 objectives and 65 specific actions. To facilitate implementation, the Plan identifies a lead agency and contact person, support agencies, resources needed to undertake each action, timeline of when the action should occur, and potential sources of funding and other resources. The Plan categorizes the actions into Existing Actions (7 actions), Program Amendments (21 actions), New Actions (35 actions), and Actions that Need a Lead Agency (2 actions). Actions that Need a Lead Agency are important for meeting the goals of the Plan, but lack an agency for implementing them. These actions could be implemented if a lead agency can be found. The Plan also includes a schedule and estimate of resources required for Plan implementation.

The Forum acknowledges that some actions are more crucial than others to attaining the Plan's vision. Through a priority-setting exercise, the Forum identified the following top twelve priority actions:

- 1 Prohibit building or filling in floodplains (2B7).
- 2 Incorporate environmental reviews into development permits (2B2).
- 3 Amend bylaws to protect wetlands (2B6).
- 4 Inventory and map ecological values (5A1).
- 5 Adopt open-stream policy (5A4).
- 6 Conduct landowner contact program¹ (1B1).
- 7 Establish riparian zones and sensitive natural habitats as development permit areas (2B1).
- 8 Compile inventory of mapping and data products (2A1).
- 9 Allocate water for fish in MELP water allocation plan (3B3).
- 10 Adopt stormwater management bylaws (2B9).
- 11 Identify and repair failing septic tank and field systems (4C2).
- 12 Ensure no net loss of fish habitat (5A3).

The Forum was established to develop the Plan. Having completed the Plan, the Forum is now dissolved. Implementation of Plan actions will be the responsibility of the lead agencies identified in the Plan. The Forum recommends that a Millstream Watershed Management Steering Committee be struck to replace the Forum and coordinate Plan implementation. The Steering Committee should include representatives from environmental groups, the school district, residents, the development community, each municipality, and the Ministry of Environment, Lands and Parks.

¹ This action should be preceded by another action: "Prepare a display and pamphlets about the Millstream Watershed and its management..."

ACKNOWLEDGEMENTS

This Plan was developed by the Millstream Watershed Management Forum. Robyn Wark of Westland Resource Group and Julia Roberts of Roberts Environmental Services facilitated the Millstream Watershed Management Planning process and prepared the Plan. The consultants would like to thank Rob Miller of CRD Environmental Services Group for his work in coordinating this project and promoting watershed management in the region, and SHIP Environmental Consultants Ltd. for preparing the initial Millstream Watershed Assessment (SHIP 1996).

We commend the efforts of the Millstream Watershed Management Forum for the time, energy, enthusiasm, and expertise that they contributed to creating this plan. The Forum members were:

<i>Name</i>	<i>Organization</i>	<i>Name</i>	<i>Organization</i>
Barbara Avery	Town of View Royal, Planning	Marcie McLean	Highland District Community Association
Stewart Bender	Resident, District of Highlands	John Maher	BC Hydro
Michael Bocking	Resident, District of Highlands	Rob Miller	Capital Regional District Environmental Services Group
Rob Buchan (Matthew Baldwin, alternate)	District of Langford, Planning	Dave Morris	Provincial Capital Commission
Danny Carrier	J.E. Anderson and Associates, Surveyors and Engineers	Simon Lawrence (Jon Munn, alternate)	City of Colwood, Planning
Marlene Caskey (Bill Hubbard, alternate)	MELP, Fish and Wildlife, Vancouver Island Region	Herman Rebneris	Cottage Grove Developments Ltd. Urban Development Institute
Michelle Choma	Belmont Senior Secondary School	John Roe	Veins of Life Watershed Society
Ben Kangasniemi (Ted White, alternate)	MELP, Water Quality, Victoria	Andria Tetlow	View Royal Natural Habitat Action Group
Kevin Key	District of Highlands, Planning	Joel Ussery	Capital Regional District, Parks Department
Helen Lockhart	City of Colwood, Engineering	Bruno Blecic (Walter Van Bruggen, alternate)	MELP, Water Management, Victoria District Office
Susan Loney	Coalition of Langford Residents	Mike vander Linden	District of Langford, Engineering
Peter McCully	Department of Fisheries and Oceans, Goldstream Volunteer Salmonid Enhancement Association	Sonja Zupanec	Victoria Natural History Society