2nd Annual Vancouver Island

Symposium on Water Stewardship in a Changing Climate

Parksville April 2 - 4, 2019

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the partnership for water sustainability in bc

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Improve Where We Live – Good Strategies are Our Path to Success:

- Reconnect hydrology and ecology – what happens on the land in creeksheds matters to streams!
- Decrease our destructive footprint while at the same time increasing our restorative footprint – sustainable is attainable!

Explore https://waterbucket.ca/viw/category/convening-for-action-in-2019/parksville-water-stewardship-symposium/

APRIL 3rd THEME: ***Sustainable Stream Restoration***

KEY MESSAGE: **Reconnect hydrology and ecology – what happens on the land in the creekshed matters to streams!**

7:30	*Registration / Meet & Greet*
8:45	**Event Welcome from Chair of the Organizing Committee** – John Finnie **Welcome to Parksville** - Mayor Ed Mayne
9:00	MODULE A: **"Getting It Right": The Whole-System Approach**
	Nanaimo 2018: A Watershed Moment for Collaboration Success Stories *Kim Stephens, Executive Director, Partnership for Water Sustainability in BC*
At 9:15	**Nanaimo Watershed Health Community of Practice: The Hard Work of Hope** *Paul Chapman, NALT*
At 9:25	**The Science Behind the Whole-System, Water Balance Approach** **-** *Dr. Chris May (Surface & Stormwater Division Director, Kitsap County) & Bill Derry (formerly with Snohomish County and CH2MHill, and Past-President, People for Puget Sound)*
10:40	*Refreshment Break / Conversation*
11:05	MODULE B: **Panel & Town-Hall Session: *Watershed Health and You***
	Englishman River / Shelly Creek: ***Over time, MVIHES has morphed from "Stewards of the Englishman River Recovery Plan" to "Stewards of the Watershed"*** - Peter Law, MVIHES
	Englishman River Water Service (ERWS): ***A Balancing Act – Regional Bulk Water Supply Needs & Environmental Flow Requirements to Sustain Aquatic Resources*** **-** Vaughan Figueira, City of Parksville
	Groundwater & Surface Water Interaction in the Englishman River Watershed: ***One Water – Always Moving*** **-** Gilles Wendling, GWS Solutions
	Sustainable Forest Management in the Englishman River Watershed: ***Maintaining Hydrological Balance is Critical for Success*** **–** Domenico Iannidinardo, Mosaic
	Surface Water Quality Trend Analysis: ***Linking Water Quality Data Results with Land Use Factors*** **-** Julie Pisani, RDN
12:30	***Lunch / Conversation***
1:30	MODULE C: **Make Better Decisions:** **First, Understand How Rain Reaches a Stream**
	Hard Work of Hope in a Changing Climate: Will We Adapt? *Kim Stephens, PWSBC*
At 1:45	**Closing the Data Gap: Water Stewards, the Key to the Future** *Neil Goeller, Regional Hydrologist & Sylvia Barroso, Regional Hydrogeologist - Water Protection, West Coast Region, Ministry of Forests, Lands, Natural Resource Operations and Rural Development*
	S-t-r-e-t-c-h / grab a refreshment & return to your seat
3:30	MODULE D: **Back to the Future: Reconnect Hydrology and Ecology**
	Lessons Learned: Focus on Root-Causes; Integrate Restorative Solutions *Nick Leone, Senior Resource Restoration Biologist, Fisheries & Oceans Canada*
4:15	***Day 1 adjourns***

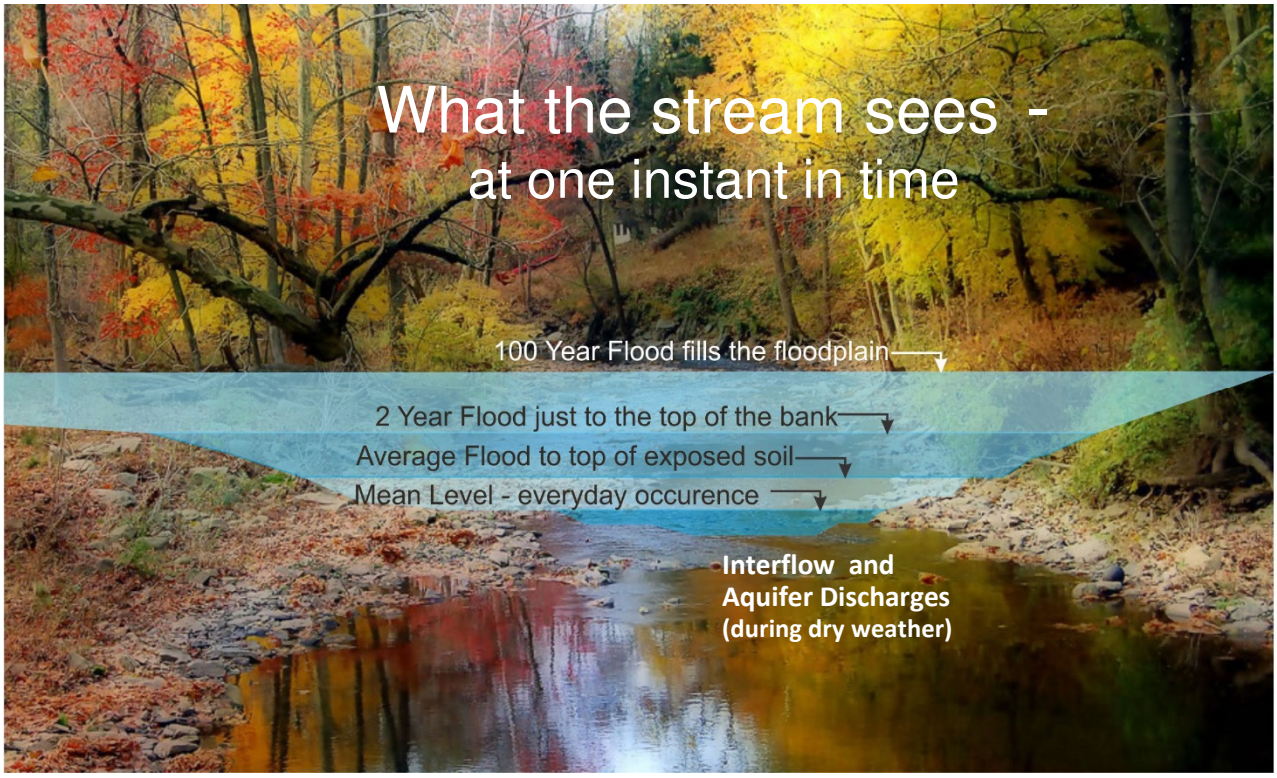
APRIL 4th THEME: ***Restorative Land Development***

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

8:00	*Registration / Meet & Greet*
8:50	**Event Welcome from Co-Chair of the Organizing Committee** – Paul Chapman
9:00	MODULE A: **"Getting It Right": Make Better Land Use Decisions**
	Value the 'Water Balance Services' Provided by Nature - *Kim Stephens, PWSBC*
At 9:15	**Creating an Actionable Vision for the next 10 Years of Drinking Water and Watershed Protection -** *Julie Pisani, DWWP Coordinator, Regional District of Nanaimo*
10:30	*Refreshment Break / Conversation*
10:55	MODULE B: **Panel & Town-Hall Session: *Improving Where We Live***
	Poised for Action in the Cowichan Region: *Embedding Change through the Drinking Water & Watershed Protection Service* - Kate Miller, Cowichan Valley Regional District
	Comox Lake Watershed Protection Plan: *Collaborative Process = Community Support* Marc Rutten, Comox Valley Regional District
	Kus-kus-sum Restoration on the Courtenay River: *Transforming a Decommissioned Sawmill Site into a Valuable Habitat Corridor* - Tim Ennis, Comox Valley Land Trust
	Ecological Accounting Process (EAP): *Making it Straightforward for Communities to Calculate "THE WORTH" of Ecological Services and Incorporate in Financial Plans!* - Tim Pringle, PWSBC
	Shelly Creek Demonstration Applications: *Implementing the Twin Pillars of "Sustainable Watershed Systems, through Asset Management"* - Peter Law, MVIHES
12:20	*Lunch / Conversation*
1:15	MODULE C: **Moving Towards Restorative Land Development**
	Beacons of Hope: Bowker & Brooklyn Restoration Success Stories are Inspirational *Kim Stephens, PWSBC*
At 1:30	**Bringing Bowker Creek Back to Life in the Capital Region: Community Buy-In is Key** *Jody Watson, Supervisor, Environmental Planning & Initiatives, Capital Regional District & Past-Chair, Bowker Creek Initiative*
	S-t-r-e-t-c-h / grab a refreshment & return to your seat
At 2:30	**A Tale of Two Creeksheds in the Town of Comox: Base Decision-Making on "Worth"** *Allan Fraser (Superintendent of Parks & Property Manager) & Marvin Kamenz (Municipal Planner) with the Town of Comox, and Christine Hodgson representing Brooklyn Creek Watershed Society*
	S-t-r-e-t-c-h / grab a refreshment & return to your seat
3:30	MODULE D: **We Can Create the Future We Want**
	Increase Our Restorative Footprint; Decrease Our Destructive Footprint - *Storm Cunningham*
4:15	***Day 2 adjourns***

Water Balance Objectives

Restore Creekshed Hydrology, Prevent Stream Erosion,
Enhance Summer Base Flows, Ensure Fish Survival



What the Stream Sees:

Water levels corresponding to various flow conditions, both high and low, are superimposed on the image.

The complete story requires *the view to be extended in time like a movie or video. The stream and the discharges are dynamic and constantly changing. The important information in this more complete view is the duration of flow over time, and how it changes with time.*

Standard engineering practice is preoccupied *with the peak rates of flow for extreme events. These happen infrequently. This focus is the traditional design mindset for flood conveyance and protection.*

This single-purpose engineering objective does not account for the cumulative environmental impacts of all the other rainfall-days in a year. Most stream erosion is caused by comparatively small flow rates. These happen frequently and usually range between the mean annual flood and the 2-year flood event.

Because the changing climate is altering *the distribution of the seasonal water balance, and hence seasonal flow patterns (and related processes), this has both high-flow and low-flow consequences for streams:*

- ***Warmer, wetter winters & high-flow periods*** *= reduced snowpack / accumulation and less water in storage = more runoff volume for longer periods of time = stream channels erode = aquatic habitat degrades; and*
- ***Longer, drier summers & low-flow periods*** *= as the landscape dries out, discharges from both interflow and groundwater diminish = little or no flow in streams = streams may be unable to sustain human and/or fish needs.*

Reduced dry weather flows over longer periods of time result in numerous potential impacts, including: elevated water temperatures, isolation from riparian fringe, reduced water quality, discontinuation of channel flow, and habitat isolation.