

# Parksville 2019: Second Annual Vancouver Island Symposium on Water Stewardship in a Changing Climate

*THEME: Improving Where We Live Through Restorative Land Development*

## Detailed Agenda

In 2019, join us in Parksville at the City's Community and Conference Centre (132 E. Jensen Avenue) for a field day on April 2, followed by a 2-day symposium on April 3-4



*Brought to you by:*



A program deliverable for “Sustainable Watershed Systems, through Asset Management”, Implemented under the umbrella of the Georgia Basin Inter-Regional Education Initiative

# 2<sup>nd</sup> Annual Symposium on Water Stewardship in a Changing Climate

## Parksville 2019: Program at a Glance

For pricing, location and registration, VISIT: [civicinfo.bc.ca/event/2019/Parksville-Water-Stewardship-Symposium](http://civicinfo.bc.ca/event/2019/Parksville-Water-Stewardship-Symposium)

### Tuesday, April 2<sup>nd</sup>

#### *"In the Field"*

#### OPTION 1 (FREE)

Join us on a tour of the soon to be commissioned Englishman River Water Service treatment plant serving Parksville and Nanoose Bay Peninsula.

#### OPTION 2

*(40 registrants maximum)*

Learn from Dave Derrick. First, a classroom session. Then, an in-stream lecture at Shelly Creek, which is an emerging demonstration application for *sustainable stream stabilization*.

### Wednesday, April 3<sup>rd</sup>

#### Theme: *"Sustainable Stream Restoration"*

#### Reconnect hydrology and ecology – what happens on the land in the creekshed matters to streams!

In the 1990s, Dr. Chris May's seminal research defined the relationship between land use change and stream impacts. To protect stream ecology, communities must address the root causes of 'changes in hydrology' (water quantity).

#### FREE PUBLIC LECTURE:

An evening lecture on April 3<sup>rd</sup> by Storm Cunningham is the bridge between the two days.

### Thursday, April 4<sup>th</sup>

#### Theme: *"Restorative Land Development"*

#### Yes, we can decrease our *destructive footprint* while at the same time increasing our *restorative footprint*!

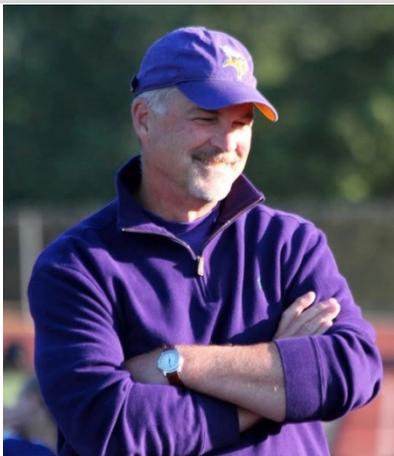
Storm Cunningham is a global thought leader. In **The Restoration Economy**, 2002, he showed how "restorative development" would drive economies in the 21<sup>st</sup> century.

Sustainable is attainable. Make where we live better. Create an "actionable vision". Chart a new course to a sustainable water future. Celebrate Vancouver Island success stories. **Follow the leaders!**

Cross-border collaboration expands our horizons and connects us with a larger body of experience!



**Dave Derrick**  
Stream Restoration Innovator  
(Alabama)



**Dr. Chris May**  
Environmental Scientist-Engineer  
(Washington State)



**Storm Cunningham**  
Author – Motivator – Publisher  
(Virginia)

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## APRIL 3<sup>rd</sup> THEME: ***Sustainable Stream Restoration***

**KEY MESSAGE: Reconnect hydrology and ecology – what happens on the land in the creekshed matters to streams!** *Development reduces the capacity of the landscape to absorb and hold water. When it rains, there is more flow volume and streams erode; in a drought, there is little or no flow as the surrounding land dries out.*

7:30	<i>Registration / Meet &amp; Greet</i>
8:45	<b>Event Welcome from Nanaimo &amp; Area Land Trust – Paul Chapman</b>
9:00	<b>MODULE A: “Getting It Right”: The Whole-System Approach</b>
	<p><b>Nanaimo 2018: A Watershed Moment for Collaboration Success Stories</b>  <i>Kim Stephens, Executive Director, Partnership for Water Sustainability in BC</i></p> <p>Look back to look ahead: re-cap Nanaimo 2018 and frame expectations for Parksville 2019. Three key messages are: An informed and educated stewardship sector is a catalyst for action. Align efforts to re-establish creekshed function in the mid-Island region. Learn from those who are leading change.</p>
At 9:15	<p><b>Nanaimo Watershed Health Community of Practice: The Hard Work of Hope</b>  <i>Paul Chapman, NALT</i></p> <p>Galvanized by what they learned during the day at Nanaimo 2018, a diverse group of stewardship groups took their first coordinated action before leaving the symposium. They formed a ‘creekshed coalition’, united by water, to put symposium words into actions. In reporting out on the past year, they will share their strategies, actions, successes and lessons to grow a community of stewardship.</p>
At 9:30	<p><b>The Science Behind the Whole-System, Water Balance Approach</b>  <i>- Dr. Chris May (Surface &amp; Stormwater Division Director, Kitsap County) &amp; Bill Derry (formerly with Snohomish County and CH2MHill, and a Past-President, People for Puget Sound)</i></p> <p>In the 1990s, the ‘salmon crisis’ was the driver for pioneer research by Dr. Chris May &amp; Dr. Richard Horner (University of Washington). Their work was seminal, transformative and far-reaching: it opened the door to the Whole-System, Water Balance approach to rainwater management; and it led to the ‘flow-duration curve’ being the cornerstone of regulatory change in Washington State and California. Their findings are integrated into <i>Stormwater Planning: A Guidebook for British Columbia</i>.</p> <p>For the past two decades, a leadership position in local government has allowed Chris May to put science into practice. To set the tone for the symposium, he will tell the story of how his research correlated the relationship between land use and stream health; and how Kitsap County is a living laboratory for implementing a hydrology-based approach at multiple scales (to build resilience).</p> <p><b>TAKEAWAY:</b> Participants will understand that hydrology is the engine that powers ecological services.</p>
10:30	<i>Refreshment Break / Conversation</i>
11:00	<b>MODULE B: Panel &amp; Town-Hall Session: Watershed Health and You</b> <i>(go to next page for detailed abstract)</i>
	<p>The Englishman River ‘big picture’ story (endangered river, regional water source, Shelly Creek restoration) provides the backdrop for developing a shared understanding of what a Whole-System approach looks like, and what it would mean to reconnect hydrology and ecology. The town-hall is the heart of the symposium program. The spotlight is on <b>citizen science</b>, and in particular the catalyst role that MVIHES plays. A 5-person team will prime the audience with 5-minute vignettes.</p> <p><b>TAKEAWAY:</b> Participants will be engaged, energized and inspired to make a difference.</p>
12:30	<i>Lunch / Conversation</i>

**MODULE B - Watershed Health and You - DETAILED ABSTRACT**

What happens on the land in a watershed (and in its tributary creeksheds) matters to streams, especially when the changing climate is altering the seasonal water balance. The Englishman River storyline provides local context for the Whole-System Approach to protection of hydrologic function under current and future conditions.

- PRIMING THE AUDIENCE: In their prepared remarks, panelists will describe elements of the Englishman River story.
- TOWN-HALL INTERACTION: Panelists will engage with the audience on the value of ‘**citizen science**’ and how it can be leveraged to achieve two complementary objectives: educate the local community (public); and inform alignment of provincial, regional and local actions so that they truly do result in **sustainable stream restoration**.

The desired outcome is that the audience will understand why the Englishman River Watershed is an integrated system, and will be better informed to champion the Whole-System Approach in the creeksheds where they live.

THEME & RELEVANCE	SPEAKER
<p><b>Englishman River / Shelly Creek: <i>Over time, MVIHES has morphed from “Stewards of the Englishman River Recovery Plan” to “Stewards of the Watershed”</i></b></p> <p>In the 1990s, the Recovery Plan was the first implemented by the Pacific Salmon Endowment Fund. MVIHES was formed to represent the community and facilitate implementation of stream restoration projects. MVIHES mission has since evolved to connect people to their landscape through education, with a focus on Shelly Creek, one of five tributaries. It is the last fish-bearing creek flowing through Parksville. Survival of Coho salmon in the Englishman depends on Shelly!</p>	<p>Peter Law MVIHES</p>
<p><b>Englishman River Water Service (ERWS): <i>A Balancing Act – Regional Bulk Water Supply Needs &amp; Environmental Flow Requirements to Sustain Aquatic Resources</i></b></p> <p>The ERWS is a joint venture between the City of Parksville and the RDN. It comprises the 20-yr old Arrowsmith Dam, a new river intake (2018) and a water treatment facility (2019). System operation is guided by this statement: <i>“An environmentally sensitive use of water to improve fish habitat and domestic water supply.”</i> The impact of wetter winters and drier summers on the seasonal water balance creates operational challenges in sustaining environmental flows.</p>	<p>Vaughan Figueria, City of Parksville</p>
<p><b>Groundwater &amp; Surface Water Interaction in the Englishman River Watershed: <i>One Water – Always Moving</i></b></p> <p>‘Flux’ is a core concept because an aquifer is not an underground lake. Water is always moving. Community involvement in a monitoring program was a foundation piece, and one of several innovations, for characterizing surface and groundwater interaction in the Englishman system – e.g. the connections between land, aquifers and river are illustrated using “butterfly” images.</p>	<p>Gilles Wendling GW Solutions</p>
<p><b>Sustainable Forest Management in the Englishman River Watershed: <i>Maintaining Hydrological Balance is Critical for Success</i></b></p> <p>Over 80% of the Englishman River watershed is dedicated to forest management. Applying a landscape level approach makes a working forest work for multiple values. Hydrology and ecology values are managed through conservation agreements, land sales, and cooperation with researchers and communities. A guiding objective is to “keep sediment out of streams”.</p>	<p>Domenico Iannidinardo, Mosaic Forest Management</p>
<p><b>Surface Water Quality Trend Analysis: <i>Linking Water Quality Data Results with Land Use Factors</i></b></p> <p>Through the efforts of stewardship volunteers, the RDN’s Community Watershed Monitoring Network has successfully completed 7+ years of monitoring surface water quality. A recent study has analyzed the data region-wide, modelling land use factors and their connection to water quality results, including for the Englishman River.</p>	<p>Julie Pisani, Regional District of Nanaimo</p>

# APRIL 3<sup>rd</sup> THEME: *Sustainable Stream Restoration*

:30	<i>Lunch / Conversation</i>
1:30	<p>MODULE C:  <b>Make Better Decisions: First, Understand How Rain Reaches a Stream</b></p>
	<p><b>Hard Work of Hope in a Changing Climate: Will We Adapt?</b>  <i>Kim Stephens</i></p> <p>Prominent scientists say 2018 marks a turning point in human history. We may have crossed an invisible threshold into a new climate regime. It is not the end of the world, just the beginning of another. We have the knowledge and tools to restore balance to the water cycle. Can we, will we? Yes, of course we can – but only if civil engineers, urban planners and decision-makers change their mind-sets and grasp the inherent complexity and unpredictability of working with natural systems.</p>
At 1:45	<p><b>Closing the Data Gap: Water Stewards, the Key to the Future</b>  <i>Neil Goeller, Regional Hydrologist &amp; Sylvia Barroso, Regional Hydrogeologist - Water Protection, West Coast Region, Ministry of Forests, Lands, Natural Resource Operations and Rural Development</i></p> <p><b>THIS SESSION WILL BE CONDUCTED AS “A MINI-WORKSHOP WITHIN THE SYMPOSIUM”</b></p> <p>Understanding the complex interactions of <b>whole-system, water balance</b> processes that lead to water availability in and on the ground, and all the values that depend on it, is critical to effective water resource allocation. The provincial government leads the way with collection, storage and dissemination of surface and groundwater data. A federal agreement provides for large scale data collection on major sources (rivers and lakes). However, there is a gap at the local level.</p> <p>Stewardship groups have local knowledge about local water resources; and are the most invested and most connected to the land base. Participation in streamflow data collection is a way to educate them about creekshed hydrology, in particular correct data collection techniques and their importance for refining the water balance and understanding what the numbers mean.</p> <p>This would create understanding that would enhance their effectiveness as champions for reconnecting hydrology and ecology. It would also fill a gap at the creekshed micro-scale where flow data are sparse to non-existent. A provincial government initiative on Vancouver Island is mobilizing stewardship groups and community volunteers to collect such data.</p> <p><b>TAKEAWAY:</b> Streamkeepers will understand the value of their contribution in being part of a provincial initiative to fill a data collection gap at the local level.</p>
	<i>S-t-r-e-t-c-h / grab a refreshment &amp; return to your seat</i>
3:30	<p>MODULE D:  <b>Back to the Future: Reconnect Hydrology and Ecology</b></p>
	<p><b>Lessons Learned: Focus on Root-Causes; Integrate Restorative Solutions</b>  <i>Nick Leone, Senior Resource Restoration Biologist, Fisheries &amp; Oceans Canada</i></p> <p>The closing for Day 1 is a ‘call to action’, and the bridge to Storm Cunningham’s evening lecture and the theme for Day 2: <i>restorative land development results in sustainable stream restoration</i>.</p> <p>Decades of in-stream restoration work have not been sustainable because communities have not addressed the root causes of ‘changes of hydrology’. Going forward: think and act more strategically; look for synergies between programs, systems, policies, disciplines and management objectives; account for <b>uncertainty</b> through acknowledging what <u>we don’t know</u>, and <b>variability</b> in what <u>we do know</u>; develop effective partnerships that get the vision right and produce sound strategies.</p> <p><b>TAKEAWAY:</b> Participants will be primed for Day 2 on <i>restorative land development</i>.</p>
4:15	<b>Day 1 adjourns</b>

## APRIL 4<sup>th</sup> THEME: *Restorative Land Development*

**KEY MESSAGE: Yes, we can decrease our destructive footprint while at the same time increasing our restorative footprint!** *Celebrate Vancouver Island success stories. These are inspirational in nature, creekshed in scale, and precedent-setting in scope and outcome. “Get it right” and proceed along a restorative development pathway.*

8:00	<i>Registration / Meet &amp; Greet</i>
8:55	<b>Event Welcome from Partnership for Water Sustainability in BC – John Finnie</b>
9:00	<b>MODULE A: “Getting It Right”: Make Better Land Use Decisions</b>
	<p><b>Value the ‘Water Balance Services’ Provided by Nature</b>  <i>Kim Stephens, Executive Director, Partnership for Water Sustainability in BC</i></p> <p>The worth of a creekshed is a <i>package of ecological services</i> made possible by the hydrology. Looking through the ‘worth lens’ leads to a fundamental shift in philosophy regarding how to value natural assets. Focus on the investment of resources (time and money) as well as aspirations of motivated stakeholders for maintenance and management of ecological (water balance) services.</p>
At 9:15	<p><b>Creating an Actionable Vision for the next 10 Years of Drinking Water and Watershed Protection - Julie Pisani, DWWP Coordinator, Regional District of Nanaimo</b></p> <p>Ten years ago, the RDN embarked on delivering a service never before established by a Regional District in BC. The Drinking Water and Watershed Protection (DWWP) function, approved by elector assent in 2008, has provided water-related education &amp; outreach, water data collection, science &amp; monitoring, and water policy advocacy &amp; planning support, for the past decade with marked accomplishments and certain challenges. In 2019, the RDN is updating their Action Plan for DWWP to incorporate learnings from the implementation thus far, and integrate elements that will be the focus of an actionable vision for the next decade and more. Parksville 2019 is a ‘sharing &amp; learning’ opportunity that will help inform the DWWP Action Plan update. The first decade of the Plan (2009-2018) built a strong foundation of public outreach and science. The focus moving into the next operational period is using awareness and data to inform water policy and planning. The desired outcome: get it right and make better land use decisions!</p> <p><b>TAKEAWAY:</b> Participants will understand how the RDN is positioned to tackle regional water issues and help to create a vision to chart a new course to a sustainable water future.</p>
10:15	<i>Refreshment Break / Conversation</i>
10:45	<b>MODULE B: Panel &amp; Town-Hall Session: Improving Where We Live</b> <i>(go to next page for a detailed set of abstracts)</i>
	<p>A vision for restorative land development could be guided by the mantra: <i>Sustainable is attainable. We can make where we live better.</i> While communities cannot restore lost biodiversity, they can halt its decline and consciously direct efforts into bending the trend-line in an upwards direction. “Getting it right” is a process that requires long-term commitment, patience and perseverance by champions.</p> <p>A 5-person team will prime the audience with 5-minute vignettes about long-term and emerging initiatives in regional districts on the east coast of Vancouver Island. Inspirational in scope, these demonstrate what is achievable when there is a restoration imperative. The town-hall segment will focus on how the lessons learned to date might inform the RDN’s DWWP Action Plan update.</p> <p><b>TAKEAWAY:</b> Participants will be engaged, energized and inspired by stories of collaboration.</p>

**MODULE B – Improving Where We Live - DETAILED ABSTRACT**

The panel lens is again the Whole-System Approach – *how will we reconnect hydrology and ecology?* The panel session has two foci – build on Module B’s “actionable vision” theme; look ahead to **improve where we live**.

- PRIMING THE AUDIENCE: In telling their stories, panelists will describe how key breakthroughs have been achieved. They will reflect on the scope of the RDN Action Plan update; as well as how to leverage better land use decisions.
- TOWN-HALL INTERACTION: Panelists will engage with the audience to explore lessons learned from experience in leading change. Emphasis will again be on the value of ‘citizen science’ and how it can be leveraged to achieve two complementary objectives: educate the local community (public); and inform alignment of provincial, regional and local actions so that **restorative land development results in sustainable stream restoration**.

THEME & RELEVANCE	SPEAKER
<p><b>Poised for Action in the Cowichan Region: <i>Embedding Change through the Drinking Water &amp; Watershed Protection Service</i></b></p> <p>Watershed planning is a way of integrating land use planning for communities with other impacts in watersheds to ensure that all the resources are managed effectively. In October 2018, Cowichan electors passed a referendum (by a decisive 66% in favour) to implement the new regional service. This is the culmination of more than a decade of collaboration to build capacity in the stewardship sector and enhance decision-making.</p>	<p>Kate Miller, Cowichan Valley Regional District</p>
<p><b>Comox Lake Watershed Protection Plan: <i>Collaborative Process = Community Support</i></b></p> <p>The plan was developed by the Watershed Advisory Group (WAG), a comprehensive group of stakeholders representing a broad variety of interests. Along the way, the process fostered relationships and built trust among the many stakeholders, including all four local governments. The Watershed Protection Plan is truly a collaborative outcome. But a plan is nothing without follow-through and implementation. We’ve got the support. This plan will not sit on a shelf.</p>	<p>Marc Rutten, Comox Valley Regional District</p>
<p><b>Kus-kus-sum Restoration on the Courtenay River: <i>Transforming a Decommissioned Sawmill Site into a Valuable Habitat Corridor</i></b></p> <p>Decommissioned in 2006, the Field Sawmill was once the economic heart of the Comox Valley. A First Nation, a municipality and an environmental non-profit share a dream and have signed an MOU to collaboratively purchase, restore and manage this key property in the heart of their community. This is an historic milestone in reconciliation and intergovernmental relations.</p>	<p>Tim Ennis, Comox Valley Land Trust</p>
<p><b>Shelly Creek Demonstration Applications: <i>Implementing the Twin Pillars of “Sustainable Watershed Systems, through Asset Management”</i></b></p> <p>Twin pillars are Water Balance Methodology (WBM) and Ecological Accounting Process (EAP). MVIHES leadership in establishing Shelly Creek precedents can inform the “actionable vision” in decade #2 of the RDN Action Plan. The demonstration applications would underpin a strategy to reduce erosion and sedimentation threats, by restoring creekshed hydrology over time.</p>	<p>Peter Law, MVIHES</p>
<p><b>Ecological Accounting Process (EAP): <i>Making it Straightforward for Communities to Calculate “THE WORTH” of Ecological Services and Incorporate in Financial Plans!</i></b></p> <p>The concept of natural capital and natural assets can be a challenge to integrate effectively into asset management practices. Local governments need "real numbers" to deliver outcomes and support decision making. EAP deals with a basic question: what is a creekshed WORTH, now and in future, to the community and various intervenors?</p>	<p>Tim Pringle PWSBC</p>

# APRIL 4<sup>th</sup> THEME: *Restorative Land Development*

12:15	<i>Lunch / Conversation</i>
1:15	<b>MODULE C: Moving Towards Restorative Land Development</b>
	<p><b>Beacons of Hope: Bowker &amp; Brooklyn Restoration Success Stories are Inspirational</b> <i>Kim Stephens</i></p> <p>Bowker and Brooklyn are provincially significant precedents. Each has a long history. Each demonstrates how local government partnerships with stewardship groups can be transformational and ‘<i>improve where we live</i>’. These precedents represent a range of situations: Bowker in the urban heart of the Capital Region; Brooklyn in the suburban Comox Valley. They are beacons of hope.</p>
At 1:30	<p><b>Bringing Bowker Creek Back to Life in the Capital Region: Community Buy-In is Key</b> <i>Jody Watson, Supervisor, Environmental Planning &amp; Initiatives, Capital Regional District</i></p> <p>The Bowker Creek Urban Watershed Renewal Initiative serves as a ‘how-to-guide’ for a ‘top-down and bottom-up’ approach that connects with the community and gets the vision right. Degraded over generations, and buried for much of its length, Bowker restoration demonstrates how a <b>good strategy</b> is the path to success. The Blueprint and 100-year Action Plan resulted from a unique multi-jurisdictional effort. Outreach proved to be a powerful tool for building community and political support for action. Success begets success. Implementation is approaching the second decade.</p> <p><b>TAKEAWAY:</b> Participants will be inspired by the ‘top-down and bottom-up’ approach.</p>
<i>S-t-r-e-t-c-h / grab a refreshment &amp; return to your seat</i>	
At 2:30	<p><b>A Tale of Two Creeksheds in the Town of Comox: Base Decision-Making on “Worth”</b> <i>Allan Fraser (Superintendent of Parks &amp; Property Manager) &amp; Marvin Kamenz (Municipal Planner) with the Town of Comox, and Christine Hodgson representing Brooklyn Creek Watershed Society</i></p> <p>The lower Brooklyn Creek Corridor is a regional amenity destination. It is a working example of applying the Ecological Accounting Process (EAP) to value the <b>worth</b> of a creekshed, its hydrology, and ecological systems. Lessons learned are informing implementation of a <i>whole-system, water balance</i> strategy for development. In an adjacent watershed, the North East Comox SWMP uses the water balance methodology to address downstream watercourse capacity, fish habitat, agriculture and sensitive ecosystem concerns. Work is now underway to apply the lessons learned from both areas to create a neighbourhood plan that protects and enhances the <b>package of ecological services</b> of the middle Brooklyn Corridor (environmental protection, recreation and stormwater drainage) for future neighbourhood residents, while protecting those same values in the lower Brooklyn Corridor.</p> <p><b>TAKEAWAY:</b> Participants will understand the relevance of looking through the “worth lens”.</p>
<i>S-t-r-e-t-c-h / grab a refreshment &amp; return to your seat</i>	
3:30	<b>MODULE D: We Can Create the Future We Want</b>
	<p><b>Increase Our Restorative Footprint; Decrease Our Destructive Footprint</b> <i>Storm Cunningham</i></p> <p>Storm Cunningham will reflect on what he heard throughout the 2-day symposium. He will connect dots when he relates Vancouver Island initiatives to this perspective on the complete solution:</p> <p><i>“Visionaries, designers, planners, policy makers, and project managers abound. <b>Strategists are rare</b>. As a result, resilience and revitalization efforts often fail due to 1) <b>bad strategy</b>, and 2) <b>no strategy</b>. Strategies are our path to success. They become our primary interface with the world. Thus, what we restore, restores us. What we revitalize, revitalizes us.”</i></p> <p><b>TAKEAWAY:</b> Participants will understand that essential ingredients for restorative land development encompass: vision, strategy to deliver the vision, and commitment to implement an ongoing program.</p>
4:15	<b>Day 2 adjourns</b>