



**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, 23 APRIL 2008**

SUBJECT BOWKER CREEK URBAN WATERSHED RENEWAL INITIATIVE – 2007 ANNUAL REPORT

PURPOSE

To present the 2007 achievements of the Bowker Creek Urban Watershed Renewal Initiative (BCI).

BACKGROUND

Established in 2004, the BCI is a broad coalition of community, local government agencies and institutions working together to protect and enhance the ecological, social and economic health of the Bowker Creek watershed. The BCI works through a consensus-based steering committee to coordinate and implement actions required to achieve the goals of the Bowker Creek Watershed Management Plan, which was approved and adopted by the District of Saanich, City of Victoria, District of Oak Bay, Capital Regional District (CRD) and community groups in 2003.

The *Bowker Creek Urban Watershed Renewal Initiative 2007 Annual Report* (attached) is the fourth annual report on the progress of the initiative. It provides highlights on the projects, outreach activities and partnerships that BCI has sponsored or participated in during the period January to December 2007.

2007 Accomplishments

In 2007, the BCI focused on finishing the Master Drainage Plan (MDP), planning ahead for the Integrated Stormwater Management Plan (ISMP), conducting outreach activities, finalizing a map of potential greenways routes, restoration and monitoring. The main accomplishments summarized by goals are highlighted below:

Goal 1: Increase Awareness and Responsibility within the Bowker Creek Watershed

- The initiative's many activities led to a great deal of positive media coverage, including three articles in the local news chain and a feature in Monday Magazine.
- Installed channel marker signs. These signs mark the open sections of the creek throughout the watershed and raise awareness of the BCI.
- Initiated the Bowker Creek Memories video project, where Bowker events and interviews describing recollections of the creek were professionally videotaped for a future documentary.
- Showcased the watershed model and BCI display at various events and locations throughout the year.
- Participated in the 10th Annual Bowker Creek Clean Up and Rubber Duck Race. As in past years, this event was hosted by the Oak Bay High School Visions Environmental Club, with participation from The Friends of Bowker Creek Society, the Stream Team Society and the BCI.

- Presented information about Bowker Creek and the BCI to community groups, school groups and at conferences throughout the year. These activities included watershed tours for various groups, including a delegation from China.
- Hosted the first Bowker Creek CommuniTea in November 2007. The community was invited to join the initiative committee members for tea and snacks, and to make block prints for banners to be used in 2008.
- Met with Vancouver Island Health Authority and BC Hydro staff to communicate BCI priorities for their publicly owned lands next to Bowker Creek.

Goal 2: Manage Flows Effectively

- Completed the MDP in October 2007. This plan is the first phase of the ISMP for the Bowker Creek watershed and investigates watershed flooding issues during major rainfall events, including projections of increased flooding with climate change. Various technical options were proposed to address these issues. Final recommendations to address watershed flooding and other goals in the watershed management plan will be made in the completed ISMP.
- Created ISMP terms of reference. The ISMP will address all the goals and many of the objectives described in the Bowker Creek Watershed Management Plan and will consist of the collection and integration of ecological, social and economic information to develop recommendations from a triple-bottom-line perspective. The ISMP will provide essential information that will help to guide future development and infrastructure planning within the watershed. Implementation of the ISMP will result in decreased flooding and damage to private property and infrastructure, improved greenways, wildlife habitat, riparian habitat along the creek and public amenities.
- Secured funding for the ISMP from the Ministry of Community Services (\$35,000), along with pledges from initiative partners for a total of \$50,000. This will be sufficient to begin the ISMP in 2008.

Goal 3: Improve and Expand Public Areas, Natural Areas and Biodiversity in the Watershed

- Continued maintenance of two restoration demonstration sites along Bowker Creek: the 30 m of bioengineered bank alongside the allotment gardens in Oak Bay and the restored creek at St. Patrick's Elementary School. The restoration of both sites has been very successful – the vegetation is well established and growing vigorously and the bioengineered stream banks have withstood several high flow events without any erosion.
- Developed a restoration concept and made funding applications for invasive plant removal, native plant revegetation and a demonstration native plant garden for a creek-side lot owned by Oak Bay on Monteith Street.
- Finalized potential greenways routing and possible land acquisition requirements, in consultation with municipal staff and representatives on the BCI's Greenways subcommittee. This input from the BCI, which encourages a multi-use greenways corridor from the headwaters of Bowker Creek (at University of Victoria) to the ocean, was provided to the municipalities for consideration in their greenways planning processes.

Goal 4: Achieve and Maintain Acceptable Water Quality in the Watershed

- Continued monitoring of creek water quality and sediments by CRD staff confirmed that Bowker Creek continues to have poor water quality typical of urban creeks.
- Initiated a new form of creek monitoring using benthic invertebrates. These insects, worms and other creatures living in the stream bed provide a biological indicator that can be used to measure creek health over time, particularly water quality. This indicator can also be used to compare Bowker Creek to other areas.

Watershed Plan Implementation Coordinator Position (BCI Coordinator)

The BCI coordinator position is a part-time CRD position funded by the District of Oak Bay, City of Victoria and District of Saanich. All three municipalities have incorporated funding for this position into their 2008 budgets. CRD staff will hold discussions in 2008 with the three municipalities on long-term funding for the BCI and the position. The CRD supports this integrated watershed initiative by hosting the coordinator position. It is recommended that the CRD continue to support the BCI by continuing to host the BCI coordinator position, contingent upon ongoing municipal funding.

ALTERNATIVES

1. That the CRD continue to support the BCI by continuing to host the watershed plan implementation coordinator position, contingent on municipal funding for the position.
2. That the CRD not tie the watershed plan implementation coordinator position to municipal funding.

FINANCIAL IMPLICATIONS

Annual reporting is included in the core area stormwater quality annual budget.

SUMMARY/CONCLUSIONS

In 2007, the BCI made significant progress on improving the Bowker Creek watershed. Public awareness increased, helped by favourable media coverage. The momentum of this initiative continues to build and the steering committee is committed to short- and long-term actions that are critical to the successful achievement of the goals of the BCI. In 2008, the BCI will focus on completing the ISMP and obtaining external project funding.

The successes of the BCI are due to the fundraising efforts and support provided by the watershed plan implementation coordinator position and the coordination provided by the BCI Steering committee. The long-term vision and cooperation of the CRD, District of Saanich, City of Victoria and District of Oak Bay to establish and fund the coordinator position, and to support the BCI Steering committee, is critical to the continued success of this watershed-based initiative.

RECOMMENDATIONS

That the Core Area Liquid Waste Management committee:

1. receive the report, *Bowker Creek Urban Watershed Renewal Initiative 2007 Annual Report*, for information;
2. continue to support the Bowker Creek Initiative (BCI); and
3. recommend to the Board that the Capital Regional District continue to support the BCI by continuing to host the watershed plan implementation coordinator position, contingent on municipal funding for the position.

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Dwayne Kalynchuk, PEng
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Concurrence

Kelly Daniels
CAO Concurrence

COMMENTS

TD:cam
Attachment: 1



Bowker Creek Urban Watershed Renewal Initiative 2007 Annual Report



In 2007, community volunteers continued to come out in support of the Initiative's activities. These volunteers are removing weeds surrounding native vegetation established as part of a 2005 demonstration restoration project. PHOTO CREDIT: David Henrich.

Goals

The BCI is based on the four goals from the watershed plan:

- Goal 1:** Individuals, community and special interest groups, institutions, governments and businesses take responsibility for actions that affect the watershed.
- Goal 2:** Manage flows effectively.
- Goal 3:** Improve and expand public areas, natural areas, and biodiversity in the watershed.
- Goal 4:** Achieve and maintain acceptable water quality in the watershed.

The BCI Partners

District of Saanich, City of Victoria, District of Oak Bay, Friends of Bowker Creek Society, Capital Regional District, University of Victoria, Quadra Cedar Hill Community Association, Camosun Community Association, and members of the public.

Background

The Bowker Creek Urban Watershed Renewal Initiative (BCI) is a broad coalition of community, government, businesses and institutions working together to protect and enhance the ecological, social and economic health of the Bowker Creek watershed. The BCI was established in March 2004 following the completion and adoption of the Bowker Creek Watershed Management Plan by the District of Saanich, City of Victoria, District of Oak Bay, the Capital Regional District (CRD) and community groups.

The BCI is led by a consensus-based steering committee which is chaired by the CRD. The committee's role is to implement actions to achieve the goals of the watershed plan. Three subcommittees: Outreach, Integrated Stormwater Management Plan and Greenways, focus on the

key issues of the BCI. A part-time coordinator at the CRD initiates and manages projects, seeks funding and organizes the BCI. This position is funded by the partner municipalities of Saanich (59%), Victoria (23%) and Oak Bay (18%). This is the fourth annual report since the establishment of the BCI and provides an overview of progress to meet the objectives of the watershed plan.

Accomplishments

In 2007, significant progress was made towards implementing the Bowker Creek Watershed Management Plan. The Master Drainage Plan was completed – marking Phase 1 of an Integrated Stormwater Management Plan (ISMP) that will address all of the Initiative's goals. ISMP planning was initiated and partial funding was secured. The BCI's Outreach Subcommittee gained enthusiastic



new members and embarked upon new projects to raise the profile of the Initiative. The Initiative had a presence at various community events, presented information in several forums, and was given positive media coverage. The Greenways committee finalized the map of potential greenways routes, and this map was provided to the three municipal councils. Restoration and monitoring efforts were ongoing.

Master Drainage Plan and Integrated Stormwater Management Plan

The Master Drainage Plan was the first phase of an Integrated Stormwater Management Plan, and was completed in October 2007. Completing this plan was a major effort for the MDP subcommittee and for the consultants carrying out the work. The plan investigated watershed flooding issues during major rainfall events, and included projections of increased flooding with climate change. Various technical options were proposed to address these issues. Final recommendations to address watershed flooding will not be made until Phase 2 – the Integrated Stormwater Management Plan – is completed.

The ISMP will address all the goals and many of the objectives described in the Bowker Creek Watershed Management Plan. Significant progress has already been made with the engineering information contained in the MDP (Phase 1). The ISMP (Phase 2) will entail the collection and integration of ecological, social and economic information to come up with final recommendations from a ‘triple bottom line’ perspective. In 2007, a first draft of the ISMP terms of reference was created. The necessary hydrological modeling was also completed. In 2007, \$35,000 in funding was secured from the Ministry of Community Services, and Initiative partners pledged another \$15,000. This will be sufficient to begin the ISMP in 2008, and further funding will also be sought from other sources.

Outreach Activities

New members joined the Outreach Subcommittee, and worked hard to raise citizen awareness in 2007. Outreach efforts included:

- Bringing the watershed model and display to various events and locations throughout the year, including the Bowker Creek

Brushup, UVic’s Earthfest, the Conservation Connection Forum, the Camosun Community Association’s annual picnic, Al Gore’s presentation on climate change, the Greater Victoria Water Watch Conference, and the Saanich and Oak Bay municipal halls.

- Speaking to the Puget Sound Georgia Basin Research Conference, the Greater Victoria Water Watch Coalition conference, the Oak Bay Heritage Committee, St. Patrick’s Elementary School Board and Parent Advisory Council, and Oak Bay High School and Camosun College students.
- Giving watershed tours to a graduate class from Simon Fraser University, a delegation from China, the Council of Canadians (Victoria Chapter), and a Brazilian delegation from the World Fisheries Trust.
- Meeting with the Vancouver Island Health Authority and BC Hydro to communicate BCI priorities for these publicly owned lands next to Bowker Creek.
- Participating in the 10th Annual Bowker Creek Clean Up and Rubber Duck Race. As in past years, this event was hosted by The Oak Bay High School Visions Environmental Club, with participation from The Friends of Bowker Creek Society, the Stream Team Society and the Bowker Creek Initiative.



Pollution finds its way into Bowker Creek on a regular basis. Where the creek runs through Browning Park in Saanich, oil slicks are a common occurrence. Site investigations have not found a point source, and Saanich staff assume that pollution running off roads and driveways into the upstream piped sections is accumulating in this area. CRD staff will do more investigation in 2008. PHOTO CREDIT: Tanis Douglas.



**Bowker
Creek**
URBAN
WATERSHED
RENEWAL
INITIATIVE

- Participating in the annual Browning Park garbage clean-up, hosted by the Camosun Community Association.
- Initiating the Bowker Creek Memories video project, where Bowker events and interviews describing recollections of the creek were professionally video taped for a future documentary.
- Hosting the first Bowker Creek CommuniTea in November 2007. The community was invited to join the Initiative for tea and snacks and to make block prints for banners to be used in 2008. The watershed model and various displays were also on hand. This event was part of a lead-up to a major outreach event planned for June 2008.
- Installing channel marker signs near open sections of Bowker Creek.

The Initiative's many activities led to a great deal of positive media coverage, including three articles in the local News chain and a feature in Monday Magazine.



2007 was the first year that benthic invertebrates were collected in various creek locations, to test this method of measuring creek health. PHOTO CREDIT: Sara Stallard.

Greenways

The BCI Greenways Subcommittee met one last time to finalize the suggested greenways routing map. Copies of this map were formally sent to councils in the Districts of Saanich and Oak Bay and the City of Victoria and the map can be viewed at the following website:

www.bowkercreekinitiative.ca

Restoration and Monitoring

Volunteer maintenance of the 2005 restoration demonstration site at St Patrick's school continued. 2007 was the last year of irrigation and major weeding efforts for this successful project. The plants are now well established and the site withstands high flow events without any erosion. Volunteer maintenance was also done for the bioengineering work along the streambank at the Monteith Street community gardens. These structures are built from willow cuttings and are growing vigorously – achieving the aim of protecting the bank from erosion. The District of Saanich continued to use this same technique to stabilize streambanks near St. Patrick's Elementary School and near Browning Park at McRae Avenue. Including work done in previous years, Saanich has used this technique to stabilize a total of 127 linear meters of streambank.

Water quality monitoring continued throughout 2007. This sampling continues to confirm that Bowker Creek has poor water quality typical of urban creeks, and provides a baseline against which improvement can be measured. A new type of monitoring was initiated in fall 2007 with the collection of benthic invertebrates. These insects, worms and other creatures that live in the stream bed provide a biological indicator that can be used to measure creek health over time. This indicator can also be used to compare Bowker Creek to other areas.

More restoration work was planned for the lot owned by Oak Bay on Monteith Street. In 2007, funding applications were submitted to remove invasive species and plant native vegetation in the area not used by community gardeners.

Browning Park is one of few locations in the District of Saanich where the public can access the creek. In 2007, Saanich began a process to redesign Browning Park, and the Initiative provided input into creek restoration as part of these plans. More detailed park plans will be made in 2008 and the Initiative will participate to ensure the creek continues to benefit from Saanich's efforts.

2007 Funding

In 2007, funding was provided for the BCI through various sources. The municipalities of Saanich, Victoria and Oak Bay provided funding for the BCI Coordinator. Project funding is sought mainly from external sources and is also provided by Initiative partners.

Funding Source	Funding (\$)*	Item
Watershed Plan Coordinator		
District of Saanich	36,376	BCI Coordinator
City of Victoria	14,180	BCI Coordinator
District of Oak Bay	11,098	BCI Coordinator
Project Funding**		
Ministry of Community Services	35,000	Integrated Stormwater Management Plan (ISMP)
City of Victoria	5,000	ISMP
District of Saanich	5,000	ISMP
Capital Regional District	28,400	Outreach events, Administration, Master Drainage Plan and ISMP
TOTAL 2007	135,054	

*figures in this table do not include the value of municipal staff and volunteer time
 **master drainage plan funds received in previous years were expended in 2007

What's Next?

In 2008, the BCI will continue to implement activities designed to achieve the goals of the Bowker Creek Watershed Management Plan. These activities include:

Integrated Stormwater Management Plan

The terms of reference for the Integrated Stormwater Management Plan (Phase 2) will be finalized in early 2008. The ISMP Subcommittee will then proceed to fill the remaining data gaps



In 2007 the Outreach Subcommittee made contact with people who remembered Bowker Creek in earlier times. These memories will form part of the Bowker Stories documentary to be produced in 2008. This photo looks upstream towards Mt. Tolmie, where the creek runs in the field between the houses. PHOTO CREDIT: Amy Whitehead.

and initiate the required studies. Further funding will also be sought. This plan will likely be finalized in 2009, and will integrate information from the MDP (Phase 1). Once complete, it will provide direction in meeting all the Initiative's major goals, which include: helping groups and governments take responsibility for actions that affect the watershed; managing flows effectively; improving public areas, natural areas and biodiversity; and achieving acceptable water quality.

Outreach Activities

The Initiative will continue to raise awareness by sharing information with the public and by involving the community. A watershed pledge, allowing people to understand and take actions to help the watershed, will be developed in time for a launch at a major outreach event planned for June 14th, 2008. This event will include arts and theatre, displays, speakers, free food and tours. The video project will also be a major outreach focus.

The BCI coordinator and volunteers will continue to make public presentations and will bring the BCI display and watershed model to various community events. The Outreach Subcommittee and the Coordinator will work more closely with schools and universities to carry out projects to gather data and improve the health of Bowker Creek. All the various outreach projects and events will continue to raise the profile of the Initiative in the community.

Restoration and Monitoring

Oak Bay land on Monteith Street is the next target for a possible restoration project. If funding permits, the Initiative would like to cooperate with the District of Oak Bay to remove invasive species, plant native vegetation, and create a demonstration native plant garden and community space. Interested neighbours and citizens will be invited to participate. Monitoring and maintenance of the plants at the St. Patrick's Elementary School restoration site will continue. Other continuing activities include water quality and flow monitoring and analysis, and benthic invertebrate monitoring as a biological indicator of creek health.

Greenways

The greenways map provided to the three councils is an informational tool to support the municipalities' planning processes. In Saanich, greenways planning is underway with the Centennial Trails project, and the map will help Saanich make their planning decisions. ■

For more information visit: www.bowkercreekinitiative.ca or call the Bowker Creek Initiative Coordinator at (250) 360-3302.