

The Bowker Creek Blueprint

A 100-YEAR ACTION PLAN TO RESTORE THE BOWKER CREEK WATERSHED

RAIN TO RESOURCE WORKSHOP
OCTOBER, 2010

The watershed today



- Headwaters at U-Vic and north of McKenzie Avenue
- Discharges into Oak Bay
- three municipalities



Watershed

- Area ~ 1,020 hectares
- ~ 56% impervious
- Mostly clay soils
- ~ 30,000 residents

Main channel

- ~ 8 km long
- > 60% in culverts
- Hardened bottom and banks
- Open reaches largely non-functioning

Culverting and channelization



Flooding



Erosion



Vision: Bowker Creek Watershed plan



“The varied human uses and natural areas in the Bowker watershed are managed to minimize runoff and pollution, making Bowker Creek a healthy stream that supports habitat for native vegetation and wildlife, and to provide a community greenway that connects neighbourhoods”



Multijurisdictional Committee

- Saanich
- Victoria
- Oak Bay
- CRD
- University of Victoria
- Community Associations
 - Friends of Bowker Creek Society
 - Camosun CA
 - Quadra-Cedar Hill CA
 - North Jubilee CA
 - Oak Bay CA

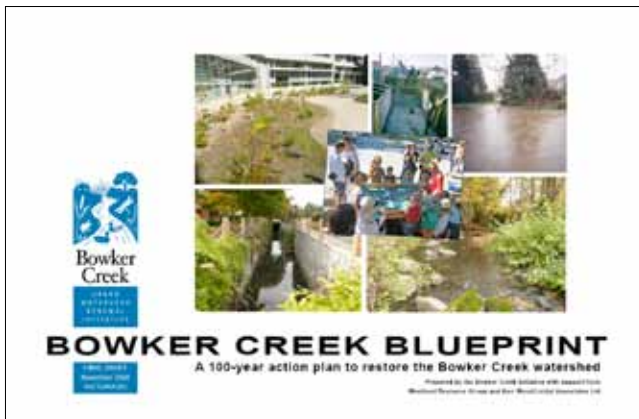
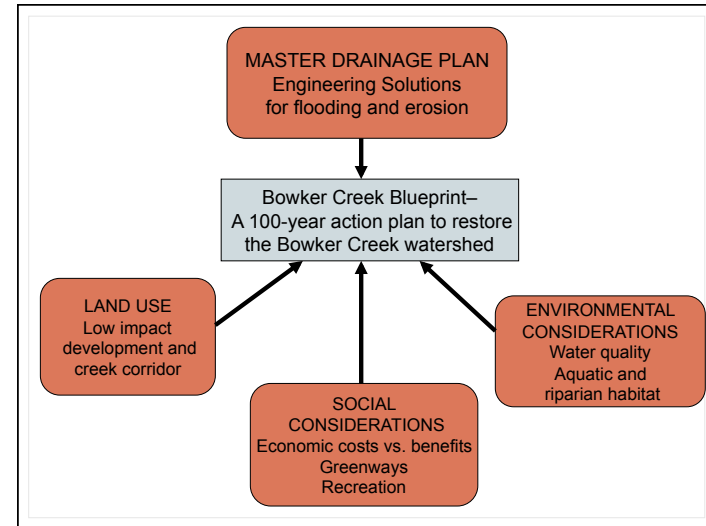


Subcommittees

- Ad Hoc
- Issue/Project Specific
- Steering Committee member
- Members of the public

Why do we need a blueprint?

- Details needed for municipalities to incorporate actions into their plans and budgets
- Directed change in the urban environment requires a solid plan over the long term



- Articulate a 100 year vision for Bowker Creek
- Recommend watershed management policy, planning and other stewardship actions
- Recommend site-specific actions for each creek section
- Provide support and information to municipalities and other land stewards

Watershed Management Actions - Summary

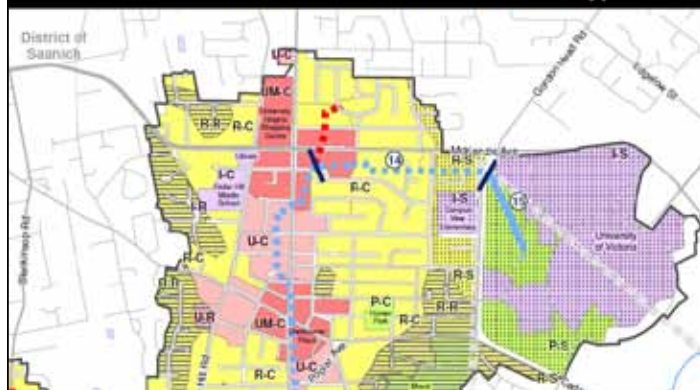
1. **Creek friendly practices wherever possible**
 - Low impact development approaches to manage rainwater runoff
 - Consider daylighting during redevelopment or with infrastructure upgrades
 - Ensure opportunities for greenways and creek restoration are considered when land is for sale or being redeveloped
 - Use municipal land to demonstrate watershed friendly approaches (native plants, raingardens, creek restoration, tree planting, no pesticides)

Low Impact Development

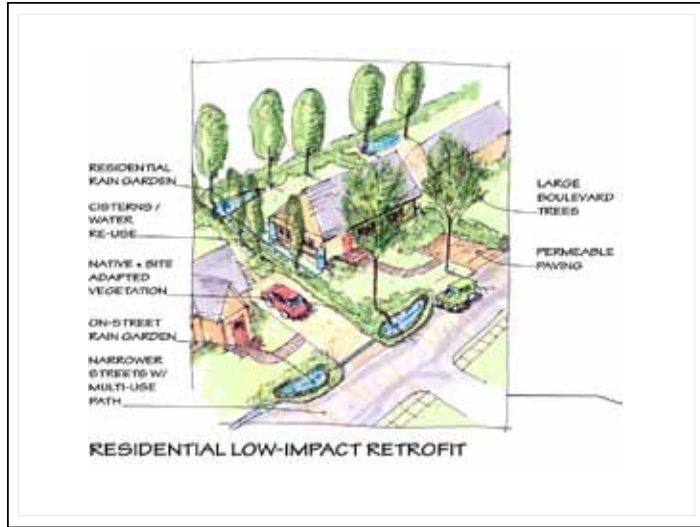
- **Benefits:**
 - Reduce inflow and infiltration (I&I)
 - Reduce flooding and erosion
 - Potentially negate need for new pipe infrastructure
 - Improve water quality
- **Practice:**
 - Rain gardens for detention/infiltration
 - Green streets (narrow, rain gardens, swales)
 - Permeable paving
 - Rainwater capture/retention
 - Green roofs

Land Use and Soils

Bowker Creek Watershed Land Uses and Soil Types



Rainwater/stormwater management feature	Appropriate land use						
	Institutional	Urban	Residential	Park/open space	Mall	Boulevard	Road
Downspout disconnect	X	X	X				
Harvesting and using roof runoff	X	X	X				
Raingardens	X	X	X	X	X	X	X
Infiltration basins / tree wells	X	X			X	X	
Detention ponds	X	X		X		X	
PerVIOUS pavement	X	X	X	X	X	X	X
Constructed wetlands	X	X		X	X	X	
Floodwater storage areas	X	X		X	X	X	
Green roofs	X	X	X		X		
Wide riparian buffer zones for filtration and flood storage	X	X	X	X	X	X	X
Maintenance and restoration of natural channels with floodplains	X	X	X	X	X	X	X
Plant and maintain trees	X	X	X	X	X	X	
Prevent soil compaction	X	X	X	X	X	X	
Uncompacted topsoil (30cm+) for lawns	X	X	X	X	X	X	
Swales instead of curb and gutters						X	
Street sweeping							X
Minimize road width							X



Watershed Management Actions - Summary

2. Effective impervious area requirements for new developments
3. Rainwater management in boulevards
4. Bowker Creek goals incorporated into municipal plans
5. Effective communication of Bowker Creek vision goals and actions

A perspective illustration of a commercial/urban street scene with various green infrastructure features. Labels include: BOULEVARD TREE PLANTING, NATURAL DRAINAGE SWALES, RAIN GARDENS/ CONSTRUCTED WETLANDS, VEGETATED SWALES, PARKING LOT RAIN GARDENS AND SWALES, PERMEABLE PAVING, RAIN WATER PLANTERS, and GREEN ROOFS. The title at the bottom is 'COMMERCIAL/INSTITUTIONAL/URBAN LOW-IMPACT DEVELOPMENT'.

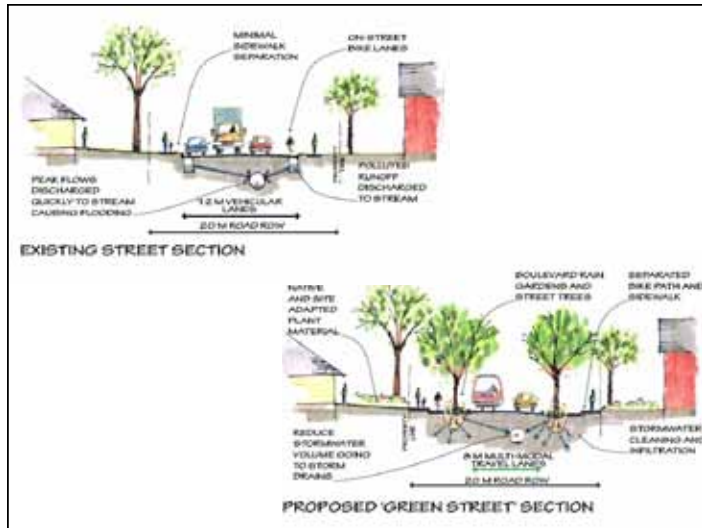
Watershed Management Actions - Summary

A map showing a street grid with highlighted greenways and land use planning. Labels include: SHILOH, BOWKER BLVD, GRAND BLVD, and PARK BLVD. The greenways are shown in blue and red lines.

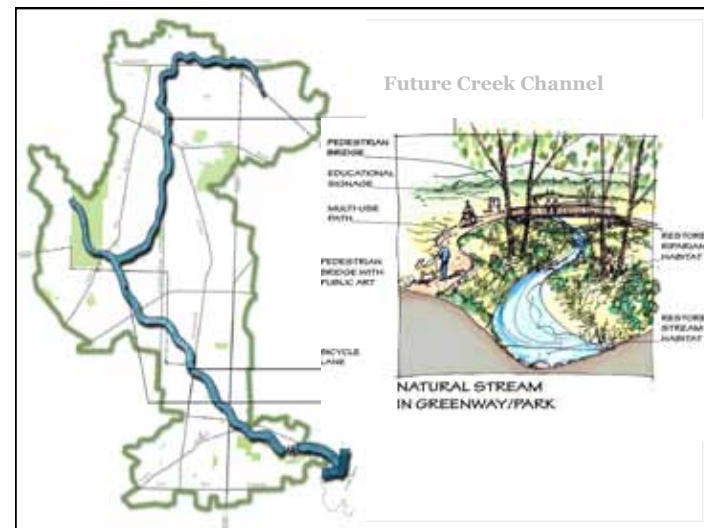
7. Plant trees and shrubs (urban forest)
8. Purchase and protect key land
9. Incorporate proposed greenways into land use planning
10. Include climate change adaptation and mitigation in all activities

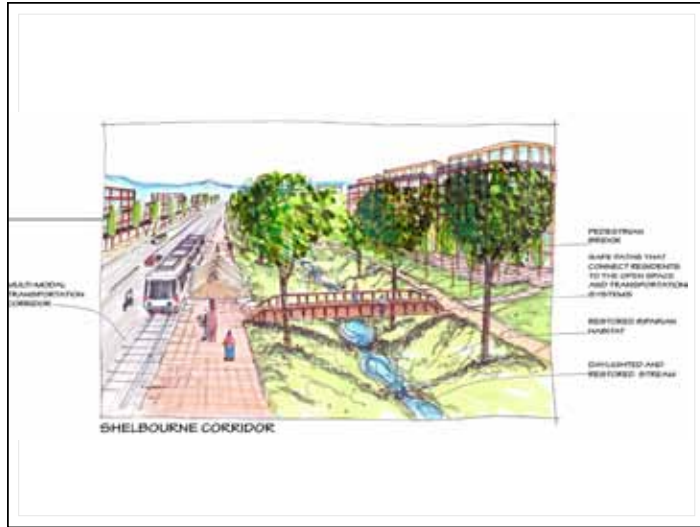
Green Streets

A map showing a network of green streets and greenways. Labels include: PARKS AND OPEN SPACES, GREEN STREETS, COMMERCIAL / INSTITUTIONAL + MULTI-PURPOSE PARLOWS, GREENWAYS, RESIDENTIAL, and PARKING LOT RAIN GARDENS AND SWALES.



- ### Reach Specific Actions
- Small to large efforts, varying time frames
 - Operational activities and opportunistic projects
 - Short term actions include invasive species removal and riparian restoration
 - Opportunistic / long term actions include:
 - Channel widening/increased floodplain, bank re-sloping and/or channel re-alignment
 - Creek daylighting
 - Greenway along creek corridor





Top 10 Actions for Short Term

1. Revise municipal plans to include Bowker Creek goals and actions – so we won't miss opportunities
2. Adopt effective impervious area requirements for new development
3. Remove specific invasive species that are not yet well established
4. Pilot project for locating and building a rain garden in each municipality
5. Urban Forest strategy in Oak Bay to complement those in Saanich & Victoria

Top 10 Actions for Short Term

6. Develop strategies to acquire key properties as they come available
7. Work with Oak Bay High School and Oak Bay Municipality to design and implement creek restoration at school and rec centre
10. Participate in Shelbourne Corridor Action Plan
11. Work with creek-side landowners between Trent and Pearl Streets to achieve the long term vision
12. Continue with restoration at Browning Park



Currents of Success

- Coordinator
- Staying on track and keeping focus
- Successful outreach efforts
- Engaging community
- Engagement of politicians



Hired a coordinator

- Cost for part time position cost shared by 3 municipalities – based on watershed area
 - Saanich – 59%
 - Victoria – 23%
 - Oak Bay – 18%
- Position is established and held at CRD



Stay focused on the big picture

- Management plan to guide us
- Four simple goals
- How does this help us achieve goals and vision?



Outreach Efforts

- It's not fluff!
- It's more than brochures and pamphlets!
- Key to success through awareness, engagement, and community building
- Subcommittee
- Get artists involved!



Watershed Model



Signage in the Watershed



Events



Communi-Teas





Engaging Schools



Engaging Institutions

- Royal Jubilee Hospital
- Hillside Mall
- Richmond School
- BC Hydro

- UVic
- Camosun College



Engaging politicians

- Regular updates to councils
 - Annual report
 - Results of major studies
- Involvement in workshops
- Outreach events (photo opps!)
- Watershed tours



Fun Events



Politicians Tour



Navigating Rough Waters



Letting go of ISMP template

- Not enough funding to complete study
- Too strategic – needed specific details
- Engineering centric
- Collective knowledge of committee, previous studies and reports
- External facilitator to help pull everything together



Reconnecting with Vision

- Got stuck in the details
- Heels dug in
- External Facilitator
 - Does everyone still believe in this vision?
 - What is working/not working?
 - Frank discussions about where people were getting frustrated



Partner Agreements

- Outlined for all members:
 - Roles
 - Constraints
 - What members would try to do
- Better understanding of what all partners were up against
- New commitment to look at how we could support each other to achieve the plan



Land Acquisition

- Acquisition through purchase or redevelopment
- Required in certain areas to achieve Watershed Management Plan Goals
- Long term, opportunistic process
- Needs to be incorporated into long term plans
- Confidential memo will be provided to municipalities regarding key addresses for long term acquisition



Articulating a time horizon

- Lots of big ticket items
- Staff uncomfortable about trying to steer through councils
- 100 years into title
- Staff instantly more comfortable
- Easy for councils to endorse



Questions???

