



# the partnership for water sustainability in bc

Waterbucket eNews on May 4, 2021  
<https://waterbucket.ca/wscblog/>



## **Living Water Smart in British Columbia: *Accounting for Stream Systems in Asset Management***

## Note to Reader:

Waterbucket eNews<sup>1</sup> celebrates the leadership of individuals and organizations who are guided by the vision for [Living Water Smart in British Columbia](#)<sup>2</sup>. The edition published on May 4 2021 featured the financial valuation of ecological services for the Millstone River Natural Commons in the Regional District of Nanaimo (RDN).

The week before, the RDN Regional Board approved this recommendation by staff: *“That the Millstone River Ecological Accounting Process report be used to inform future Corporate Asset Management Planning.”*

The umbrella for Partnership initiatives and programs is the [Water Sustainability Action Plan for British Columbia](#)<sup>3</sup>. In turn, the Action Plan is nested within [Living Water Smart, British Columbia's Water Plan](#).



<sup>1</sup> <https://waterbucket.ca/wscblog/>

<sup>2</sup> [https://waterbucket.ca/wcp/wp-content/uploads/sites/6/2017/11/livingwatersmart\\_book.pdf](https://waterbucket.ca/wcp/wp-content/uploads/sites/6/2017/11/livingwatersmart_book.pdf)

<sup>3</sup> <https://www.waterbucket.ca/cfa/sites/wbccfa/documents/media/81.pdf>

## Editor's Perspective

Five years ago, the Partnership for Water Sustainability introduced the vision for EAP, the Ecological Accounting Process. The driver for EAP is degradation of stream channels and streamside protection areas. EAP addresses the elephant in the room which is the unfunded cost (hence liability) to protect, remediate or enhance stream systems in urban and rural landscapes.

### **EAP Bridges a Gap and is a Game-Changer**

EAP satisfies a local government need for a financial methodology and metrics for valuation of ecological assets. Most importantly, EAP interweaves the financial, social and ecological perspectives within a single number.

**This number is defined as the Natural Commons Asset (NCA) value. The end goal is an annual budget for 'maintenance and management' (M&M) of stream systems.**

The NCA value puts the discussion of natural assets (stream systems) on an equal footing with constructed assets (physical infrastructure). This is a game-chamber. Environmental planners now have a starting point for a conversation with engineers and accountants about the services that natural and constructed assets both provide.

It has been five years of determined effort by EAP Chair Tim Pringle and his team to test, refine and mainstream EAP. This has been accomplished through collaboration with a group of local government partners willing to break new ground. Each EAP project advances refinement of the methodology.

Each case study is unique in that partner communities frame creekshed-specific questions to be addressed by their EAP application. Each case study yields key lessons and results in fresh observations. Each has supported the depth of analysis for subsequent EAP applications.

"This report has given the RDN, as well as the City of Nanaimo, further insight as we develop our existing framework for the protection and enhancement of our important natural features in our communities, including stream corridors."

Tyler Brown, Chair  
Regional District of Nanaimo



## The Millstone EAP Demonstration Application is the Flagship Project: <sup>4</sup>

The Millstone project provided the RDN, the City of Nanaimo and local stewardship group Island Waters Fly Fishers with the opportunity to get a real measure that accounts for the value and worth of the Millstone River stream corridor in asset management planning. **They now have the numbers to make the case for M&M of the Millstone.**

The Millstone River EAP project has provided the RDN with a path forward so that it could account for and operationalize M&M of stream corridor systems across the region. This would be done under the umbrella of its **Corporate Asset Management Plan**. This would be a BC-first.

A handwritten signature in black ink that reads "Kim A. Stephens".

*Kim A. Stephens, MEng, PEng,  
Executive Director  
Partnership for Water Sustainability in BC  
June 2021*



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<sup>4</sup> [https://waterbucket.ca/gi/wp-content/uploads/sites/4/2021/03/RDN\\_Millstone-EAP-Project\\_March-2021.pdf](https://waterbucket.ca/gi/wp-content/uploads/sites/4/2021/03/RDN_Millstone-EAP-Project_March-2021.pdf)

The concept of the Natural Commons underpins EAP. The image below is a key visual. It depicts three categories of ‘commons’: natural, constructed and institutional.



### Foundational concepts that underpin EAP, the Ecological Accounting Process

Natural Commons	Constructed Commons	Institutional Commons
<p>As defined by the EAP, a natural commons is an ecological system that provides ecological services used by nature and the community.</p>	<p>Communities rely on a range of services such as roads, underground utilities and parks to support life-style and property enjoyment. These are <b>commons</b>. Through taxation, they are maintained and managed in order to ensure the availability of desired services.</p>	<p>Services such as fire protection and schools are a related kind of constructed commons.</p>

## TIM PRINGLE: A Stream is a Land Use and provides a "Package of Ecological Services"

"The EAP methodology focuses on the historical and current land use practices that have changed landscapes, modified hydrology, and have led to present-day community perceptions of the worth of the stream or creekshed and the ecological services it provides. A whole-system understanding is the starting point for developing meaningful metrics," states Tim Pringle, Chair of the Partnership for Water Sustainability's Ecological Accounting Process (EAP) Initiative.

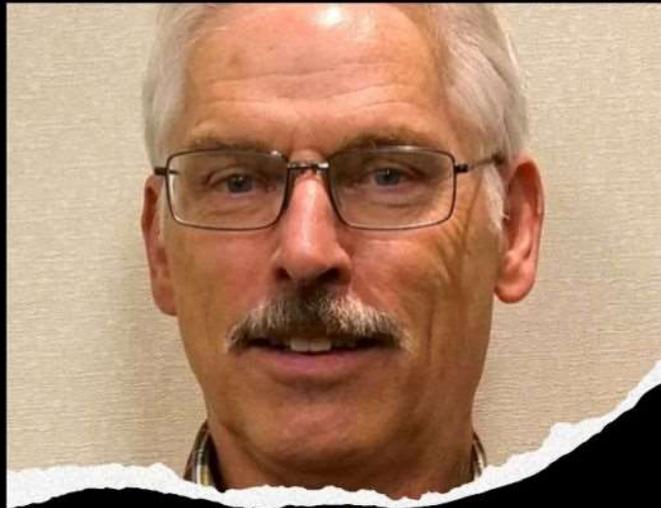
### EAP Metrics Focus on Parcel (Land Only) Assessments

"A central idea of the EAP methodology is that a stream is a land use. If the stream did not exist, the land it occupies would be in the same use as nearby development. A stream is a land use because the area of the setback zone is defined in regulations."

"In turn, EAP describes this land use as the Natural Commons Asset, or NCA. And furthermore, a proxy financial value can be assigned to the NCA using BC Assessment data for abutting or adjacent parcels."

### A Stream is a Land Use and provides a "Package of Ecological Services"

"Drainage, recreation and habitat. This is plain language that elected Councils and Boards understand."



Tim Pringle, Chair  
Ecological Accounting Process (EAP) Initiative

"BC Assessment separates land values from the worth of improvements. BC Assessment data reflects the influence of buyer and seller behaviour over time. BC Assessment values for classes of property are based on completed real estate transactions. They are not appraisals."

"The NCA provides a 'range of uses' desired by the community. These are described as the package of ecological services. They are the benefits and values that the stream system, or NCA, provides to the public: drainage, recreational and cultural value, and critical habitat."

## **Millstone River EAP Research Objectives and an Unforeseen Outcome**

"The Millstone River research application of EAP addressed two questions," continues Tim Pringle.

"What influence does the stream as an ecological system (as a natural commons) have on urban and rural land use near the stream system; and does the stream influence the utility and financial value of parcels? And, how do land uses influence the stream?"

"The research and analyses confirm that in recent decades the community has gained an understanding of the Millstone River corridor as a natural commons or ecological system offering a range of uses or services. Changes to official plans and regulations provide measures to improve maintenance and management of these natural commons."

***The research had three objectives:*** "The research objectives were: "The research objectives were: Establish a measure of stream corridor worth to the community based on expenditures and investment made to maintain and enhance the stream condition. Quantify the financial value of the stream corridor as a Natural Commons Asset (NCA). Determine whether the stream influences the assessed values of parcels that abut or are adjacent to the stream."

"In addition to fulfilling all three objectives, and this was an unforeseen outcome of the EAP research application, we produced a benchmark assessment of woodlands and native vegetation within the regulated riparian setback zone of the Millstone stream corridor – that is, the [Streamside Protection and Enhancement Area \(SPEA\)](#)."

“The EAP analyses provide the City of Nanaimo with specific financial as well as social and ecological measures for its historical investment in the Millstone Greenway over 20 years. Through their ongoing collaboration, the City and RDN will be able to consider future M&M strategies based on the entire Millstone system.”

“The combination of NCA metrics and riparian assessment has provided the two local governments with a starting point for building early support, for long-term and target-based strategies, for systematic M&M investment in restoring riparian woodlands and native vegetation for the full width of the regulated SPEA setback zone. This is huge!”

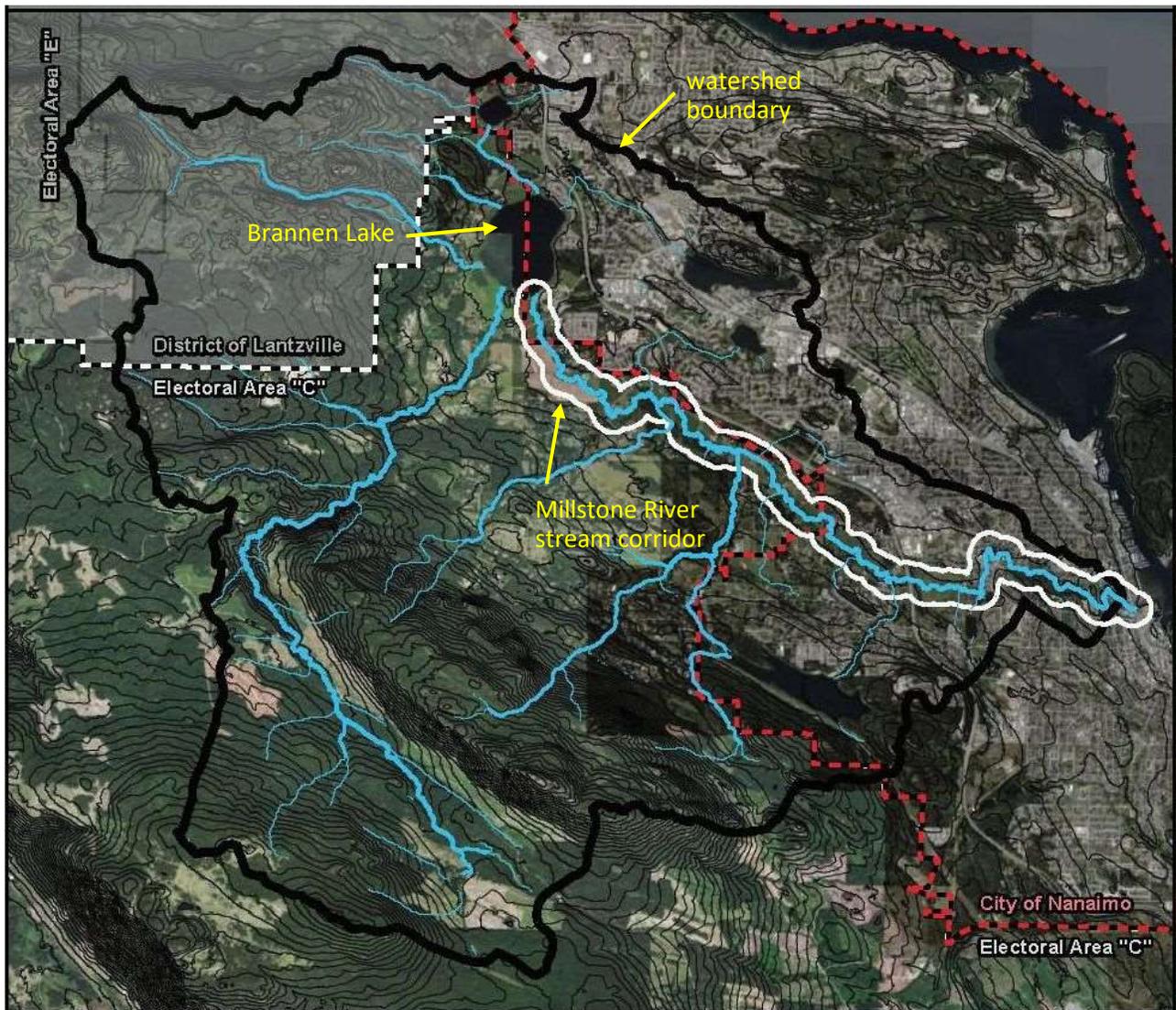
		
	<h2>MILLSTONE RIVER AS A NATURAL COMMONS</h2>	
	<p>“The EAP report will help the city look at how to improve and enhance the value of the Millstone greenway and help the City prioritize future restoration of this important natural feature that runs through the heart of our beautiful City.”</p>	

Rob Lawrance, MCIP, RPP  
Environmental Planner, City of Nanaimo

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With an area of about 93 km<sup>2</sup>, the Millstone River is the largest system in Water Region 5. It lies in the Regional District of Nanaimo and the City of Nanaimo as shown below. Platting of land parcels began in the watershed 160 years ago evolving into today's farms, rural residential and much denser urban areas. These land uses are the primary focus of the EAP analysis.

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## Millstone River Watershed - An Overview

## JULIE PISANI: **Drinking Water & Watershed Protection (DWWP) program sets the context for Millstone River EAP Project**

"The Millstone River and EAP project are a vignette for the bigger mandate of the DWWP. Both demonstrate project level partnerships with stewardship groups; as well as partnerships across local government jurisdictions," states Julie Pisani, DWWP Program Coordinator.

### **Collaboration, Community Outreach and Stream Stewardship**

"The stewardship thread that is pulled through the Millstone EAP project centres around the involvement of Bernie Heinrichs. His group, Island Waters Fly Fishers, has been involved in the RDN's surface water quality sampling program since 2011. There was little data at the start, but now with longer datasets we start to see trends and are able to better understand the health of our region's creeks."

### **ACTION PLAN 2.0 FOR DRINKING WATER & WATERSHED PROTECTION IN THE REGIONAL DISTRICT OF NANAIMO**

"The RDN's ultimate vision is to support land use decision-making with local water information. In the next decade, the DWWP program will further hydrology-focussed efforts and add the new lens of ecosystem financial valuation of natural watershed assets."

Julie Pisani, DWWP Program Coordinator



“The data findings then direct efforts – for example, riparian area education for farmers and streamside landowners. Then it leads to restoration, often led by community volunteers which we support through stewardship seed funding. Now EAP represents the potential for innovative policy that aligns stewardship with the novel aspect of ecological accounting.”

***An Overview of the Millstone River EAP Project:*** “The EAP methodology reflects the understanding that landowners adjacent to the stream corridor and setback zone (30 metres on both sides of the stream) and the broader community share responsibility for and benefit from the condition of the stream as well as the financial and ecological value of the land it occupies.”

“The study’s intent was to pilot the EAP in the context of the Millstone River, an important ecological feature in the Nanaimo region that includes RDN Electoral Area C upstream and City of Nanaimo downstream, to test the methodology and take away learnings for further refinement in future applications.”

## **Take-aways from Millstone River EAP Project**

“Engaging a project steering committee and conducting a community survey on how landowners nearby to the stream value its presence and understand its worth, were important qualitative inputs alongside the number-crunching. Through this process, the importance of riparian vegetation was highlighted and led to an additional desktop assessment of riparian cover in the river corridor, which provides a high-level basis for strategizing where to prioritize investment in restoration of riparian woodlands to improve the health and functioning condition of the river.”

“Ultimately, the study found that the 15 km of stream length from Brannen Lake to Nanaimo Harbour, with 7 km in the City of Nanaimo and 8 km in Electoral Area C, had the combined Natural Commons Asset value of \$5.5M per kilometer or \$79.7M total, based on BC Assessment data.”

“It also found that community investment per year (based on the past decade) is roughly \$560,000 between the City and the RDN – including parkland purchases, infrastructure improvements, stewardship and monitoring. This shows there is already a level of investment as an expression of what the river is ‘worth’ to the community.”

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*EAP increases understanding and gives language and tools to advance the conversation.*

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“The report suggests a general framework for local governments to consider in using the lens of ecological accounting within Corporate Asset Management Plans to prevent degradation and improve stream corridor condition for the benefit of the community at-large. It is not the only methodology to account for natural assets, but it certainly increases our understanding and gives us some language and tools to advance the conversation,” concludes Julie Pisani.

*EAP, the Ecological Accounting Process, provides the RDN and City of Nanaimo with the numbers to make the case for maintenance and management (M&M) of the Millstone River stream corridor*

**“STREAMKEEPERS AND HABITAT VOLUNTEERS ARE PLEASED TO SEE THAT OUR LOCAL GOVERNMENTS ARE NOT ONLY SUPPORTING WATER STREAM MAINTENANCE, THEY ARE PROMOTING IT!”**

Bernie Heinrichs, Island Waters Fly Fishers



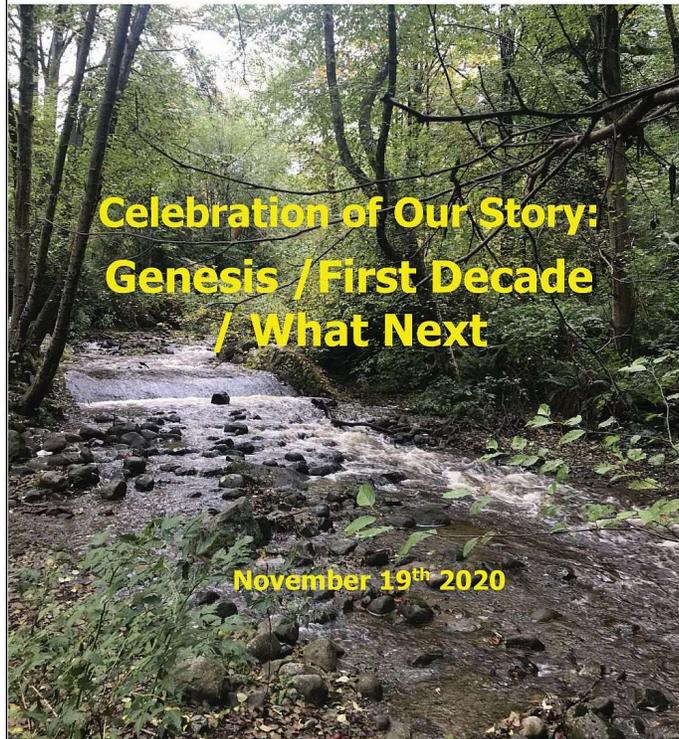
”Accounting for our region’s natural assets is part of responsible asset management that includes ecological systems as well as physical infrastructure.”

Tyler Brown, Chair  
Regional District of Nanaimo





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## Celebration of Our Story: Genesis / First Decade / What Next

November 19<sup>th</sup> 2020

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TO LEARN MORE, VISIT:

<https://waterbucket.ca/about-us/>

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## About the Partnership for Water Sustainability in British Columbia

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Incorporation of the Partnership for Water Sustainability in British Columbia as a not-for-profit society on November 19, 2010 was a milestone moment. Incorporation signified a bold leap forward.

Over two decades, the Partnership had evolved from a technical committee in the 1990s, to a “water roundtable” in the first decade of the 2000s, and then to a legal entity. The Partnership has its roots in government – local, provincial, federal.

The Partnership has a primary goal, to **build bridges of understanding** and pass the baton from the past to the present and future. To achieve the goal, the Partnership is growing a network in the local government setting. This network embraces collaborative leadership and **inter-generational collaboration**.

The Partnership believes that when each generation is receptive to accepting the inter-generational baton and embracing the wisdom that goes with it, the decisions of successive generations will benefit from and build upon the experience of those who went before them.

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**the partnership**  
for water sustainability in bc