

CITY OF BURNABY

ENVIRONMENT AND WASTE MANAGEMENT COMMITTEE

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

RE: ENVIRONMENTAL INITIATIVES THAT ENHANCE STREAMKEEPING IN BURNABY

RECOMMENDATIONS:

1. **THAT** Council authorize staff to continue to work with Burnaby Streamkeepers on initiatives as outlined in this report towards the enhanced management of the City's watersheds.
2. **THAT** Council forward a copy of this report to Burnaby Streamkeepers Coordinator, Elmer Rudolph.

REPORT

The Environment and Waste Management Committee, at its meeting held on 1999 October 12, received the attached report in response to correspondence from Burnaby Streamkeepers regarding city policies and initiatives that may enhance the future of streamkeeping in Burnaby. The report outlines a number of current environmental policies, programs and initiatives which work towards protecting and enhancing waterways and riparian areas. The report also identified means for enhancing these initiatives through increased involvement with Burnaby Streamkeepers.

Respectfully submitted,

Councillor D. Johnston
Chair

Councillor C. Redman
Member

Councillor D. Lawson
Member

:COPY - CITY MANAGER
- DIRECTOR PLANNING AND BUILDING
- DIRECTOR ENGINEERING
- DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

TO: CHAIR AND MEMBERS,
ENVIRONMENT AND WASTE MANAGEMENT COMMITTEE

1999 OCTOBER 07

FROM: DIRECTOR PLANNING AND BUILDING
DIRECTOR ENGINEERING
DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

OUR FILE: 11.211

**SUBJECT: ENVIRONMENTAL INITIATIVES THAT ENHANCE STREAMKEEPING
IN BURNABY**

PURPOSE: To respond to recent correspondence from Burnaby Streamkeepers regarding City policies and initiatives that may enhance the future of streamkeeping in Burnaby.

RECOMMENDATIONS:

1. **THAT** Council authorize staff to continue to work with Burnaby Streamkeepers on initiatives as outlined in this report towards the enhanced management of the City's watersheds.
2. **THAT** Council forward a copy of this report to Burnaby Streamkeepers Coordinator, Elmer Rudolph.

REPORT

1.0 BACKGROUND

At its meeting 1999 September 14, the Environment and Waste Management Committee received correspondence from Burnaby Streamkeepers requesting that the City work with Streamkeepers to address a number of issues and develop appropriate policies and programs for the immediate, intermediate and long term to effectively protect fish habitat and riparian areas.

The City of Burnaby supports Burnaby Streamkeepers and is one of the founding partners of the program. The efforts and experience of Burnaby Streamkeepers are recognized by the City and seen as key in protecting and enhancing Burnaby's waterways. Staff work regularly with streamkeepers to address environmental issues and to gain site specific biophysical information and input to enhance environmental programs and initiatives. The following report addresses the issues as outlined in the letter from Burnaby Streamkeepers.

2.0 ENVIRONMENTAL INITIATIVES TO ENHANCE STREAMKEEPING IN BURNABY

2.1 Issues Identified by Burnaby Streamkeepers for Immediate Action

2.1.1 Testing Programs for Sewer Cross Connections

Streamkeepers requested that testing programs to detect sewer cross-connections be implemented in specific locations where severe spill problems are known to exist.

The City has a routine bacteriological creek water monitoring program in place with an objective of determining potential sanitary sewer cross connections to storm sewers and streams. When consistent elevated levels of fecal coliforms are found in streams, investigation involving but not limited to, sewer video inspection, dye testing of connections and placements of chains in sewers is initiated to determine and require corrective action at the source.

As a part of the ongoing sewer maintenance program, pipe inspection is conducted to assess the pipe conditions and to identify cross connection problems and excessive infiltration. Based on the results of the inspection program, replacement and corrective measures are implemented to rectify the deficiencies. Cross-connection problems identified in the process are rectified immediately. Through the use of video equipment, the pipe inspection program is focussed on the older system area and is intended to expand to the entire system.

2.1.2 Spill Reporting and Response Procedures

Streamkeepers requested that spill reporting and response procedures be reviewed with City staff to improve protection of streams and enforcement of applicable bylaws.

The City has a 24-hour phone number which the public may call regarding spills and inappropriate discharges into stream systems. In general, spill response procedures for staff include: contacting the caller to verify the information, attending the site, assessing the need to sample and contact senior environmental agencies including the Department of Fisheries and Oceans (DFO), Environment Canada and the Ministry of Environment, Lands and Parks (MOELP), determining the source, requiring appropriate corrective

actions and contacting the caller to communicate the outcome. In cases where the spill report is associated with information on fish kills, staff contact the senior environmental agencies immediately prior to attending the site.

The City spill response protocol was recently reviewed with members of the Stoney Creek Environment Committee (SCEC) at a 1999, August 19 meeting. Staff would also welcome the opportunity to discuss these procedures further with all Burnaby Streamkeepers.

2.1.3 Educational Information and Signage

Streamkeepers requested that educational pamphlets on specific watersheds be developed and distributed to households within the watershed to raise awareness about their watershed, identify potential problems and educate members of the community on environmentally responsible practices to protect our watersheds. A series of signs to protect streams and enhancement works as well as the development of an Internet website with Streamkeepers were also requested.

Informational Brochures and Educational Programs

A variety of media including the Waterways of Burnaby map and display, pollution prevention pamphlets, educational posters on Still Creek prepared through the BCIT - Burnaby Lake Systems Project are currently available through the City.

Staff have explored a number of options for incorporating increased information on watersheds and streamkeeping. To this end, it is proposed that a regular series of articles on Burnaby Streamkeepers and specific watersheds be developed with Streamkeepers for inclusion in *Info Burnaby*. This quarterly City publication is delivered to all residences in Burnaby and is seen as an effective medium utilizing existing resources for the communication of streamkeeping information.

In addition, the BCIT - Burnaby Lake Systems Project, of which the City and many other agencies and organizations are funding partners, recently initiated a Watershed Pledge Program. The program involves an extensive public campaign to raise awareness of the ecological significance of our waterways and their connection to our immediate environment and every day activities focusing on the Brunette Basin. A colourful graphic watershed pledge

booklet containing information and recommendations about environmentally responsible practices to protect our streams and aquatic life will be distributed to businesses and residents within a pilot area of the Brunette Basin. The program urges members of the community to pledge environmentally responsible practices through the provision of incentives and support.

Under the Brunette Basin watershed management planning process, brochures were developed and distributed to watershed stakeholders to explain the objectives of a watershed plan and to seek public participation in stream stewardship initiatives. Currently, a business community communication program is being developed by the Brunette Basin Task Group to provide information to the business community within the basin on watershed management issues and solutions. The business communication strategy will be launched in 1999 November with the business organizations within the basin as the initial target audience.

Community environmental events coordinated by the City including Environment Week and B.C. Rivers Day provide opportunities for various stewardship groups, agencies including DFO and MOELP, corporations and institutions to work together to raise community environmental awareness and share information. Displays, brochures and various forms of media are available at environmental events to communicate environmental information and encourage stewardship.

In addition to the above communication initiatives, the City is also developing a learning unit on "Streams and Rivers" for use in Burnaby elementary schools. The "Cut the Garbage" learning unit developed and sponsored by the City has been well received by the Burnaby schools and the "Streams and Rivers" unit will be an addition to the education component of the watershed program.

Stream Signage

The City was one of the first municipalities to erect signs identifying the name of streams and spill reporting information on Burnaby's waterways many years ago. More recently, stream name signs have been installed along many streams throughout the province featuring a yellow fish silhouette design by DFO with relevant information on protecting fish habitat. This sign standard is seen as highly effective due to its widespread adoption and prominent graphic. As part of ongoing maintenance and upgrades to the City's stream signage, staff are proposing that the DFO-based standard sign

be adopted and incorporated into the City's stream signage program. This is the subject of a separate report to the Environment Committee. The proposed standard includes the identification of active streamkeeping groups on the sign along with the City's logo. Staff feel the incorporation of these signs will help raise public awareness and encourage stream stewardship.

In addition to permanent stream name/ fish habitat signage, staff have in the past, coordinated the development of temporary signs for Streamkeepers to raise public awareness and protect significant streamside enhancement works. These efforts are expected to continue to the extent possible, however it is recognized that resources for this are limited and the coordinated environmental signage program discussed above is seen as a more comprehensive approach for stream stewardship signage.

Internet Website

The City currently has a website with a variety of environmental information including the identification of the Burnaby Streamkeepers program and the Waterways of Burnaby map. Environmental stewardship events are also posted on the City website. Based on the suggestions of Streamkeepers, it is proposed that staff work with Burnaby Streamkeepers to provide additional information for inclusion on the City's website such as the names and contacts of active streamkeeping groups as well as information on specific watersheds to help protect streams and encourage streamkeeping.

The BCIT Watershed Pledge Program is also developing a highly interactive website with information on environmentally responsible practices and resources to protect waterways.

2.1.4 Methods to Protect Streamside Areas

Streamkeepers identified the need to explore short and long term methods to protect streambanks by installing fences or other barriers in selected areas to prevent the introduction of garbage.

Staff support the need to protect streams from human impacts while facilitating access to aquatic areas in a sensitive manner where appropriate. The "Access Near Aquatic Areas" guide to sensitive planning, design and management published by DFO and the MOELP is seen as an excellent resource which generally reflects the approach staff employ in developing

strategies for managing the public in streamside areas. To this end, staff support working with Streamkeepers to jointly develop strategies for managing the public in specific streamside areas. Staff are currently working with Streamkeepers to this end to develop effective strategies to manage public access and enhance riparian areas along the proposed GVRD Greenway from Burnaby Mountain to the Brunette River as well as the proposed off-leash area along the dyke adjacent to Byrne Creek.

2.1.5 Independent Environmental Monitors on Construction Sites in Environmentally Sensitive Areas

Streamkeepers request that the City require independent environmental monitors on site during construction in environmentally sensitive areas to ensure that monitoring is being conducted in an impartial, unbiased manner.

The requirement of independent environmental monitors has increased in recent years due to an increased emphasis on streamside protection. Developments proposed adjacent to streamside areas typically require the approval of DFO and MOELP and are subject to the *Land Development Guidelines for the Protection of Aquatic Habitat*. In most cases, as part of these requirements, the senior environmental agencies require environmental monitors on-site and define criteria for monitors to adhere to. These requirements include independent reporting to senior environmental agencies and usually to the City.

As part of the it's sediment control requirements, the City requires that developers retain environmental monitors to inspect the construction site, obtain samples of discharge water and require corrective actions where applicable. A copy of the sample results and any corrective actions are forwarded to the City.

For significant City construction projects within an environmentally sensitive area, independent environmental monitors are retained to ensure the construction work is constructed in full compliance with the regulatory requirements.

Monitoring requirements by DFO and MOELP and the City include the ability for the Environmental Monitor to shut down construction in the event of non-compliance of environmental criteria.

2.1.6 Planned Developments Near Aquatic Areas

Streamkeepers identified the desire to be informed of proposed developments in specific watersheds and near riparian areas.

City planning processes such as the Official Community Plan (OCP), town centre plans, park management plans, community plans and integrated storm water management plans include meaningful public participation as part of the process. In the development of many of these plans, the input of streamkeeping and other environmental groups has been sought to enhance the City's understanding of specific areas. In addition, staff often consult with streamkeeping and other environmental groups to gain insightful environmental information with regard to specific developments and proposals. Staff will continue to seek input from these groups to this end. Agendas for council meetings as well as the Environment and Waste Management Committee are available to all members of the public through the Clerk's Department and also serve as a means of raising awareness of planning processes and proposed developments within Burnaby.

2.2 Issues Identified by Streamkeepers for Action in the Intermediate Term

2.2.1 Appointment of a Burnaby Streamkeeper to the Environment and Waste Management Committee

Streamkeepers identified the desire to appoint a member of Burnaby Streamkeepers to the Environment and Waste Management Committee so that streamkeeper viewpoints can be more effectively voiced throughout the broad range of issues the committee is required to examine.

The Environment and Waste Management Committee is an Official Committee of Council which addresses and makes recommendation regarding specific environmental issues referred by Council. The Committee includes 4 citizen representatives and 3 members of Council. Interdepartmental staff provide resources as directed by the Committee. Representation on the Committee is open to the public and citizen representatives are selected by Council. Members on the Committee represent a broad range of environmental experience including that of protecting waterways and streamkeeping. Presently, citizen representatives include: Mr. Bob Gunn of the BCIT - Burnaby Lake Systems Project and one of the coordinating partners of the Burnaby Streamkeepers Program; Mr. Al Grass, well-known naturalist and member of the Vancouver Natural History Society and the Burnaby Lake Park Association; Mr. Cameron Lipp, environmental communications and stewardship consultant; and Mr. Bob Anderson,

Professor of Communications at SFU and member of the Burnaby Mountain Community Corporation Board of Directors. Members of the Committee may participate for up to two terms of 3 years each. Requests for applications for new members to all Official Committees of Council are advertised through the local newspapers.

2.2.2. Policies about Conservation of Non-Porous Surfaces in Developments

Streamkeepers have requested that means of reducing non-porous surfaces from present levels be explored to ensure the viability of all Burnaby streams, particularly those that now support continuing fish populations.

Council has adopted the concept of storm water management alternatives for managing urban runoff control in the City. These alternatives include best management practices (BMPs) which work towards managing run-off while reducing environmental impacts to watersheds through means such as increased infiltration, biofiltration, detention and the use of permeable surfaces. Stormwater management plans developed for Byrne Creek, Hollis Creek and Stoney Creek watersheds have applied the Council adopted principles and advanced BMPs for implementation. Within the recently adopted Stoney Creek Stormwater Management Plan are key recommendations for maintaining the existing Effective Impervious Area (EIA) in the watershed within the 20 year vision with a proposed reduction in EIA in the 50 year vision. The City's OCP, recent Town Centre and Area plans include the incorporation of stormwater management alternatives. Staff are beginning to explore the potential for impervious area reductions with regard to specific zones and area plans.

A number of recent and proposed developments and City projects involve the incorporation of BMPs. These include: biofiltration and detention facilities at the Oaklands development, Burnaby Mountain High School, Slough Estates Business Park and Bridge Business Park as well as permeable parking surfaces (small areas only) and the reduction of impervious areas at Discovery Place High Technology Research Centre. A permeable parking area and the incorporation of a bioswale are proposed for the Habitat for Humanities housing development site while detention and infiltration facilities are anticipated at an industrial office project proposed on Eastlake Drive. Both of these sites are currently being rezoned.

In addition, under the Region's Liquid Waste Management Plan, a guide on best management practices is being developed and will be available for use by municipalities for better management of urban runoff.

2.2.3 Sediment Control Bylaw

Streamkeepers identified the need to adopt a sediment control bylaw in place of current sediment control guidelines which were seen to be ineffective.

Council, previously passed a motion requesting that staff explore the feasibility and advisability of developing a sediment control bylaw or enhanced sediment control guidelines to protect watercourses against the deleterious impacts associated with sediment discharges, particularly from construction sites. Staff have conducted some preliminary review and assessment with regard to the City's existing sediment control guidelines and other relevant guidelines and bylaws. Efforts have also been made to improve existing sediment control through additional technologies, increased monitoring and maintenance requirements as well as regular liaison and review of sediment control plans with DFO and MOELP. The City's sediment control guidelines are based on the *Land Development Guidelines for the Protection of Aquatic Habitat* and reflect those required by DFO and MOELP for development projects affecting aquatic areas.

In 1999 April, staff reported to the Environment and Waste Management Committee on the development of the Provincial Streamside Protection Policy Directives (SPPD) under the Fish Protection Act. Directives are currently being developed by the Province working with DFO and in consultation with local governments and members of the public and development community. The purpose of the directives is to protect riparian areas for new industrial, commercial and residential development through adopted municipal legislation. The City has been an active participant in the development of the SPPDs. As indicated in the adopted 1999 April staff report, measures associated with sediment control may be included as part of the SPPDs and it is recommended that staff await the outcome of this process prior to addressing the need for a separate sediment control bylaw. In the interim, staff feel that the City's sediment control guidelines are effective and are as rigorous as those of DFO and MOELP. Offences of illegal sediment discharge remain chargeable under the *Federal Fisheries Act*.

2.2.4 Training of City Staff to Work in Environmentally Sensitive Areas

Streamkeepers requested that City staff be trained to recognize environmentally sensitive streamside and habitat areas and how to work in them to minimize potential environmental impacts.

City staff are familiar with the City's adopted environmental policies and DFO and MOELP requirements and guidelines. Staff are made aware of the sensitivity of streamside and other ecologically significant areas through a variety of means including internal communications, information on appropriate construction and maintenance practices and participation in various workshops.

Staff are currently working with DFO and MOELP to develop an interdepartmental Environmental Review Committee (ERC) to review proposed projects and works in environmentally sensitive areas. An interim committee has been coordinated to review projects in this manner. The ERC will provide an opportunity for various departments to jointly review projects with senior environmental agencies and develop environmentally sensitive solutions while increasing awareness about sensitive areas and means of reducing impacts.

Also currently under development, is a Burnaby Watercourse Classification Map which identifies known open watercourses in the City and classifies them according to their significance for fish habitat. Once completed, this resource will assist staff in identifying watercourses in Burnaby including many formerly unmapped open channels and raise awareness of their relative sensitivities to guide development, operations and maintenance practices. Staff will be educated in this regard once the Watercourse Classification Map is finalized.

Through the Stoney Creek Storm Water Management Project steering committee, workshops are being planned for staff associated with the watershed including Burnaby, MOELP, DFO, BC Hydro and Trans Mountain Pipelines as well as for Streamkeepers in Burnaby, Coquitlam and Port Moody. These workshops are intended to provide an overview of storm water management principles and the key plan components. The workshops may serve as a model for future education programs on storm water management. The workshops are a joint effort of the cities of Burnaby, Coquitlam and Port Moody, GVRD staff, BCIT and the Stoney Creek Environment Committee.

2.3 Issues Identified by Streamkeepers Requiring Long Term Policies and Programs

2.3.1 City Storm Water Runoff Reduction Policy

Streamkeepers have requested that City adopt storm water runoff policies that include the collection of rainwater from non-porous surfaces onto grass

swales and revision to building codes to require roof run-off leaders be disconnected from the storm system to drain to landscaped areas.

As described in the previous section regarding the use of permeable surfaces (see 2.2.2), comprehensive efforts are currently being made to incorporate BMPs in projects to minimize the environmental impacts associated with development and increased run-off. The disconnection of roof leader drains are part of the best management approach, however have not been formally applied in a comprehensive manner in Burnaby. This is due in part to existing Building Code, Burnaby Building Bylaw and legal aspects. Presently, an on site drainage system (rock pit) may be approved in specific conditions provided it is supported with an engineer's design and Letters of Assurance.

Consistent with the recommendation of Streamkeepers, staff are beginning to explore the potential including legal, Building Code and site specific aspects associated with endorsing that roof leaders be disconnected from the City storm system on a voluntary basis where feasible.

2.3.2 Policy of Acquiring Environmentally Sensitive Lands

Streamkeepers have requested that the City adopt a policy of acquiring environmentally sensitive lands, particularly riparian areas which parallels its current policy regarding acquisitions for parkland.

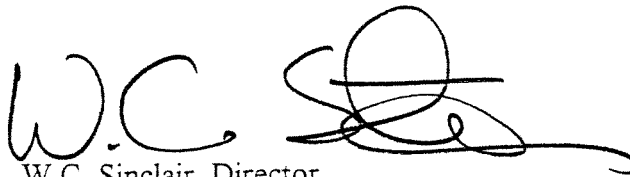
Burnaby is fortunate to have approximately 24% of its land area within parks and conservation areas, one of the largest open space areas in the region. This is due primarily to the City's comprehensive Park Acquisition Program and conservation area land assemblies. Included in these areas are the City's adopted Green Zone lands and Environmentally Sensitive Areas (ESAs). The City's adopted ESAs are linked into a network primarily through waterways and riparian areas. Recognizing the importance of protecting riparian areas to protect fish and terrestrial habitat, City acquisitions have incorporated streamside areas and continue to do so. Examples include the Brunette River conservation area, Still Creek conservation zone and ravine parks including: Byrne Creek, John Mathews Creek, Froggers Creek, Gray Creek, Kaymar Creek, Boundary Creek and Eagle Creek. The Burnaby Fraser Foreshore Park including the habitat enhancement lands currently under development, have also been the subject of major acquisitions. Based on the City's OCP and Park Acquisition Program, this approach of protecting environmentally sensitive areas through strategic park acquisitions is expected to continue.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The City of Burnaby supports Burnaby Streamkeepers and recognizes the significance of the contributions Streamkeepers make in protecting and enhancing waterways and sensitive aquatic habitat. This report outlines a number of current environmental policies, programs and initiatives which work towards protecting and enhancing waterways and riparian areas. Based on the input of Burnaby Streamkeepers, means for enhancing these initiatives through increased involvement with Streamkeepers are identified. It is proposed that staff continue to work with Burnaby Streamkeepers towards the enhanced protection of aquatic areas as outlined in this report.



for D.G. Stenson, Director
PLANNING AND BUILDING DEPARTMENT



W.C. Sinclair, Director
ENGINEERING DEPARTMENT



Kate Friars, Director
PARKS, RECREATION AND CULTURAL SERVICES

SH/dh/sa

cc. City Manager

