Water Sustainability Action Plan for British Columbia:

Framework for Building Partnerships

Developed by the

Water Sustainability Committee of the
British Columbia Water & Waste Association

in Partnership with the

British Columbia Ministry of Water, Land and Air Protection

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EXECUTIVE SUMMARY

Purpose and Scope

The main goal of the **Water Sustainability Action Plan for British Columbia** (i.e. the 'Action Plan') is to encourage province-wide implementation of fully integrated water sustainability policies, plans and programs. The Action Plan:

- Recognizes that the greatest impact on water, land and water resources occurs through our individual values, choices and behaviour.
- Promotes and facilitates sustainable approaches to water use, land use and water resource management *at all levels* – from the province to the household; *and in all sectors* – from domestic, resource, industrial and commercial, to recreational and ecosystem support uses.

The purpose of this document is to 'tell the Action Plan story' succinctly and clearly. The focus is on the framework for building partnerships because:

- The objective is to obtain funding for implementation of the initial Action Plan Elements.
- The document is intended to be a communication tool – that is, it articulates the vision and the desired outcomes for a 'watershed / landscape-based approach' to development.
- The target audience is comprised of those who share a vision for creating transformational change in the way water resources are valued and managed in British Columbia.

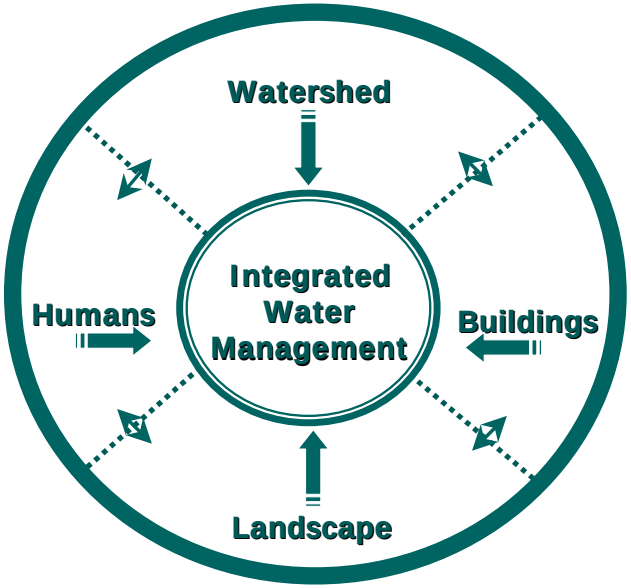
The Action Plan Elements are comprehensive in scope, ranging from 'governance' to 'site design'. Element selection also reflects a guiding philosophy to concentrate efforts in those areas where there is the will, the energy and the long-term commitment *to create change*. Future elements and success will build on the foundation provided by the initial Action Plan Elements.

Integrated Water Management

Integrated water management involves consideration of land, water, air and living organisms – including humans – as well as the interactions among them. Through partnerships, the Action Plan is:

- Forging links as conceptualized below;
- Developing a continuum of products, with policy at one end, and pragmatic applications/tools at the other end; and
- Promoting the watershed as a fundamental planning unit.

The Action Plan will use existing and emerging government policies, legislation and programs as fundamental starting points and will build on these.

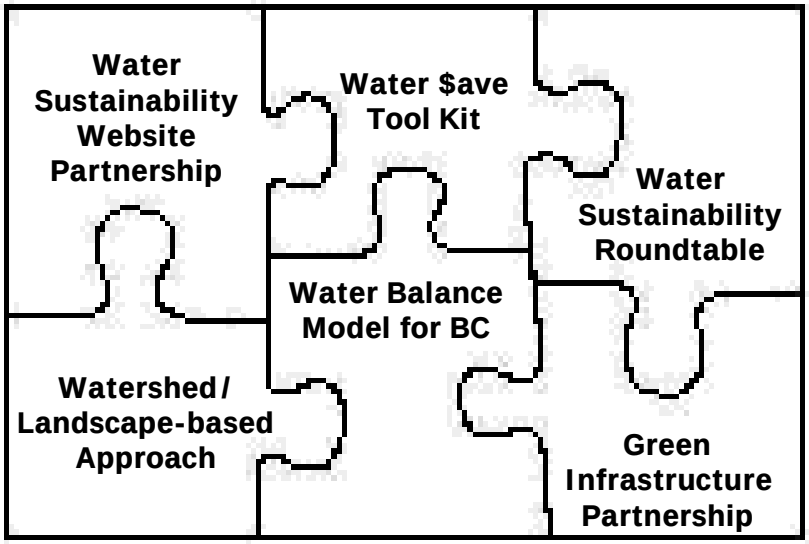


Action Plan Elements

Land use planning and water management practices are intertwined. For this reason, the intent of the Action Plan is to influence choices and encourage action by individuals and organizations - so that water resource stewardship will become an integral part of land use and daily living.

Partnerships hold the key to building broad-based support for improving water management practices, and for integration of water management with land use.

As illustrated by the graphic below, the Action Plan comprises six elements that holistically link water management with land use, development and resource production. The Action Plan has been developed as a shared responsibility. Its implementation will depend on financial support from both government and the private sector - using a business approach to demonstrate costs, savings and income generation.



Briefly, each Action Plan Element will achieve the following outcomes:

Water Sustainability Website Partnership: This centralized website will provide the complete story on integrated water management - *why*, *what*, *where* and *how*.

Water Save Took Kit for British Columbia: This tool will enable individuals and communities to achieve water conservation and water-use efficiency objectives.

Water Sustainability Roundtable: This dialogue will provide a starting point for provincial and partnership action, with an emphasis on water governance, policy and practices.

Green Infrastructure Partnership: This initiative will produce a 'best practice' *Model Subdivision Bylaw and Green Infrastructure Standards* for land development regulation.

Water Balance Model for British Columbia: This web-based evaluation tool will enable better land development decisions because it quantifies the watershed benefits resulting from implementing stormwater source controls at the site level.

Watershed/Landscape-Based Approach to Community Planning: This adaptable 10-step methodolgoy will facilitate planning with reference to watershed-based features so that resource, land use and community design decisions are made with an eye towards their potential impact on the watershed.

The Action Plan recognizes that numerous groups and organizations implicitly share a vision for integrated water management. Hence, over time it is envisioned that other elements will be added as momentum builds and support grows province-wide for fully integrated water sustainability policies, plans and programs – resulting in conservation and stewardship practices by BC's enterprises, institutions and in homes.

SECTION 1

Overview & Context

The drought, forest fires and floods that British Columbia experienced in 2003 have created a teachable moment for change in the way we view water in this province. Capitalizing on this opportunity, the purpose of the *Water Sustainability Action Plan for British Columbia* (hereinafter referred to as the 'Action Plan') is to promote and facilitate sustainable approaches to water use and water resource management:

- At all levels – from the province to the household; and
- In all sectors – from domestic, resource, industrial and commercial, to recreational and ecosystem support uses.

1.1 Influencing Choices

Sustainable communities are all about choices – choices that become reality very quickly, with lasting consequences. In the years ahead, much will depend on getting the choices right in British Columbia, especially in those communities that are experiencing growth and/or renewal.

Land use planning and water management practices are intertwined. For this reason, the intent of the Action Plan is to influence choices and encourage action by individuals and organizations - so that water resource stewardship will become an integral part of land use and daily living.

The term 'sustainability' is a lens for considering approaches that influence choices. This means that consideration will be given to environmental, socio-economic and governance factors (involving shared responsibility) when developing, advocating and implementing approaches to water use now and in the future.

1.2 Integrating Role

The Action Plan provides an umbrella for building partnerships and championing demonstration projects and processes that can inform Provincial policy through the shared responsibility model. The Action Plan products will represent a continuum, with policy at one end, and pragmatic applications / tools at the other end.

Through a partnership with the Ministry of Water, Land and Air Protection (MWLAP), the Water Sustainability Committee (hereinafter referred to as 'the WSC') has an integrating role in spearheading development of the Action Plan and collaborating with other organizations to create a lasting legacy.

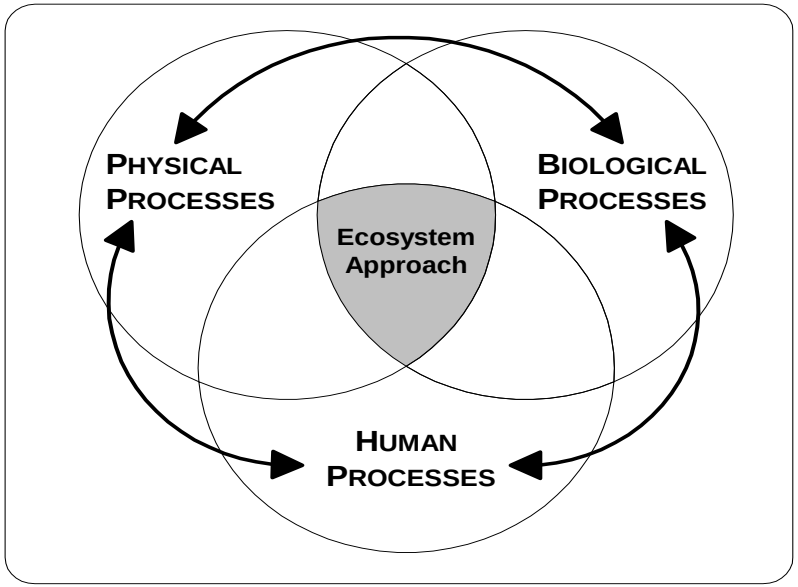
By drawing its members from a diverse range of disciplines and organizations, the WSC functions across the 'boundaries' and beyond the historical 'limits' or 'constraints' of the mandates, knowledge and expertise found in specific organizations.

1.3 Ecosystem Perspective

The Action Plan reflects a *watershed / landscape-based approach* to community planning and resource management. This approach recognizes that the greatest impact on water and water resources occurs through our individual values, choices and behaviour.

This approach enables consideration and application of an ecosystem perspective that links physical, biological and human perspectives as illustrated below:

Ecosystem Perspective



Cumulative Benefits: The pursuit of well-being for current and future generations is often characterized as thinking globally and acting locally. This means making decisions at the site and activity level that, when taken together, lead to *cumulative benefits* rather than to *cumulative impacts*.

Local governments have the primary power in this regard and the *watershed / landscape-based approach* is aimed at enabling them to sustain not only their own communities but, by doing so, contribute to broader interests as well.

Looking ahead, Section 5 elaborates on this holistic approach and outlines a framework that is described as 'planning with reference to watershed-based features'.

1.4 Building Blocks

Each of the following sections is a building block in developing the Action Plan storyline, and in establishing an Operational Framework for achieving full integration of water sustainability policies, plans and programs.

- Section 2 - Vision for Integrated Water Management
- Section 3 - Connecting the Dots
- Section 4 - Partnerships & Shared Responsibility
- Section 5 - Action Plan Elements – At a Critical Stage
- Section 6 - Implementation: Moving from Talk to Action

SECTION 2

Vision for Integrated Water Management

2.1 Context

This section introduces the Action Plan Vision, describes what we can achieve through partnerships, presents our guiding principles, and defines expected Action Plan outcomes.

Water use by people involves the extraction of water from a water body (surface or ground) for a variety of purposes (domestic, commercial and industrial) and the discharge of waste water to a receiving environment. The quality and quantity of water are critical factors in determining the suitability of a source for a given purpose.

An ecosystem perspective considers the impact human use will have on aquatic life forms and their environment.

2.2 Vision Statement

In promoting integrated and sustainable approaches, the guiding philosophy driving the Action Plan is captured by this Vision Statement –

*"**Stewardship of a limited and vital resource, actively supported by an aware and educated citizenry."***

Focus of Efforts: Having chosen an integrating role that involves influencing and facilitating action, the WSC is focusing its efforts under the umbrella of the Action Plan by:

- Advocating more sustainable approaches where these already exist, but are not being implemented.
- Developing, advocating and facilitating the use of new approaches where these are needed.
- Informing and training people to pursue these approaches.

2.3 Integration of Perspectives

Through a partnership architecture that define expectations, roles, responsibilities and deliverables, the Action Plan integrates perspectives and coordinates initiatives to advance the mission of each of the partners. This will:

- Achieve a more holistic approach to water management in British Columbia.
- Elevate the rank of the 'water dimension' as an element of community planning and land development.
- Promote change at four scales – region, watershed, neighbourhood and site (including buildings).
- Promote technological and value changes, including - professional, organizational and societal changes.

2.4 Action Plan Principles

The over-arching goal of the Action Plan is to encourage province-wide development and implementation of fully integrated water sustainability policies, plans and programs that will:

50-Year Vision

(a) Promote a watershed-based approach that manages the natural environment and the built environment as integrated components of the same watershed.

(b) Consider the health and well-being of communities in the context of a 50-year planning horizon.

(c) Focus on the social, economic, and environmental benefits of an integrated and sustainable approach to water resource management across the province.

Education

(d) Educate and influence policy makers, practitioners and stakeholders regarding the benefits of protecting and/or restoring the hydrologic cycle.

(e) Build support for a change in thinking in British Columbia that, over time, will result in water being at the heart of decision-making for human activities.

Systems Approach

(f) Facilitate the move toward a sustainable 'closed loop' approach to water resource management in British Columbia.

(g) Promote an ecosystem approach to protecting water resource health that recognizes that what the cell is to the body, the site is to the region.

Constant Improvement

(h) Promote adaptive management by:

- Using best available science to set performance objectives;
- Defining decision-making criteria and accountabilities;
- Defining operational responsibilities;
- Monitoring and reporting effectiveness in achieving outcomes; and,
- Revising performance objectives and approaches where necessary to achieve the intended outcomes.

2.5 Action Plan Outcomes

The Action Plan will generate products that will influence the development and use of voluntary and/or regulatory actions, financial incentives/disincentives, or any combination of these.

The Action Plan will use existing and emerging (where known) government policies, legislation and programs as fundamental starting points and will build on these.

SECTION 3

Connecting the Dots

The Action Plan recognizes that numerous groups and organizations implicitly share a vision for integrated water management, but operate in different worlds that rarely (if ever) intersect. As an integrator, the role of the WSC is to bring these groups and organizations together by:

- forming partnerships; and
- bringing initiatives under the umbrella of the Action Plan.

The historical context for the WSC role is briefly summarized in Appendix A.

Scales of Planning and Action: In facilitating partnerships and consolidating initiatives, a goal of the Action Plan is to promote the watershed as a fundamental planning unit.

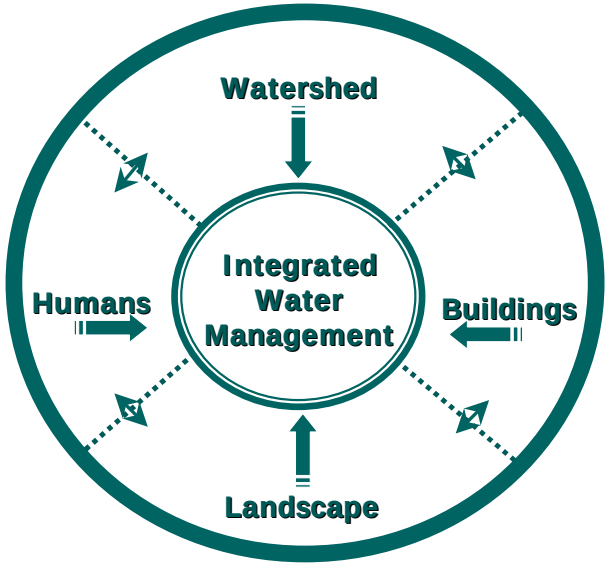
At an elementary level, connecting the dots encompasses indoor and outdoor uses of water. But it is much more than that. It involves consideration of air, land, water and living organisms – including humans – as well as the interactions among them. Hence, the goal is to determine what is needed to achieve integrated outcomes.

Through partnerships, the Action Plan is creating connections across four areas of endeavour (or 'worlds') as conceptualized opposite. This graphic has generic application throughout British Columbia, and is especially relevant to the urban regions that are experiencing rapid population growth.

Continuum of Water Use: The four categories in the outer ring of the graphic are intended to symbolize a continuum of water use. As introduced in Section 2, this continuum encompasses:

- Water use by people and communities (e.g. buildings and landscape); and
- Water use from an ecosystem perspective (e.g. watershed and landscape).

At the centre is 'integrated water management'. This represents the complete range of Action Plan products, from policy at one end to pragmatic tools at the other.



SECTION 4

Partnerships & Shared Responsibility

This section describes the partnership architecture, introduces the current partners and defines the breadth of roles the WSC is playing, and provides an overview of strategic initiatives that are under the umbrella of the Action Plan.

In the urban environment especially, actions at the site and/or household level can have either cumulative *benefits* or cumulative *impacts* that are measurable at the neighbourhood, watershed or regional scales. For this reason, the site (household) is the cornerstone of integrated water management.

Partnerships hold the key to building broad-based support for improving water management practices, and for integration of water management with land use. This section presents examples of partnerships.

4.1 Partnership Architecture

Through signing of Partnership Protocols with other organizations, the WSC is building a 'partnership architecture' that solidifies commitment to achieving practical outcomes under the umbrella of the Action Plan.

It is the breadth of these partnerships that enables the WSC to fulfil its integrating role and connect the dots to link humans, watershed, landscape and buildings. These partnerships have spawned a number of Action Plan Elements that are examined in more detail in Section 5.

Creating a Living Legacy: These practical outcomes will result in progress in promoting the set of Action Plan Principles introduced in Section 2 under these four categories:

- 50-Year Vision
- Education
- Systems Approach
- Constant Improvement

The principal partnership for development of the Action Plan is the one between the WSC and the Province. This provides context for the integrating role. Supporting partnerships provide the means for crossing boundaries to reach different target groups or audiences.

As an integrator, the WSC serves different and varied roles in different partnerships. The shared vision is to create a living legacy by advancing development and implementation of a fully integrated Action Plan. This requires

- integration of perspectives,
- coordination of initiatives, and
- participation in reciprocal advisory capacities

to achieve the mission of each partner.

Reaching Other Audiences: A benefit in consolidating initiatives through partnerships is efficiencies of funding. This will help utilize resources most effectively at the local level where there is the best return on investment in effort.

Partnerships with other organizations will enable the WSC to cross boundaries to communicate the Action Plan messaging to a diverse set of target audiences not normally reached by water management initiatives. The primary focus of most of these partnerships is on outreach and education.

4.2 Breadth of Strategic Partnerships

To advance development and implementation of a fully integrated Action Plan, the WSC is promoting a number of strategic partnerships. These early initiatives are categorized under three 'threads' to reflect the breadth of roles that the WSC is playing. These threads are:

- **Thread One:** Initiator – where the WSC is the vehicle for direct action.
- **Thread Two:** Collaborator –where the WSC is the vehicle provider for others.
- **Thread Three:** Educator – where the WSC spans boundaries as the connector of initiatives or is an education facilitator.

Refer to Section 5 for details of the various partnerships.

4.3 Thread One – Initiator

The WSC is the vehicle for direct action for:

- The Water Sustainability Website Partnership; and
- The Water Sustainability Roundtable.

Water Sustainability Website Partnership: The WSC is spearheading a website initiative that it envisions will:

- Evolve into the "Water Portal for British Columbia".
- Be sponsored and funded by a number of partners.
- Be interactive.

Water Sustainability Roundtable: The WSC is exploring holding a roundtable dialogue on water sustainability that will provide a starting point for provincial action, with an emphasis on water governance and policy.

4.4 Thread Two - Collaborator

The WSC is the vehicle provider for:

- The Water $ave Tool Kit for British Columbia; and
- The Green Infrastructure Partnership

Water $ave Tool Kit: The Water Sustainability Website will be the primary communication tool for the *Water $ave Tool Kit for British Columbia* - another partnership initiative of MWLAP and the WSC. This initiative was launched in November 2003 by conducting a working session with a 'provincial focus group' to identify the information needs of stakeholders.

Green Infrastructure Partnership: The Partnership is a consortium of four organizations that share a vision for developing and implementing a *Model Subdivision Bylaw and Green Infrastructure Standards* that will present a 'best practice' summary for land development regulation. The four partners are:

- BCWWA Water Sustainability Committee
- Municipal Master Construction Document Association
- West Coast Environmental Law Research Foundation
- BC Ministry of Community, Aboriginal and Women's Services

4.5 Thread Three – Educator

The WSC and the Real Estate Foundation of British Columbia (REFBC) have a mutual goal to span boundaries and influence practitioners to become more informed and more responsible. This goal is being accomplished through partnerships with:

- The Water Balance Model for British Columbia
- Smart Growth on the Ground
- The EcoDesign Resources Society
- The Rivershed Society of British Columbia
- The Nature of Cities Initiative

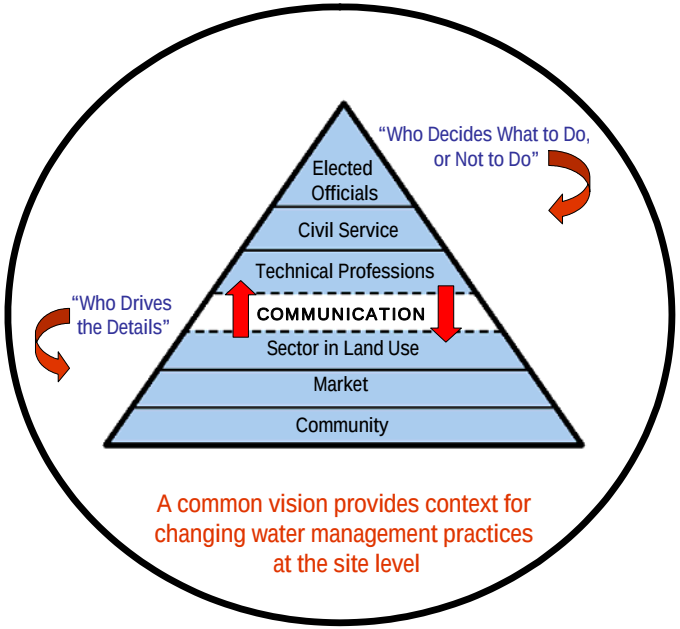
Real Estate Foundation of British Columbia: The REFBC www.realestatefoundation.com is a non-profit corporation enabled under the Real Estate Act and charged with providing financial support for non-profit endeavour addressing land use concerns in British Columbia.

The emphasis is on education. The mission is to use its resources for the benefit of British Columbians by supporting efforts that improve all aspects of land use and real estate practice. (Note: "Improve" means promote responsible land use; "responsible" means informed and accountable.)

The graphic opposite conceptualizes the framework for an outreach and continuing education program. The triangle symbolizes the decision process. The REFBC and WSC developed this communication tool collaboratively to illustrate what is involved in communicating across boundaries to build support for a shared vision.

The maximum freedom of decision exists at the top level, of course, when no decisions have yet been made and the issue is one of establishing the social objectives of integrated water management, and of formulating appropriate policies for their achievement.

The triangle is divided into two parts to mark the distinction between those who decide what to do, and those who drive the details once a policy decision is made. The top and bottom parts represent the normal domains for the WSC and REFBC, respectively. Through education and communication, the purpose of the partnership is to bring the parts together to move from talk to action in changing water management practices at the site (household) level.



Smart Growth on the Ground: This is a joint initiative of University of British Columbia's Centre for Landscape Research, SmartGrowth BC, and the Real Estate Institute of BC; and has received substantial funding from the REFBC. Through partnerships with municipalities, *Smart Growth on the Ground* www.sgog.bc.ca has embarked on a multi-year, multi-project initiative to transform sustainable community design and construction in British Columbia from being the exception to being the norm.

Water Balance Model for BC: The Water Balance Model www.waterbalance.ca is an Internet-based evaluation and decision support tool developed by an Inter-Governmental Partnership as an extension of *Stormwater Planning: A Guidebook for British Columbia*. It serves three needs:

- Users can evaluate *how* - and by *how much* - stormwater source controls and landscaping solutions will reduce runoff volume under a variety of land use, soil and climatic conditions.
- Developers can test the feasibility and affordability of land development scenarios that strive to *mimic the natural water balance* – by getting stormwater runoff into the ground and keeping it out of pipes.
- Local governments can fulfil legal obligations and commitments pursuant to the stormwater component of the BC Liquid Waste Management Planning process.

The long-term goal of the Inter-Governmental Partnership and the REFBC is that use of the Water Balance Model will become standard practice for land development decisions throughout British Columbia.

EcoDesign Resource Society: The EDRS is a not-for-profit organization promoting sustainability consistent ('green') design, planning and development practices through research, education and communication. The mission of the society www.vcn.bc.ca/edrs is to assist the public and the design, building and manufacturing sectors to make informed, sustainability-supportive and responsible choices through a range of activities.

Rivershed Society of British Columbia: The society is a non-profit charitable organization that works with dozens of organizations throughout the Fraser River Basin and British Columbia. The mission of the Rivershed Society www.rivershed.bc.ca is to facilitate the dialogue through which individuals create the conditions necessary for them to make sustainable lifestyle choices. The Society is dedicated to improving environmental literacy in BC and building stewardship capacity.

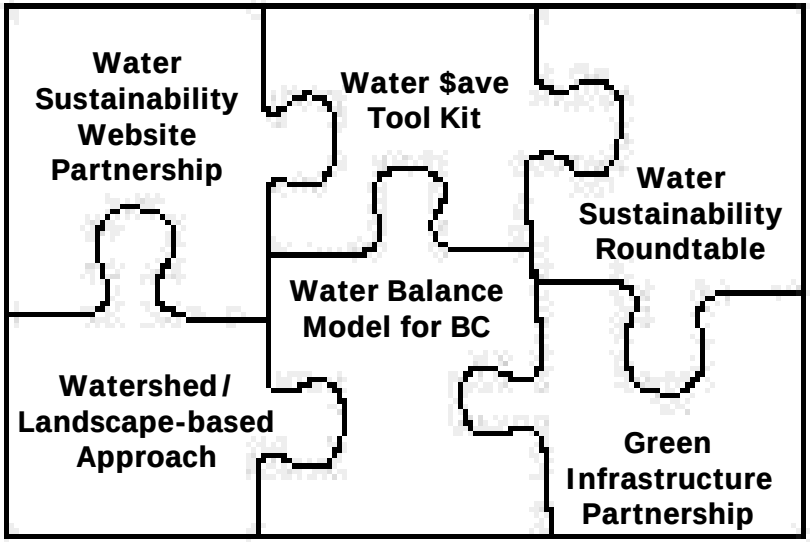
The Nature of Cities Initiative: This an outreach and education initiative for municipalities in the Georgia Basin, and is being delivered by the Evergreen Foundation www.evergreen.ca, a national non-profit environmental organization with a mandate to bring nature back to our cities. The Nature of Cities project supports policy and program change that better protects and restores natural green spaces while increasing community involvement in local stewardship.

SECTION 5

Action Plan Elements – At a Critical Stage

This section elaborates on the strategic initiative introduced previously, describes desired outcomes, and presents budget information. The next level of detail will be the individual business plans and/or work plans that will flow from this operational plan.

The Action Plan presently comprises six elements that holistically link water management with land use, development and resource production. These elements are in the critical early stages of development and – as described in this section – require funding for implementation.



Building on a Solid Foundation: Over time the WSC envisions that other elements will be added as momentum builds and support grows province-wide for fully integrated water sustainability policies, plans and programs – resulting in conservation and stewardship practices by BC's enterprises, institutions and in homes.

The Action Plan has been developed as a shared responsibility. Its implementation will depend on financial support from both government and the private sector - using a business approach to demonstrate costs, savings and income generation. Significantly, the Real Estate Foundation of BC is a prime example of a funding organization that has already stepped up to the plate to finance emerging grass-roots initiatives that have provincial relevance.

5.1 Water Sustainability Website Partnership

The Water Sustainability Website is the key to the communications strategy for the Action Plan. Also, it will connect the six elements to provide the complete story on integrated water management - *why*, *what*, *where* and *how*.

To achieve the vision for a state-of-the-art website that will evolve into the "Water Portal for British Columbia", the website design will be attentive to ease-of-navigation and will focus on content and user interactivity. The portal will:

- Publicize case studies, success stories, and lessons learned from partnership initiatives.
- Present information in different ways to different audiences (i.e. cascading from elected officials through to community groups).
- Provide for both synchronous and asynchronous communication among partners, members, visitors and other interested parties.
- Create a web of relationships across initiatives, scales (i.e. region, watershed, neighbourhood, site/building), and regions of British Columbia (e.g. Vancouver Island, Lower Mainland, Okanagan).

The program for portal development and evolution comprises four stages as described below. Preliminary cost estimates are provided for the first two stages. The analogy for website construction is a house, with the Action Plan elements being 'rooms' within the 'portal house'.

STAGE & SCOPE	BUDGET
Stage 1 (Immediate) – Prepare the Blueprint: Define the scope of work, including the technology architecture that will fulfil the four objectives listed above and ensure future flexibility for portal evolution and enhancement. The website will serve three functions: (1) information source – available directly on-site, and navigate off-site, (2) link to other initiative; (3) allow users to interact.	$ 10,000
Stage 2 (Near Term; within the first year) – Frame and Build: Frame and build each room of the 'portal house'. Design for 'room additions' for each of the six elements that presently comprise the Action Plan. Initially, the portal house will have six rooms: reception area; media room; general resources; initiatives (i.e. elements); the Tool Kit; and the WSC room.	$100,000
Stage 3 (Medium Term; within 3 years) – Enhance: Add dynamic features that result in a state-of-the-art website for electronic communication (e.g. discussion forums) and seamless inter-connection of the doorways to the six elements. Build out rooms as required.	
Stage 4 (Long Term) – Expand: Build out and add new rooms to house new initiatives that may emerge as the Action Plan builds momentum and support grows for water sustainability policies, plans and programs.	

5.2 Water $ave Tool Kit for BC

The Water Sustainability Website will be the primary communication tool for the *Water $ave Tool Kit* (hereinafter referred to as 'the Tool Kit'). The scope of this initiative is summarized as follows:

- Initially, the Tool Kit will offer a range of on-the-ground measures and approaches that will enable individuals and communities to achieve water conservation and water-use efficiency objectives.
- Ultimately, the Tool Kit will evolve into a 'living document' that tracks progress and trends throughout British Columbia, shares lessons learned and highlights successes.

Cascading Relationship: The relationship between the Action Plan and the Tool Kit is cascading – the Action Plan provides a strategic framework for integration of water management with land use, while the Tool Kit has a water conservation focus because it will:

- Re-evaluate water conservation efforts in British Columbia.
- Highlight success stories.
- Identify gaps, barriers and opportunities.
- Identify further steps that need to be taken by public, private and voluntary sectors to protect and conserve water supplies.

Purpose of Provincial Focus Group: The focus group session was conducted to guarantee the Tool Kit's success – that it:

- Meet the information-gathering and -dissemination needs of the Province and stakeholders throughout British Columbia.
- Provide meaningful input to development and implementation of the Action Plan, as well as the Drought Management Action Plan that is being spearheaded by the Ministry of Sustainable Resource Management.

The focus group session also fulfilled three objectives for the Action Plan:

- Formally launch the Action Plan.
- Share and validate the vision for "demonstration projects informing Provincial policy through the shared responsibility model".
- Identify additional "pilots" and "partnerships" that may come under the Action Plan umbrella.

Refer to Appendix B for details of the *Focus Group Findings* under four categories:

- Water Conservation Challenges and Solutions
- Water Sustainability Action Plan
- Water $ave Tool Kit
- Water Conservation Considerations

Focus Group Suggestions for Tool Kit: Breakout groups were asked to brainstorm a series of questions related to achieving the following objectives for the Tool Kit:

- Identify how to maximize participation in the revaluation (survey) of conservation efforts in BC; and
- Identify how to present findings and other information (e.g. success stories, future actions) in a meaningful way that will be useful to all stakeholders.

A consistent theme when the breakout groups reported back was the need for a Tool Kit website. This core finding has provided the impetus for linking the Tool Kit to the Water Sustainability Website Partnership.

Participants suggested findings be presented on a centralized website that allows for quick and easy reference and cross-reference. Information should be presented by region and sector and include an executive summary and visuals such as charts and graphs.

The Tool Kit is intended to promote conservation by sharing BC success stories. Again, participants suggested using a centralized website to publicize conservation success stories. Other recommended tools include press releases, newsletters and workshops.

Another mandate of the Tool Kit is to identify conservation gaps, barriers and opportunities. Yet again, participants recommended a centralized website. They also emphasized that to be effective, the website must:

- be continuously maintained and updated to provide fresh information;
- provide opportunities for dialogue (e.g. discussion groups devoted to specific topics)
- provide opportunities for quick and easy referencing (e.g. FAQs, bulletin boards)
- provide references and links to written material (e.g. studies, reports)
- present information by sector; and
- include useable databases.

The final mandate of the Tool Kit is to identify further steps that need to be taken by public, private and voluntary sectors to conserve water supplies. Participants suggested that information could be gathered via surveys, open houses and workshops with community groups, and shared through the centralized website. They cautioned that ‘one size does not fit all’, and emphasized that programs would have to be tailored to fit the wants and needs of specific interest groups.

In responding to the question regarding the format for presentation of the Tool Kit, every breakout group identified a centralized website as its primary preference, with CDs and binders being available on request.

5.3 Water Sustainability Roundtable

The WSC is exploring holding a 'roundtable dialogue on water sustainability', either in late 2004 or early in 2005. The intent is that this would provide a starting point for provincial and partnership action, with an emphasis on water governance, policy and leading practices - including those which build on BC's environmental technology services and manufacturing sectors. The proposed title for this initiative is:

Leadership and Innovation for
Water Sustainability
A Roundtable Dialogue on Meeting the Challenges

The words in the title of this initiative have been carefully chosen to convey key points about the scope and content of a roundtable dialogue on water sustainability. These key points are intended as high level expression of the goals for this dialogue:

Leadership	Everyone makes decisions by consciously or sub-consciously weighing options. Leadership requires making choices that consider personal and others' wellbeing. Building leadership capacity throughout society is a key to sustainable decision-making.
Innovation	Starts with invention and commitment to carry through to application. Simply having an answer to a question, solution for a problem or resolution of an issue that falls short of on-the-ground delivery is insufficient.
Water	This is the topic and it is open to discussion in all manifestations.
Sustainability	Involves moving step by step from a *take-make-waste* approach to a *borrow-use-return* eco-effectiveness approach that sustains natural capital and generates current and inter-generational social and economic well-being. Early adopters are moving away from disaggregated approaches towards new integrated approaches.
Roundtable	The dialogue is intended to be inclusive, involving persons representing government and civil society organizations, the private sector, professional, research, educational and personal interests. Sustainability is everyone's responsibility – engaging people in capacity building will make it so.
Dialogue	Involves exploration and determination of not just the "what to do", but also the "ways and means" (governance approaches) of achieving water sustainability. Simply having a single purpose an answer to a question or a solution to a focused problem may not be sufficient if these answers and solutions generate unacceptable side effects.
Challenges	Although at the end of this list, defining the challenges with respect to water sustainability should be the starting point. What are these? Who is involved, etc? These questions will be given early attention in discussions leading to a decision to hold a roundtable dialogue.

Achieving Critical Mass: The over-arching goal of the roundtable is to achieve critical mass such that the idea of 'integrated water management' takes off – and ultimately becomes 'mainstream'. Because the Action Plan promotes technological and value changes, moving this innovative idea to the point of take-off is of vital importance.

The roundtable would provide a strategic platform for advancing the six Action Plan elements, identifying related priorities, and promoting awareness of other complementary initiatives. The unifying theme would be 'moving from policy to action'. The roundtable would also be a celebration of success. Presenters would be people who have taken the initiative:

- to lead,
- to focus on basic issues,
- to make fundamental changes in perspective and practice, and
- to deliver more sustainable results.

The strategy for reaching critical mass involves a five-step process as highlighted below. Order-of-magnitude budget estimates are also presented.

STEP & SCOPE	BUDGETS
Step One (Define the Job): Vet the idea with key external interested persons who may be interested in supporting and participating in the dialogue. After that, the desired outcomes are: ✓ A clear statement of roundtable dialogue goals and objectives. ✓ Initial statements regarding scope and timing as well as potential participants and support. ✓ Formation of a roundtable steering committee that is supported by a paid program coordinator	$ 15,000
Step Two (Develop the Business Plan): The program coordinator will work with the steering committee to establish working groups to take on responsibility for providing program content. Develop the program outline and a cost-recovery plan. Obtain grants.	$25,000
Step Three (Organize the Logistics): Hire a conference planner to work with the program coordinator and carry out the non-technical functions that will ensure the success of the event.	$30,000
Step Four (Develop the Technical Program): Develop the program elements that will enable the roundtable dialogue to be a transformational event, such that it will provide the 'take-off' for integrated water management.	$40,000
Step Five (Host the Event):	$50,000
BUDGET GRAND TOTAL	$16 0,000

5.4 Green Infrastructure Partnership

Green infrastructure refers to the ecological process, both natural and engineered, that are the foundation for health and growth in communities. Municipalities are returning to using the green infrastructure as an integral part of how development occurs because it is often less costly than hard infrastructure, and also offers aesthetic, environmental, health and recreational benefits.

The mission of the Green Infrastructure Partnership is to develop a ***Model Subdivision Bylaw and Green Infrastructure Standards*** that will consist of:

- **A Front End** – typical bylaw definitions and legal / planning content.
- **Technical Content** – consisting of references to *MMCD Design Guidelines and Construction Standards,* including a *Green Infrastructure Supplementary Specification.*
- **Decision Support Tools** – consisting of the MMCD's *CrossCheck* contract management software, the *Water Balance Model for BC*, and an instrument to be developed by the WCEL to explain when and how to consider using the Green Infrastructure Standards.

The Model Subdivision Bylaw and Green Infrastructure Standards will present a 'best practice' summary for land development regulation. The model bylaw will be presented for voluntary adoption or use by individual municipalities.

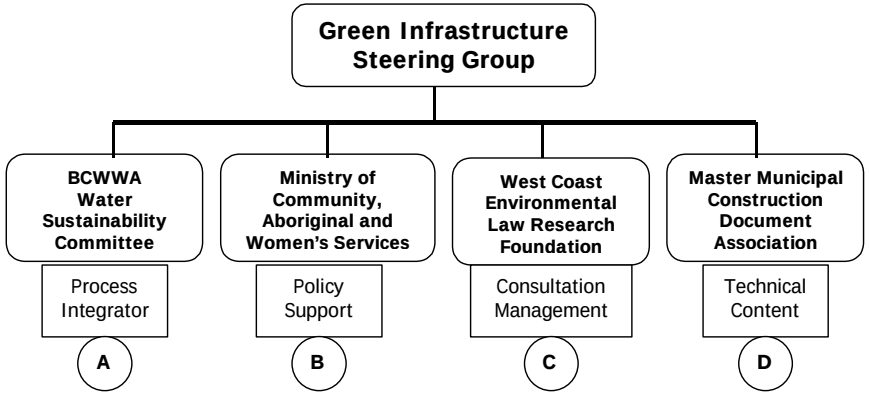
The model bylaw and/or the green infrastructure standards:

- Could apply to all land development and municipal servicing projects.
- Will address environmental interests, including fisheries and habitat interests.
- Will provide for green infrastructure servicing techniques.
- Will promote more affordable housing and public works servicing.
- Will promote sustainable approaches to water resource management.
- Would provide for secure agreement to expedited agency approvals and permits, for those designing and building according to agency endorsed selective MMCD design and construction documents.
- Would be supported by training programs and best management practice tools.
- Have the potential to become recognized nationally as a 'best management' approach to the provision of more affordable land development and public works servicing.

Partnership Strengths: The strength that the MMCD brings to the Partnership is that the MMCD Association represents municipalities, contractors and the consulting industry. This has resulted in the MMCD quickly becoming the 'document of choice' for those involved in the construction of municipal infrastructure projects. During the development of the original construction document, the MMCD had hoped to reflect sustainability principles in construction practices. The Green Infrastructure Partnership has created the opportunity to achieve that objective.

The Green Infrastructure Partnership is also a logical extension of the recent work of the WCEL in developing a Smart Bylaws Guide, and the efforts of the Inter-Governmental Partnership in developing the Water Balance Model for BC. The initiative provides the next layer of detail in creating change at the neighbourhood and site levels.

Steering Group: The organization chart for the Green Infrastructure Partnership is presented below. Each member of the steering group will be responsible for a 'working group'.



Preliminary Budgets: The roles of the working groups and order-of-magnitude estimates of the anticipated costs by general category of work effort are summarized below.

WORKING GROUPS & ROLES	BUDGETS
A = WCS Process Integrator Working Group: Will facilitate/integrate/communicate the technical aspects of the project by providing the linkages between technical and other groups; and will deliver an outreach and continuing education program.	$ 90,000
B = MCAWS Policy Support Working Group: Will coordinate provincial ministries, and provide guidance on provincial policy matters.	
C = WCEL Consultation Management Working Group: Will manage the definition of 'green infrastructure' at the front-end of the process, and will draft the model bylaw.	$ 82,000
D = MMCD Technical Content Working Group: Through its committee structure, the MMCD will provide the resources to manage the technical aspects of the project.	$120,000
BUDGET GRAND TOTAL	$292,000

5.5 Water Balance Model for BC

The Water Balance Model is a prime illustration of how a 'grass-roots' initiative can quickly move from talk to action when there is a shared vision, commitment and energy. Launched in July 2002 as an extension of *Stormwater Planning: A Guidebook for British Columbia*, the Inter-Governmental Partnership (IGP) has exceeded expectations by successfully implementing a web-based tool less than 12 months after commencing Phase 1 of a multi-year development program.

The model is the foundation for an integrated approach to watershed protection and land development. It quantifies the benefits that result at a watershed scale by reducing stormwater runoff volume at the site level. It creates an understanding of *how*, and *how well*, actions at the site level would be expected to meet watershed performance targets under a variety of land use, soil and climate conditions.

The Water Balance Model is more than a tool. It is about a way of thinking. It is also a practical application of how to achieve incremental progress towards sustainability. Furthermore, the model demonstrates how to adapt best practices to conditions specific to a locality or region, and add to provincial and regional knowledge of innovative technology and best practices. It is envisioned that the Water Balance Model will be used by:

- Local Governments – for public consultation
- Planners and Engineers – for setting performance targets
- Developers and their Consultants – to test scenarios
- Environmental Agencies – to monitor indicators

Through partnerships, the IGP is proceeding with an *Outreach and Continuing Education Program (OCEP)* that is designed to build broad-based support for changes in land development practices. OCEP has interchangeable modules that are tailored for different target audiences in order to:

- Foster a more holistic approach to land use and water management in BC.
- Elevate the 'water balance' as an element of community planning.
- Promote change at four scales – region, watershed, neighbourhood and site.
- Facilitate technological and value changes.

Implementation of OCEP is going well. The IGP is succeeding in raising awareness and generating enthusiasm for what can be potentially accomplished via application of the Water Balance Model.

Building on the early momentum, the IGP is also proceeding with a 3-Year Plan for model evolution that is organized under four categories as listed below for the purposes of establishing priorities and obtaining funding:

ENHANCEMENT CATEGORY	BUDGETS
Category A - Overall Usability:	$200,000
Category B – Case Studies and Calibration/Comparison:	$ 90,000
Category C – Graphical User Interface:	$ 45,000
Category D – Hydrology Engine:	$140,000
BUDGET GRAND TOTAL	$475,000

5.6 Watershed / Landscape-Based Approach to Community Planning

The *Watershed / Landscape-Based Approach to Community Planning* (hereinafter referred to as "WLBA") is a process that involves 3 levels of effort and 3 scales of attention. It is intended as a 'planning tool'. Refer to Appendix C for details of the approach and its application.

Objectives: In its simplest expression a watershed / landscape-based approach is aimed at the:

- Protection of people and property from natural hazards.
- Protection and conservation of self-sustaining ecosystems.
- Continuation and growth of resource-based economic activity.
- Provision of an affordable, sustainable and maintainable infrastructure.

Figure 1 is reproduced from Appendix C. It provides the conceptual framework for the WLBA. It illustrates how analyses and assessments at the watershed level set the stage for sub-watershed level strategies that are implemented at the site level.

Precedent: *Stormwater Planning: A Guidebook for British Columbia* is a prime application of the watershed / landscape-based approach. In the context of the Guidebook, watershed / landscape-based planning means that resource, land use, and community design decisions are made with an eye towards their potential impact on the watershed or drainage catchment. Therefore, what happens at the scale of the individual parcel and street affects what happens at the watershed scale.

3 Levels of Effort and 3 Scales of Attention: This three-level/scale approach calls for the integration of information at each level before moving to the next level.

- Level 1 identifies conditions such as the presence and effect of physical constraints to urban development and/or environmental features and functions.
- Level 2 involves developing a comprehensive strategy that considers effective and efficient implementation approaches.
- Level 3 involves implementation and performance monitoring.

Levels and Scales of Watershed/Landscape-based Planning

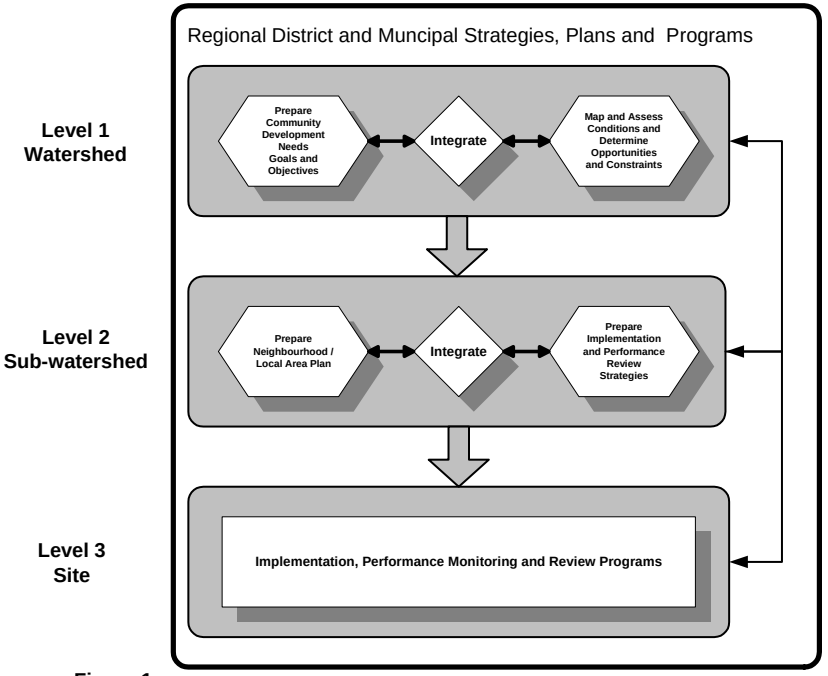


Figure 1

Frame of Reference: In general terms, the watershed / landscape-based approach:

- Operates within the context of existing regional and municipality-wide strategies such as the regional growth strategy and official community plans.
- Is informed by sector-focused strategies such as integrated stormwater management plans (i.e. the Guidebook application).
- Will inform the updating of existing community plans and regional strategies, as watershed/landscape-based strategies are completed.
- May involve inter-municipal cooperation where watersheds or drainage areas do not coincide with local government boundaries.

Drivers for Action: The watershed / landscape-based approach involves '*planning with reference to watershed-based features*'. For the Stormwater Guidebook example, and in the context of land use change, the drivers for action leading to implementation of 'integrated solutions' are either:

- A flooding problem that is intolerable and therefore needs to be solved.
- A high-value ecological resource that is threatened and therefore needs protection.

If the right people with the right knowledge are involved right at the start in an interdisciplinary roundtable process, a 'knowledge-based' approach will be both time-efficient and cost-effective in developing 'integrated solutions'.

Governance Principles: Putting WLBA into practice involves a 10-step methodology that is founded on four generally applicable governance principles:

- **Principle #1:** Transparent, open and engaging processes are pursued throughout each step to ensure full communication among decision makers, decision advisors, formal stakeholders, interested organizations as well as the interested and affected public.
- **Principle #2:** People who live in each community are encouraged to participate to the greatest extent possible in finding planning and management solutions that address broad through to local considerations.
- **Principle #3:** Before decisions are made, land use and development proposals and potential implementation strategies generated throughout the process are subject to multiple accounts assessments coupled with ways and means strategies.
- **Principle #4:** Intergovernmental partnerships are encouraged to address the range and complementary nature of government interests, jurisdictions, mandates and programs associated with watershed/landscape based approaches to community planning. These should involve the use of cooperation agreements to provide information, prepare plans and resolve disputes as well as implementation agreements to achieve plan results through the complementary use of government mandates.

10-Step Methodology: Figure 2 is also reproduced from Appendix C. It illustrates the 10-step methodology for putting the WLBA into practice.

Each step builds on the preceding step or steps. Appendix C contains detailed information for each of these steps under the headings:

- *Purpose*
- *Principles*
- *Considerations Checklist*
- *Outcomes*

Readers will be able to readily determine what is useful and relevant, and can easily adapt the approach to local conditions. In short, the 10-step methodology is a planning tool, not a guideline or prescription.

Step 4 embodies integrated water management. In particular, Step 4.4 encompasses potable water as well as water used for agricultural and industrial processes.

Key Messages: An important message is that planning and implementation involves cooperation among all orders of government as well as the non-government and private sectors.

Achieving desired results at the site and activity levels also requires support from individuals, which in turn calls for engaging people both in the development of strategies and the use of a range of voluntary, incentive, public investment and regulatory tools.

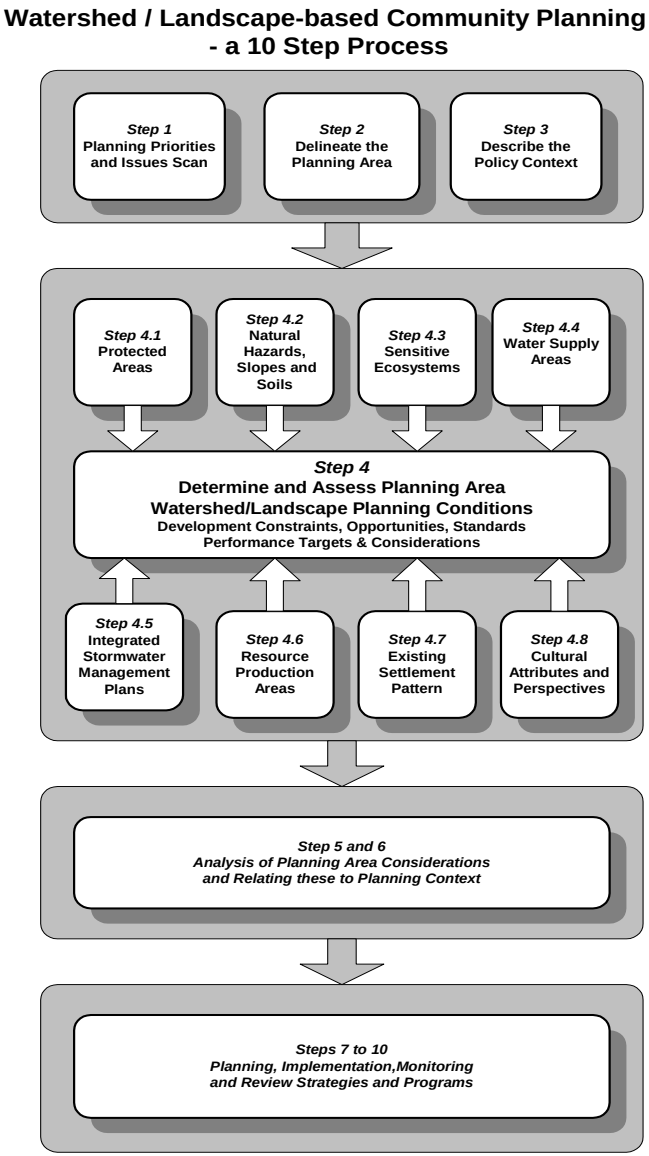


Figure 2

SECTION 6

Implementation: Moving from Talk to Action

This section provides a perspective on what has been accomplished so far in developing the Action Plan, underscores the need for funding to implement the Action Plan Elements, and identifies next steps and a timeline to advance the implementation process.

The Action Plan has taken shape in a matter of months as a result of 'connecting the dots' and creating the 'partnership architecture'. The Kelowna focus group session in November 2003 that launched the Action Plan was a defining moment.

Circulation of this framework document in draft form has facilitated exploratory meetings with prospective funders. Those meetings have established that there is an appetite for promoting water stewardship and implementing 'integrated water management'.

The Action Plan is now in a critical make-or-break phase. A secure flow of funding is needed to maintain momentum. Otherwise, the Action Plan Elements are at risk of stalling.

6.1 Measuring Progress

A frame of reference for the Action Plan is provided by the following guiding philosophy – measure progress in advancing an initiative by the distance travelled, rather than the distance remaining to be travelled to reach the end goal.

Perception is reality: The Action Plan was an idea that has become real to stakeholders as a result of the process that created this framework document. As an outcome of partnership-building, the focus has shifted:

- From asking - *"what will the Action Plan look like?"*
- To defining - *"how we will implement each Action Plan Element"*

This shift in thinking is a significant accomplishment in a very short period of time. Considerable enthusiasm and momentum for Action Plan Elements have been created. But for the most part we are still in the talking phase.

6.2 Bridging the Gap

Bridging the gap between talk and action requires that four critical factors be in alignment:

- Stakeholder Commitment – to take action.
- A Champion – to provide energy and organizational drive.
- Trust – between individuals, between government and non-governmental organizations, and between levels of government.
- Funding – to underwrite the consensus process and develop the products.

There is growing commitment and trust, and the Action Plan has a Program Coordinator. But sustained core funding for the coordinator function and guaranteed project funding for the individual Action Plan Elements are not yet secured.

6.3 Priorities and Next Steps

Money is tight. Pooling of resources is the only way to fund the individual Action Plan Elements. This places the onus on cementing partnerships. That process takes time and effort. This underscores the importance of having sustained core funding to provide the glue for the Action Plan.

Priorities: Firstly, and in terms of overall priorities:

- **Priority #1** - match different prospective funders to individual Action Plan Elements, recognizing that most funders may only be willing or able to financially support a single Action Plan Element.
- **Priority #2** – in the context of 'shared responsibility', secure core funding from government to provide the glue for the Action Plan during the critical transition period.

Second, the Action Plan Elements have equally high priorities for funding. They depend on each other for success. This is illustrated by the following examples of interdependence:

- The *Tool Kit* and the *Website* go hand-in-glove. The *Website* is the delivery vehicle for the *Tool Kit*. Conversely, the *Tool Kit* is the driver for the *Website*.
- The *Roundtable* holds the key to raising the public profile of the Action Plan as a whole plus drawing attention to the synergy of the individual Action Plan Elements. It would also provide a platform for promoting the *Watershed / Landscape-Based Approach*.
- The *Watershed / Landscape-Based Approach* and the *Water Balance Model* are closely linked because the Water Balance Model is a practical application of how to translate a way of thinking into a functional tool.
- The *Water Balance Model* and the *Green Infrastructure Partnership* are also closely linked. The Water Balance Model demonstrates ***what*** needs to be done differently on development sites to create a greener community. The *Model Servicing Bylaw and Green Infrastructure Standards* will provide the details of ***how*** to do it on-the-ground.

Next Steps: In terms of next steps, the immediate focus is on the two initiatives where the WSC is the 'vehicle for direct action':

- **Water Sustainability Website Partnership** – It is essential that the Website be operational once the Tool Kit is ready in a matter of months. Time is therefore of the essence to 'develop the blueprint' and fund an implementation plan (Stage 1).
- **Water Sustainability Roundtable** – The process leading up to the Roundtable will evolve the Action Plan to the next level of detail. The target for all the Roundtable elements being in place is approximately 12 months from now. Time is therefore of the essence to 'define the job' and secure commitments to the desired outcome (Step One). The consensus process that is the prelude to the actual 'Roundtable event' will set the stage for provincial and partnership action to achieve water sustainability.

In terms of initiatives where the WSC is a 'vehicle provider for others', the next steps in moving forward with the **Green Infrastructure Partnership** include firming up roles and responsibilities, developing the detailed work plan, and identifying sources of funding.

6.4 Timeline for Action

The timeline for action comprises a set of focused objectives (i.e. desired outcomes) for each Action Plan Element. These objectives are itemized in the three tables that follow for the 3-month, 6-month and 12-month planning horizons. These objectives define what needs to be done to launch and/or advance each Action Plan Element.

An Evolving and Self-Sustaining Process: These objectives represent the beginning of a process that will continually renew itself every three months. This will involve looking ahead 3, 6 and 12 months to reassess and redefine the specific objectives, and make adjustments as needed. At the end of the first 12-month period, the goal is that all six Action Plan Elements will be well underway and on the road to being self-sustaining.

Action Plan Element	Objectives for the First 3-Months
Water Sustainability Website	1. Develop blueprint for 'Water Portal for BC' 2. Identify funding sources and partners 3. Form the 'Website Partnership'
Water Save Tool Kit for British Columbia	4. Carry out the provincial survey 5. Analyze the results of the survey 6. Identify funding sources for website delivery
Water Sustainability Roundtable	7. Establish the operational framework 8. Identify funding sources and partners 9. Initiate grant applications
Green Infrastructure Partnership	10. Establish the operational framework 11. Identify funding sources and partners 12. Initiate grant applications
Water Balance Model for BC	13. Deliver pilot training workshops 14. Increase the number of Partners 15. Identify partnerships for national funding
Watershed / Landscape Approach	16. Meet with GVRD Tech Advisory Committee 17. Define partnership protocol with GVRD 18. Promote application of the approach

Action Plan Element	Objectives for the Period from Month #4 through Month #6
Water Sustainability Website	19. Obtain funding and/or in-kind contributions 20. Begin framing the 'portal house' 21. Select the website server
Water Save Tool Kit for British Columbia	22. Obtain funding for website delivery 23. Form a 'Tool Kit Partnership' 24. Promote the Tool Kit
Water Sustainability Roundtable	25. Obtain funding for program development 26. Form a Steering Group 27. Define the Job
Green Infrastructure Partnership	28. Obtain start-up funding 29. Develop communication plan 30. Establish working groups
Water Balance Model for BC	31. Deliver 'fee-for-service' training workshops 32. Increase the number of Partners 33. Fund additional technical enhancements
Watershed / Landscape Approach	34. Formalize partnership protocol with GVRD 35. Promote application of the approach 36. Identify funding for outreach program

Action Plan Element	Objectives for the Period Month #7 through Month #12
Water Sustainability Website	37. Build the first rooms in the 'portal house' 38. Implement a management framework 39. Activate the 'Water Portal for BC'
Water Save Tool Kit for British Columbia	40. Build the 'Tool Kit room' in the portal house 41. Expand the 'Tool Kit Partnership' 42. Promote the Tool Kit
Water Sustainability Roundtable	43. Develop the business plan 44. Develop the technical content 45. Organize and publicize the roundtable event
Green Infrastructure Partnership	46. Obtain additional funding 47. Conduct focus group sessions 48. Define what 'green infrastructure' means
Water Balance Model for BC	49. Deliver 'fee-for-service' training workshops 50. Increase the number of Partners 51. Fund additional technical enhancements
Watershed / Landscape Approach	52. Obtain funding for outreach program 53. Promote application of the approach 54. Conduct focus group sessions

Establishing a Public Profile: The Water Sustainability Roundtable will be a 'flagship event' because the goal is to attract media attention and establish a public profile for the Action Plan as a whole, and for the individual Action Plan Elements. A key message will be that the Action Plan demonstrates what can be achieved through the 'shared responsibility model' when there is the will, the energy and the commitment to move from talk to action.

Appendix A

Historical Perspective

1. Background

In 2003 southern BC experienced a significant drought with many streams at or below historical low flow conditions. Results of a September 2003 survey of water purveyors show the extent of the problem:

- 2.2 million people impacted
- 84 water systems under stress
- 43 systems are expected to be under stress in Spring 2004

Water availability was considerably below normal in many communities, and there were water quality concerns, higher costs to purveyors, and restrictions on water use for consumers. The survey emphasizes the need for proactive drought management planning, with water conservation a key element.

The provincial government is working to provide a coordinated response. A deputy minister's committee has been formed to develop and implement a **Drought Management Action Plan**. One of the medium term tasks (by July 2004) is to prepare a **Water Conservation Tool Kit** identifying needed actions in partnership with public, private and voluntary sectors. This will provide direction for a longer-term (1 to 3 years) renewal of provincial water policy focusing on allocation and use.

The perception that BC has an inexhaustible supply of water has been hard to dispel, despite increasing evidence to the contrary. The demand for water in some areas (e.g., Okanagan) already exceeds the available supply. About 17% of BC's streams are at or near their capacity to meet both licenced withdrawals and in-stream needs under normal flow conditions. With climate change expected to depress "normal" flows and replenishment, water shortages can be expected to become more frequent and protracted, and water use conflicts more severe.

These emerging challenges (and related issues like ageing infrastructure, water pricing, and links between water availability and impacts on aquatic ecosystems and water quality) raise important questions about the adequacy of current water allocation policies and practices. Increasingly, water efficiency and conservation will become vital parts of water management efforts to sustain safe, reliable supplies of surface and groundwater.

2. Context

Over the last decade there have been several major policy initiatives for water efficiency and conservation, including:

- the 1993 Stewardship of the Water of BC,
- the 1998 Water Conservation Strategy for British Columbia
- the 1999 Freshwater Strategy for British Columbia,
- the 2002 Drinking Water Action Plan, and
- the 2003 Drought Management Action Plan.

The most comprehensive response to date was the September 1998 **Water Conservation Strategy** which provided goals, priorities and a roadmap for action. Its purpose was to develop and promote water conservation measures (covering both supply and demand management, and recognizing regional differences) that could be adopted by water purveyors, local governments and users throughout the province. The report identified 20 actions under 10 strategic directions covering:

- Public education and communication;
- Economic incentives (e.g., volume-based pricing or metering);
- Financial incentives (e.g., low interest loans, or rebates for installing water efficient devices);
- Municipal wastewaters initiatives and Liquid Waste Management Plans;
- "Water smart" or "green infrastructure" projects; and
- Regulatory measures such as watering restrictions and land use zoning

A **Water Use Efficiency Catalogue** complemented the Strategy**.** This was a compilation of water conservation initiatives underway or planned throughout BC together with the agency or sponsor of each initiative.

In October 1998, the Province of BC (former Ministries of Environment, Lands & Parks and Municipal Affairs), Environment Canada, and the BC Water and Waste Association (BCWWA) entered into a 3-year partnership agreement to promote implementation of the Water Conservation Strategy. The BCWWA's Water Use Efficiency Committee (renamed the Water Sustainability Committee in 2002) was given responsibility to coordinate and implement components detailed in the agreement, including:

- development of a monitoring and evaluation plan;
- monitoring and evaluation to assess the effectiveness of water use efficiency initiatives which were implemented; and,
- reporting of results.

In 2003, the Ministry of Water, Land and Air Protection entered into a partnership with the BCWWA Water Sustainability Committee (WSC) to develop the **Water Sustainability Action Plan for British Columbia**.

2. Chronology of Provincial Conservation Activities

Following is a chronological summary of major events and recommendations related to the Province's role in water conservation.

- The 1993 **Stewardship of the Water of BC** consultation series included a separate discussion paper on water conservation with 15 proposals for action.
- In 1994 the CCME released a national **Action Plan to Encourage Municipal Water Use Efficiency**.
- A **Water Conservation Strategy for British Columbia** was released in September 1998. Its goal was to develop and promote water conservation measures (covering both supply and demand management, and recognizing regional differences) that could be adopted by water purveyors, local governments and users throughout the province. The report identified 20 actions under 10 strategic directions.
- A **Water Use Efficiency Catalogue** was developed as part of the Water Conservation Strategy. It compiled water conservation activities and initiatives underway or planned throughout BC together with the agency or sponsor of each initiative.
- In October 1998, the BC Water and Waste Association (BCWWA), Environment Canada and the (former) Ministries of Environment, Lands & Parks (MELP) and Municipal Affairs entered into a 3-year **Partnership Agreement** to:
  - Communicate the Water Conservation Strategy;
  - Encourage water purveyors to incorporate demand side management into their water and wastewater supply planning and management;
  - Facilitate initiation of water audits for local governments to assess current practices and develop the most appropriate local water use efficiency strategies;
  - Collaborate with the Union of British Columbia Municipalities (UBCM) and other interested organizations and associations throughout the delivery phase of the strategy;
  - Provide assistance with respect to developing and implementing a water use efficiency program; and
  - Monitor the effectiveness of water use efficiency initiatives which were implemented.
- The December 1998 **Water Conservation Plumbing Regulation** set maximum flow rates and water consumption for fittings and fixtures under the *BC Plumbing Code*.
- The July 1999 **Municipal Sewage Regulation** supported water conservation efforts through requirements to recycle wastewater for non-potable uses.

- MELP's November 1999 **Freshwater Strategy for British Columbia** is an overview of accomplishments, future directions, key challenges and priority actions for water management in BC. Regarding water conservation, the Freshwater Strategy states: "*Water tends to be viewed as an endlessly abundant resource, a belief leading to wasteful usage which does not account for the cost of water supply, treatment and disposal. Water conservation measures include education, industry standards, and economic incentives to reduce waste and to ensure that water is appropriately valued as a good.*"
- In May 2000 MELP and the Canadian Water Resources Association (CWRA) jointly hosted a two day Freshwater Workshop that included a **Water Re-Use and Conservation Session**. The session identified water conservation challenges and successes and recommended a number of priority activities.
- An independent review panel was established in September 2001 to review and recommend ways to strengthen the ***Drinking Water Protection Act***. The panel's final report in February 2002 noted that the protection of drinking water quality is closely tied to water quantity (e.g., reduced consumption and waste could reduce the costs of water treatment). Among the report's recommendations were seven points directly focused on water use conservation and efficiency:
  - Implement a "Water-Smart" conservation program for provincial water conservation objectives and specific targets to encourage more efficient use of water, thereby lowering drinking water and wastewater treatment costs. The 1998 Water Conservation Strategy provides a good starting point.
  - Make financial or operational assistance to water systems conditional on the systems meeting provincial water use conservation objectives.
  - Ensure that Drinking Water Officer responsibilities cover drinking water conservation and promotion of provincial water conservation objectives.
  - Develop additional demand management tools and policies, similar to the requirement to review water use as a condition of granting a water licence.
  - Create public education and incentive programs to promote conservation efforts such as water metering, leak detection, line pressure reduction and drought-resistant landscaping (xeroscaping).
  - Audit water licences, including those that are not presently used and those that have not been used for a prescribed number of years. Use the authority of the Water Comptroller under the *Water Act* to revoke the unused licenses.
  - Introduce requirements to ensure new developments use water-efficient materials and technology (e.g., low flow toilets, shower heads and appliances).

- In 2003, the BCWWA Water Sustainability Committee embarked on a partnership with the Province and others to develop and implement an integrated Water Sustainability Action Plan for British Columbia. Draft terms of reference for the Water Sustainability Action Plan cover all aspects of water resource management and water use, including water conservation.

3. BCWWA Water Sustainability Committee

Founded in 1992 when the public was still asking "why do we need water conservation when it rains all the time?", the Water Sustainability Committee (WSC) of the BC Water & Waste Association has evolved over the past decade to reflect our changing times. During the 1990s, the committee membership primarily comprised municipal engineers. In its current incarnation, the WSC is a broad-based coalition of people who have diverse backgrounds and experience.

The WSC has a proven track record in providing grass-roots leadership and being an advocate for new approaches. Summarized below is a condensed history of the role that the WSC has played over the past decade:

- 1992 – Founded as the Water Conservation Committee
- 1994 – Renamed the Water Use Efficiency Committee
- 1994 through 1997 – Developed the British Columbia response to the *National Action Plan for Municipal Water Use Efficiency*, and implemented an annual program of transformational conferences that created the momentum to develop a provincial strategy
- 1997 – Partnered with the Province to produce *A Water Conservation Strategy for British Columbia* (hereinafter referred to as 'the Water Strategy').
- 1998 through 2001 – Partnered with the Province to promote implementation of the Water Strategy.
- 2002 – Restructured and renewed as the Water Sustainability Committee

In the 1990s, the WSC primarily comprised government representatives from:

- All levels – municipal, regional, provincial and federal.
- Water purveyors throughout southern British Columbia.
- Complete size range of municipalities – small (e.g. City of Rossland) to large (e.g. City of Vancouver).

In 2002, the WSC metamorphosed into a broad-based and informal coalition of 'catalysts for change' who have diverse backgrounds and experience in:

- Government organizations
- Non-government organizations
- The private sector
- Academia

The **Water Sustainability Action Plan for British Columbia** will build on what the WSC accomplished previously in partnering with the Province to develop *A Water Conservation Strategy for British Columbia*.

Appendix B

Provincial Focus Group Findings

Appendix C

A Watershed / Landscape-Based Approach to Community Planning