Photo courtesy of Kerry Dawson

A Guide to

WATER WISE LAND DEVELOPMENT

in the Comox Valley

It does not matter how far away you live or build from a creek, lake, bog or the ocean - you are in a watershed. The Comox Valley consists of 28 watersheds and several unnamed drainages. Another word for watershed is "catchment area" - a way to describe how rain and snow falling onto the land makes its way downhill into a watercourse, or flows underground, and eventually to the sea.

Each of us has a role to play to ensure these watersheds remain healthy for generations to come.

IN THIS GUIDE: Understand the Comox Valley's watershed management goals and learn about the range of initiatives that help get watershed health "right at the front end" including high level policy direction, specific development tools and tips on preparing a successful development application.

CITY OF COURTENAY

TOWN OF COMOX

Village of Cumberland
Incorporated 1898

comox valley landtrust

Comox Valley
REGIONAL DISTRICT

TimberWest

A SHARED RESPONSIBILITY

Every local government has to manage the raindrops that fall on it. The four local governments in the Comox Valley are striving for consistent application of outcome-oriented actions that will reduce financial and environmental risk, improve watershed health and fulfil regulatory objectives.

Photo courtesy of Kerry Dawson

A VALLEY-WIDE VISION

"The Comox Valley will continue to evolve as a region of distinct, well-connected and well-designed urban and rural communities. As stewards of the environment, local governments, the K'ómoks First Nation, public agencies, residents, businesses and community and non-governmental organizations will work collaboratively to conserve and enhance land, water and energy resources and ensure a vibrant local economy and productive working landscapes."

- Comox Valley Regional Growth Strategy, 2011

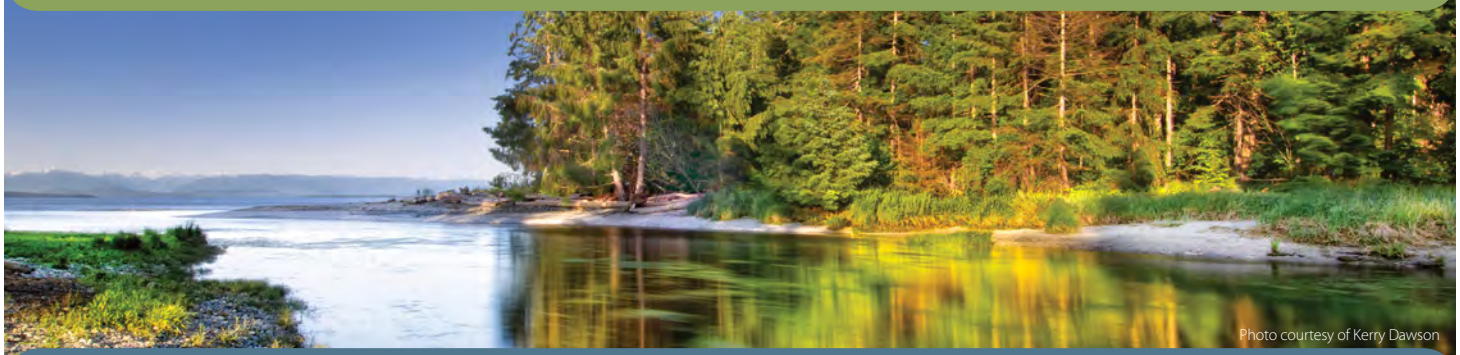


Photo courtesy of Kerry Dawson

THE BENEFITS *of Green Infrastructure*

Green Infrastructure is the natural or engineered ecological processes or structures, that process, capture, and direct water, rainwater, and wastewater in a similar manner to conventional infrastructure, yet have multiple social, economic and environmental benefits.

Green Infrastructure and "Design with Nature" solutions save communities over the long-term. Benefits include:

- ✓ Reduces nuisance flooding and protects property
- ✓ Prevents erosion and sedimentation impacts in streams
- ✓ Recharges groundwater through infiltration
- ✓ Sustains dry weather flows in streams
- ✓ Protects water quality
- ✓ Enhances the livability of neighbourhoods
- ✓ Protects ecological values, such as salmon habitat

THE BIGGER PICTURE: WE EACH HAVE A ROLE TO PLAY

The strategies and tools that are being used and developed in the Comox Valley to manage watershed health work together within a larger, Provincial context of valuing water as a renewable resource. This collective work is directed by the following strategies and programs.

BC's Water Plan & Green Communities

The local collaborative approach is informed by targets and actions as set out in *Living Water Smart: BC's Water Plan, the Green Communities Act, the Water Sustainability Act* and *Develop with Care* community development guidelines.

These provincial initiatives paint the vision for land and water stewardship and are a *call to action* of multiple sectors.

They establish expectations as to how land will be developed and water will be used.

Together they provide a picture of what our regions can look like if local governments build greener communities.

Learn more: *www.livingwatersmart.ca*

Convening for Action on Vancouver Island

CAVI provides a forum for intra and inter-regional sharing and learning, facilitates a *regional team approach*, and promotes consistent application of *design with nature* principles.

The regional team approach is founded on partnerships and collaboration; and seeks to align actions at three scales – provincial, regional and local.

Learn more: *www.waterbucket.ca*

CAVI

Provincial *Call to Action*

Regional Growth, Sustainability Strategies

Land Owner

Local Governments

Comox Valley Sustainability Strategy & Regional Growth Strategy

Both the CVSS and RGS are regional in scope and aim to manage growth so that it contributes to the quality of life values that are important to the community.

Local Governments derive their powers from the Province, which encourages the *design with nature* approach. Both acknowledge that nature knows no borders, and that collaborative and diverse approaches are required to managing for watershed health. Learn more: *www.comoxvalleyrd.ca*

Land Owner

As a land owner you have a critical role to play to help ensure that the guiding policy and *Call to Action* is implemented on the ground.

Local Governments are here to help but we need everyone on board. Learn more about how you can be a part of the solution by using the tools, tips and strategies discussed on the following pages.

Local Government Plans & Regulations

Official Community Plans set the longer term vision for the community. Local Governments also have broad powers to regulate specific activities.

The OCP must be consistent with the RGS over time. Regulatory tools must be consistent with the OCP. All four local governments are working towards designing with nature in various forms.

Contact information for the four local governments on page 7.

Visit ***waterbucket.ca*** to learn more about the 'design with nature' approach to land development!

SELECTED STRATEGIES *to Achieve Watershed Goals*

What's Happening Regionally Right Now!

A number of initiatives are on-going:

-The CVRD is working with the University of Victoria Water, Aquatic Sciences Research Program to monitor the water quality in Comox Lake. A Comox Lake Watershed Protection Plan (WPP) is being developed by over 40 stakholder groups.

- The Sensitive Ecosystem Inventory mapping for the entire Valley has been recently updated. It shows that most locally Environmentally Sensitive Areas have been impacted and helps highlight the importance of protecting remaining ecosystems.

- The CV Conservation Strategy continues to conduct scientific research to inform land use policy development on a wide range of areas affecting the health of our environment and our community.

Watershed Planning can help put it all together

Integrated Stormwater (or Rainwater) Management Plans and Watershed Blueprints are tools that can help manage a community's rainwater assets, and capture a community's vision of the desired look and feel of a future watershed condition. They answer:

1. What Do We Have?
2. What Do We Want?
3. How Do We Put This Into Action?
4. How Do We Stay on Target?

They are a catalyst for coordinated action across sectors to protect watershed health, linking policy to on the ground action.

They guide land use planning including application review, management of infrastructure assets, set achievable performance targets, identify opportunities to restore ecological function, and are implemented over decades.

Education is at the heart of any strategy

The City of Courtenay publishes annual State of the Environment Reports as an educational tool to highlight environmental initiatives and encourage the public to get involved.

Education is at the heart of any sustainable watershed protection strategy because every single person, business and activity has a role to play. None of us can protect the watershed on our own, we need to do this together. Documents like these help to show how we can!

The provincial *Develop with Care* set of development guidelines also has plenty of educational material: www.env.gov.bc.ca/wld/documents/bmp/devwithcare

SELECTED TOOLS *to Achieve Watershed Goals*

Tree Protection

Tree Protection Bylaws and development requirements are used to reduce the number of trees unnecessarily removed or damaged from a site and can require replacement trees be planted when trees are removed. Regulations ensure that neighbouring trees are protected during construction.

Trees provide many benefits including beauty, shade, habitat and rainfall interception and storage.

Water Balance Model Express

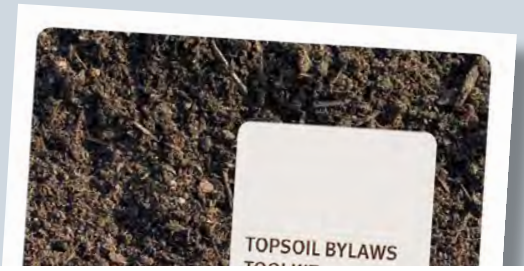
This provincial on-line user-friendly and interactive tool helps landowners incorporate landscape features such as rain gardens on their properties by using pre-set drainage targets based on local hydrology.

The tool informs landowners on actions they can take to achieve water balance on their site. The interface is colourful and easy to use.

Topsoil Bylaws Toolkit

Soil depth creates a sponge which can limit runoff during wet-weather; and reduce water need during dry weather. The Toolkit provides law, policy and technical guidance.

An absorbent topsoil layer is a fundamental building block. When sites get the topsoil part right, other parts of the water sustainability equation are easier to attain.



Erosion & Sediment Control

All four local governments have tools to ensure that sediment-laden runoff does not enter the community's drainage network, including storm-sewer systems, ditches and streams.

Sediment in the drainage system is costly to remedy and is harmful to ecosystem health, including fish habitat.

The City of Courtenay is currently exploring strengthening and making more clear Erosion and Sediment control requirements for all developments.

Design Charrettes & Review Team Approaches

Collaborative review and design sessions in which a group collectively drafts a solution to a land use issue or development proposal can expedite the application referral process. They are more effective than the usual "silo" review approach, help to build consensus and get the application "right at the front end". They often use graphic communication methods and are generally applied to more complex and larger scale projects.

Review Teams have been very successful for projects of many scales and is a useful tool to consider as part of a pre-development application meeting and in consulting with the public.

FOLLOW THESE TIPS
for a Successful Development Proposal

This section discusses local government expectations before applying for a development proposal, and after it has been approved, in order to better protect watershed health.

Several factors are critical to the success of any project:

- ✓ Talk to the right people early on to avoid unnecessary delays.
- ✓ Communicate throughout the process with all the players, in particular the planning and engineering departments.
- ✓ Demonstrate leadership to help gain local government and public support.
- ✓ Understand local government policy and regulations affecting the site.
- ✓ Use green infrastructure to reduce long-term operational costs

PLANNING

Before doing any physical alterations to the site, take the following steps:

1. Know how your land drains

Important questions to answer about your site

- ☐ What watershed are you in?
- ☐ Where is the project situated in the watershed (input, storage or discharge)?
- ☐ What are the topographic features of your site?
- ☐ Are there any environmentally sensitive features?
- ☐ What do you propose to do here and how will it affect these functions and features?

2. Use site design that fits the land

Preliminary research on environmentally sensitive features and hydrology can help determine a site layout and building options that respect the natural context.

Show any preliminary mapping of these features and what *Green Infrastructures* will be used.

3. Arrange a pre-application meeting

Before investing in a detailed development site plan, discuss your proposal with the appropriate local government Development Services departments.

4. Submit an application

By this step, site development constraints and opportunities will have been identified. The landowner may now decide if he/she wishes to proceed with the proposal. An important point to remember is that Local Governments start to officially review an application only after a complete application has been submitted.

IMPLEMENTATION

It is critical that the carefully prepared plans are followed throughout the entire implementation phase.

1. Implement site management plans

These could include Construction Environmental Management, Sediment and Erosion Control and Tree Protection and Management Plans.

Ensure clear communication to the entire construction team of the relevant site management plans and each player's role in achieving plan outcomes.

Ensure the appropriate professionals are on site to monitor the installation and protection of Green Infrastructure including trees and streams.

2. Inform the landowner of their Green Infrastructure

As part of the development approval process, you may be required to produce or fund a user-friendly brochure outlining the Green Infrastructure features and how a landowner is to maintain them. You may wish to benefit from opportunities for collaboration with local stream stewardship groups.

3. Maintain Green Infrastructure

For the landowner who inherets the green asset, this is a critical step which will require awareness and care of their new feature.

Photo courtesy of CORE Systems

Local Governments are Here to Help

Here's What We Do!


Photo courtesy of Kerry Dawson

Local Governments provide a number of services to help protect our watersheds including:

- ✓ Regulating development to ensure it meets minimum standards of environmental protection and rainwater management
- ✓ Reviewing applications and ideas for their appropriateness within a watershed context
- ✓ Adopting regulatory tools and strategies that are appropriate to the community's context
- ✓ Answering questions from the public and helping provide information on watershed performance
- ✓ Collaborating with partner agencies

Here's What You Can Do! *Help us achieve watershed goals by taking these steps:*

- ✓ Conserve water by using a rain barrel, reducing lawn and garden watering, planting drought-resistant native plants and installing low-flow household fixtures.
- ✓ Don't pour anything down storm drains – these drains often flow untreated into local water bodies even if they don't have the yellow fish painted on them.
- ✓ Minimize your use of fertilizers and pesticides and keep your septic system in good working order to avoid ground water and surface water contamination.


Photo courtesy of McElhanney Consulting Services Ltd.

- ✓ Prevent the spread of invasive species by gardening with non-invasive plants.
- ✓ Plant native trees, shrubs and wildflowers as part of local habitat. Bird, bee and bat boxes make nice additions too!
- ✓ Restore local riparian areas. If it's on your property you hold the key to restoration!
- ✓ Get in touch with the local nature stewardship groups to learn more about what you can do.

This pamphlet is intended for general guidance only. Applicants must consult their respective municipal planning department for additional information and requirements.

Produced by the Comox Valley Leadership Team of "Convening for Action on Vancouver Island" (CAVI), which comprises the four Comox Valley local governments, Comox Valley Land Trust, TimberWest, Ministry of Transportation & Infrastructure, and Partnership for Water Sustainability in BC.

With gratitude to the Bowker Creek Initiative and the Capital Regional District.

For more information please contact your local Planning Department and visit their webpages:

City of Courtenay 250-334-4441 www.courtenay.ca
Village of Cumberland 250-336-2291
www.cumberland.ca

Town of Comox 250-339-2202 www.comox.ca
Comox Valley Regional District 250-334-6000
www.comoxvalleyrd.ca

WATERSHEDS *of the Comox Valley Regional District*

Area A Watersheds: 10
Chef Creek
Cook Creek
Cougar Smith (Cowie) Creek
Heart (Washer) Creek
Hindoo Creek
McNaughton Creek
Rosewall Creek
Tsable River
Waterloo Creek
Wilfred (Coal) Creek

Area C Watersheds: 3
Black Creek
Brown's River
Oyster River

Multi-Jurisdiction Watersheds: 13
Arden/Morrison - Area C, City
Back Road watersheds (4) - City, Area B
Brooklyn Creek - City, Area B, Town
Little River - City, Area B
MIllard Piercy - Village, Area A, City
Perseverance Creek - Village, Area A
Puntledge River - Village, Area C, City
Queen's Ditch - Area B, Town, City
Trent River - Area A, Village
Tsolum River - Area B, Area C, City

Total Watersheds in Comox Valley: 28 including coastal
(plus several small unnamed drainages)

To find the appropriate water stewardship group, contact the Comox Valley Land Trust:
cvlandtrust@gmail.com