




# the partnership for water sustainability in bc

Waterbucket eNews on October 18, 2022

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

A photograph of a dense forest with tall trees and a stream in the background. The text is overlaid on the image.

## **Living Water Smart in British Columbia: *Ecological Accounting - what's in a NUMBER?***

## 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 October 18, 2022 featured the story behind the story of the pattern of discovery by Tim Pringle that resulted in development of the methodology and metrics for EAP, the Ecological Accounting Process

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](#).



Cover Image Credit: photo by David Mackenzie,  
a Lifetime Member of the Partnership for Water Sustainability

<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

In this edition, the Partnership for Water Sustainability's Tim Pringle shares the story behind the story of the **'pattern of discovery'** that led him to the BC Assessment database. In developing the EAP methodology and metrics, he has demonstrated that **'the parcel'** is the lynchpin for integrating line items for M&M of streams systems in asset management budgets.

"Local government elected representatives and staff understand the parcel perspective because this is what they work with every day," Tim Pringle reminds us. "Getting it right about financial valuation of ecological services starts at the parcel scale and recognizing that every parcel is interconnected within a system."

Three decades ago, the philosophy that **"use and conservation of land are equal values"** launched Tim Pringle on a career trajectory that has culminated with his breakthrough accomplishment in leading the EAP initiative. EAP opens up multiple pathways for local governments to achieve the goal of "natural asset management".

Now, with EAP as a foundation piece, maintenance and management (M&M) of stream systems can be integrated into a Local Government Finance Strategy for sustainable infrastructure funding to tackle the Riparian Deficit.



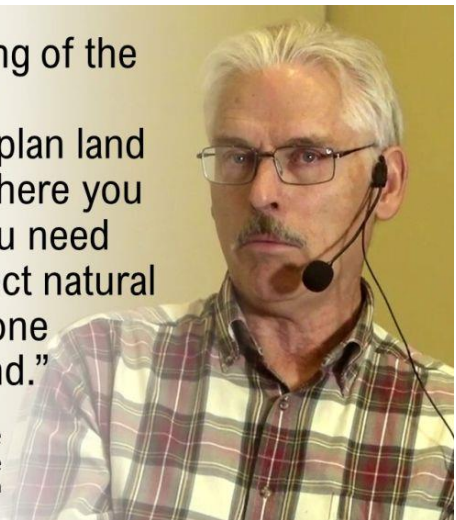
*Kim A. Stephens, MEng, PEng,  
Executive Director  
Partnership for Water Sustainability in BC  
October 2022*



**"We needed a measure of financial value that could be applied on stream systems generally, not just because somebody somewhere had done something somehow. And then it struck me, the BC Assessment database is the lynchpin for financial valuation." - Tim Pringle**

“Start with an understanding of the parcel because that is how communities regulate and plan land use. It is the parcel level where you get the information that you need to change practice to protect natural assets. That is what everyone must get their heads around.”

Tim Pringle  
Chair, Ecological Accounting Process Initiative  
Partnership for Water Sustainability in British Columbia



How will communities ensure that streams survive as healthy ecosystems in an urban setting? This existential question defines a key challenge facing local governments in an era of weather extremes. EAP, the Ecological Accounting Process, provides communities with a path forward. It is the means to inject balance into the natural asset management conversation.

The urgency of the drainage liability issue spurred EAP development. The Drainage Service is the neglected municipal service, and the cost of neglect grows over time. The consequence of neglect is an accumulating financial liability to fund creek channel stabilization and riparian corridor restoration in urban and urbanizing settings.

The EAP methodology and metrics enable communities to make the financial case for maintenance and management (M&M) of stream systems. Local governments need real numbers to deliver green infrastructure outcomes. It is that basic. Rhetoric is insufficient. EAP metrics are grounded in the BC Assessment database.

The strength, uniqueness and power of EAP is that the methodology yields a defensible number. In turn, this provides a sound basis for an annual M&M budget and all the decisions that flow from having that capability. The methodology is universal, but application is guided by the issues specific to each creek situation. It is the exact opposite of a cookie-cutter approach.

### **Cascading Concepts: *Five Key Ideas Underpin EAP***

The Riparian Deficit is the environmental equivalent of the Infrastructure Funding Deficit (or Gap). It puts the environmental perspective on an equal footing with the engineering and accounting perspectives. This is game-changing.

Because stream setbacks are defined in regulation, a stream corridor is a land use such that a proxy financial value is readily determined from BC Assessment data.



## STORY BEHIND THE STORY: Ecological Accounting - What's in a NUMBER?

The EAP methodology and metrics evolved over the course of a 6-year program of applied research. The program involved 9 demonstration applications (case studies) and 13 local governments on Vancouver Island and in the Lower Mainland regions of the Georgia Basin.

The first two stages were TEST and REFINE the methodology, respectively. Each stage comprised two projects. Stage 3 then involved 5 projects to demonstrate how to operationalize EAP within local government processes.

"Stage 3 is the springboard to embedding EAP in the Mount Arrowsmith Biosphere Research Institute at Vancouver Island University. This will ensure knowledge of EAP is maintained and passed on to the next generations of planners and local government staff," states Tim Pringle.



*The Drainage Service is the neglected service, and the cost of neglect grows over time*

---

### Pattern of Discovery

---

"We began by looking at research elsewhere in Canada and internationally that is concerned with ecological values. We quickly realized that we had to distinguish between ecological services and the natural assets themselves," states Tim Pringle.

"To look at the financial value of natural assets in a meaningful and universally applicable way, the key is how you identify the physical asset which delivers the ecological services."

## What is a useful measure?

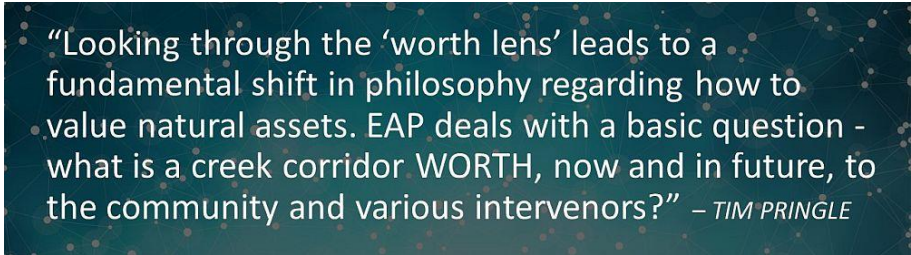
"The first two building blocks were Busy Place Creek and Brooklyn Creek in the Cowichan and Comox valleys, respectively. Collaboration with two willing local governments allowed us to test our ideas by exploring possibilities."

"With Busy Place Creek, we initially looked at whether and how a universal average expenditure per unit area might be used for valuing potential wetland restoration along streams. In the end, we concluded that the available information is not useful because it is project-specific. In short, no methodology emerged from the numbers."

## What became clear

"The breakthrough came when we turned our attention to Brooklyn Creek. The Town of Comox had spent \$2 million in 2005 to construct a peak flow diversion pipe. It then embarked on a multi-year program to stabilize, maintain and enhance the creek corridor and streamside riparian areas."

"But, I wondered, what is the Brooklyn Creek experience telling us that we could apply to other streams? How do we get useful and replicable numbers for financial valuation of ecological services? This question led me to look for a way to think about what we could meaningfully measure, other than using cash outlays for site-specific projects."



"Looking through the 'worth lens' leads to a fundamental shift in philosophy regarding how to value natural assets. EAP deals with a basic question - what is a creek corridor WORTH, now and in future, to the community and various intervenors?" – TIM PRINGLE

---

## BC Assessment is the Lynchpin

---

"I soon realized that we needed to make a distinction between WORTH and VALUE. Worth reflects community willingness to invest in the stream. That led me to the next leap – to go from looking at things related to worth, and consider things related to the value of the actual physical area of the stream corridor system."

"We needed a measure of financial value that could be applied on stream systems generally, not just because somebody somewhere had done something somehow. And then it struck me, the BC Assessment database is the lynchpin for financial valuation."

"We immediately realized that improvements on a property are not relevant. Thus, we only use the land portion of the BC Assessment database. We make a clear distinction between parcel values and property values."

---

## **What is Measured gets Managed**

---

"The EAP methodology considers a stream corridor and its protected setback zone to be a land use because it is defined in regulation. EAP defines the regulated zone as the Natural Commons Asset. And it has a financial value which we determine through an analysis of parcel data using BC Assessment for sample groups of parcels abutting and adjacent to streams."

"With Brooklyn Creek, we now had a defensible dollar number, expressed as a unit value, which we could apply over a stream length. In Stages 2 and 3, we validated the usefulness of EAP through application of a consistent set of research questions and objectives to seven subsequent case studies."

"From start to finish, it was a building blocks process. Understanding what each local government partner needed as an outcome from their EAP project became a critical consideration. EAP evolved as one 'big idea' led to the next one. We could not have made the leap directly from the first to the last. It required a building blocks process."

---

## **Reduce the Riparian Deficit**

---

"Having a defensible number allows us to look at riparian condition and set targets for restoration. The riparian condition is one measure of the state of M&M over time. We usually find the streamside setback zone is in a deficit position because things that ought to have occurred to protect it have not "

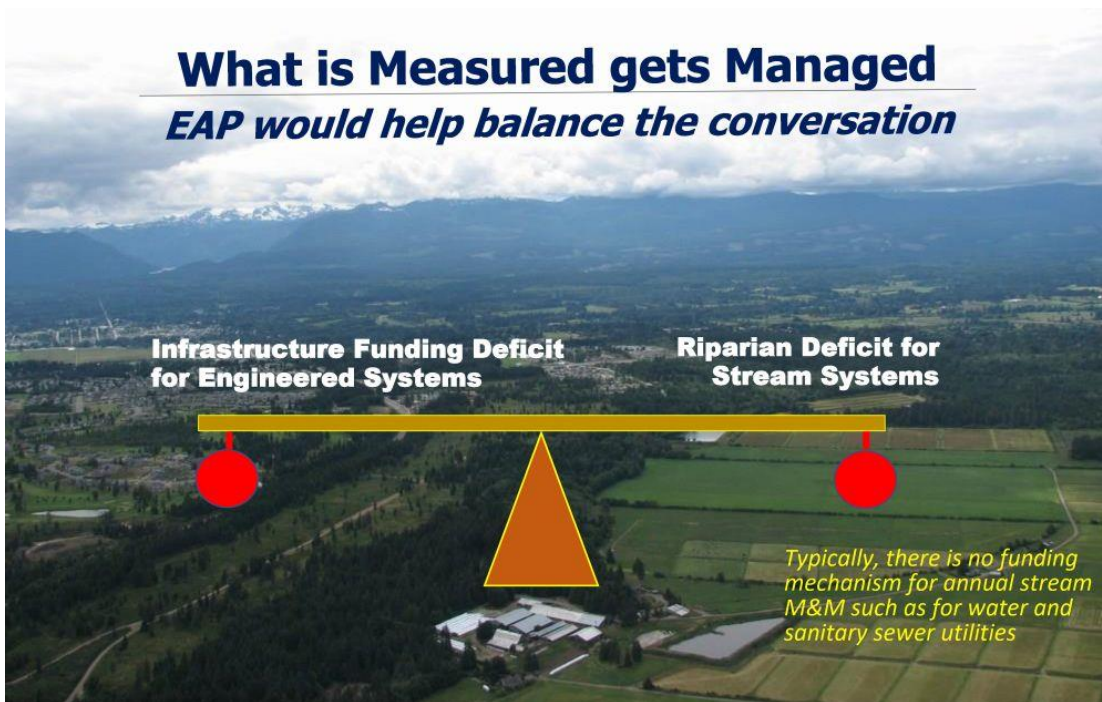
"Although the research framework is common to all, each EAP case study is unique. Each local government is dealing with a distinctive stream system management challenge driven by local circumstances."

"Think of EAP as a basic methodology plus add-ons. The latter are the questions that local governments have about where and how EAP fits into a strategic question. It is those questions that are shaping the evolution of EAP."



## What is Measured gets Managed

*EAP would help balance the conversation*



## Research Objectives for EAP Applications

**ESTABLISH** a measure of “stream worth” to the community based on historic investment in M&M.

**QUANTIFY** the “financial case” for the stream corridor as a Natural Commons Asset (NCA).

**APPLY** 1% of the NCA value to set a “benchmark guideline” for maintenance and management (M&M) investment in the stream corridor within the context of an Asset Management Plan.

**DETERMINE** whether and how the stream influences the assessed values of parcels that abut or are adjacent to the stream.

---

## A Look Ahead

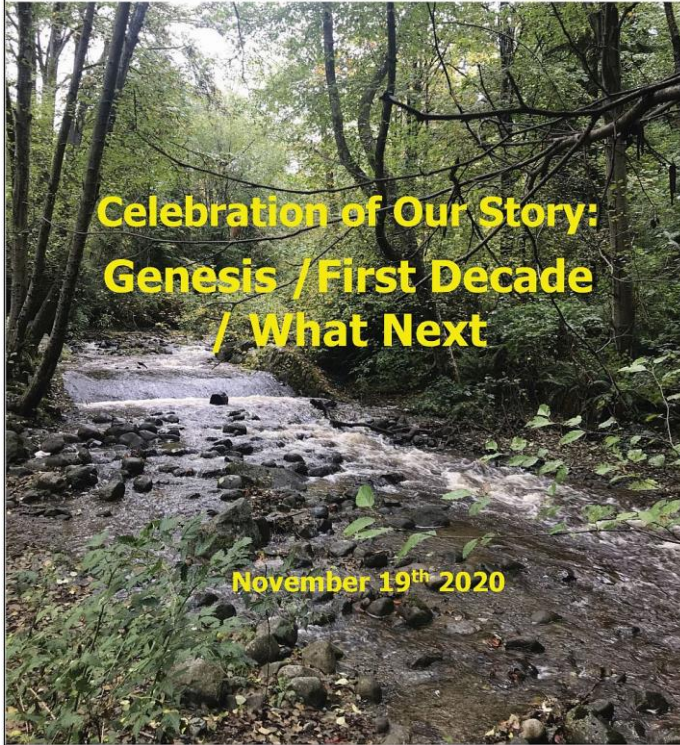
---

"As more and more local governments apply EAP, they would be in a better and better position to share and learn from each other. They would also see which investments give the best values in term of enhanced service level. They would be able to make informed generalizations."

"EAP will continue to evolve as understanding of the Riparian Deficit grows. The NCA calculation of value is straightforward. It is the M&M questions that matter most," concludes Tim Pringle.



the partnership  
for water sustainability in bc



---

TO LEARN MORE, VISIT:

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

---

---

## About the Partnership for Water Sustainability in British Columbia

---

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.

---



**the partnership**  
for water sustainability in bc