

# OPINION: Vision for “Sustainable Watershed Systems” resonates with audiences in BC and beyond

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A new way of thinking about municipal infrastructure has the attention of the local government world. Simply put, natural watershed systems are infrastructure assets – we must manage and protect them as such.

A mere fifteen months ago the Partnership for Water Sustainability framed the following **program goal** for the Georgia Basin Inter-Regional Education Initiative:

*By 2017, local governments would understand how to achieve “Sustainable Watershed Systems, through Asset Management”*

At the dawn of 2017, the purpose of this article is two-fold: take stock of our progress in 2016 to inform and educate; and foreshadow where we may be at year-end

The desired outcome that would flow from Sustainable Watershed Systems is a water-resilient future. This way of thinking builds on the vision for *Asset Management for Sustainable Service Delivery: A Framework for BC*; and has twin technical pillars – Water Balance Methodology and Ecological Accounting Protocol.

Understanding leads to action. Getting there is a step-by-step process to build practitioner capacity to get the job done. Presently, we are creating awareness of the goal.

## Looking Back: What We Accomplished

Early uptake of the vision for Sustainable Watershed Systems has exceeded our expectations. There is clearly interest and an appetite to learn more. It is an idea whose time has come.

**Asset Management Continuum:** Starting in November 2015, we have introduced the Asset Management Continuum (see image below) to an array of audiences in a variety of forums and media.

Our key message is that Sustainable Watershed Systems will be the outcome in Step Three. But it is not a wait-and-see proposition. Even as local governments are progressing through Steps One and Two for their core infrastructure, they need to be laying the groundwork so that they will be ready to implement Step Three.

Our outreach program for sharing the Sustainable Watershed Systems message is broadly based. Within the initial 12-month period, getting the word out involved constantly making presentations to inform and educate:

- Regional boards and municipal councils (6),
- conference audiences (6), local government technical groups (3), professional groups (1),
- stewardship sector (1) and university classes (2).

So, what were the defining moments in 2016? In August, my keynote address at a national conference in Australia provided a platform to reflect on “parallel journeys”. In October, publication of an op-ed in the Vancouver Sun demonstrated that our whole-system, water balance message is news worthy.



## Asset Management Continuum for Sustainable Service Delivery

**GROUND ZERO:** In the beginning, no **Asset Management Plan** exists. A consequence is an ‘unfunded infrastructure liability’.

**STEP ONE:** Local governments embrace the BC Framework, with an initial focus on core engineered assets (water supply, sewage, roads) and embark on an **Asset Management Strategy / Plan / Program** process.

**STEP TWO:** Local governments start thinking holistically and implement a life-cycle approach to infrastructure decision-making so that **Sustainable Service Delivery** for engineered assets becomes standard practice.

**STEP THREE:** For the drainage function, local governments will integrate natural systems thinking and climate adaptation into asset management and account for the **Water Balance Services** provided by watershed systems.

As understanding grows, local governments will progress incrementally along the **Continuum**

**Australian Keynote:** The BC approach to infrastructure asset management has learned from and built upon Australian experience, and is now taking asset management to another level with *Asset Management for Sustainable Service Delivery: A Framework for BC*.

To develop a storyline on parallel journeys for my 2016 keynote, I interviewed a cross-section of “water thought leaders” from across Australia. These conversations allowed me to identify over-arching themes that shaped my storyline and relevancy to an Australian audience.

The conference then served as the moment of truth for audience response. Would Australians be receptive to the storyline? Would they understand our way of watershed systems thinking? Would they grasp the significance of the Asset Management Continuum?

Just as the BC Framework has garnered both Canada-wide and international attention, so too is “Sustainable Watershed Systems, through Asset Management” attracting interest in our pragmatic whole-system, water balance approach to GETTING IT RIGHT.

Other regions recognize BC as a leader. They perceive BC moving in the right direction with integration of watershed systems thinking and asset management. International exposure allows us to judge how BC stacks up against the rest of the world.

### Journey to a Water-Resilient Future

Visit <https://youtu.be/JCrdEkK61GY> to watch and learn how I introduced Australians to three “big ideas” that underpin where we are heading in BC, namely: Primacy of Hydrology, Shifting Baseline Syndrome, and Cathedral Thinking. The three are interconnected. The outcome would be Sustainable Watershed Systems.

Changes in hydrology, not water quality, must be the primary focus. If we can get the hydrology right, and recreate watershed systems, then as an added benefit the water quality would be greatly improved.

The good news is that redevelopment creates an opportunity. If we do get the hydrology right the second time, and restore the **watershed system**, this would then reset the ecological baseline.

Coined by University of British Columbia’s Dr. Daniel Pauly, the Shifting Baseline Syndrome describes an incremental and imperceptible eroding of expectations and standards that results from each new generation lacking knowledge of the historical condition of the environment.

Resetting the ecological baseline would take time, inter-generational commitment, and perseverance. This is the essence of “cathedral thinking” which describes our BC vision for **Sustainable Watershed Systems**.

In embarking on the journey to a water-resilient future, we can learn from our ancestors. The foundation for cathedral thinking is a far-reaching vision, a well thought-out blueprint, and long-term implementation.

These ideas resonated with the audience in Australia, and opened eyes and minds to a different way of thinking. These ideas are also resonating with audiences in British Columbia.

### Looking Ahead: What is on the Horizon

The BC Framework links local government services, infrastructure that supports service delivery, and watershed health. Thus, it sets a strategic direction that would refocus business processes to properly manage **watershed systems** within the built environment:

*Mimic natural flows in streams. Preserve the natural pathways by which water reaches streams. Slow, spread and absorb runoff.*

Benefits of the whole-system approach include less flooding, less stream erosion, and more streamflow during dry weather when needed most. These water balance benefits ultimately translate into lower life-cycle costs and a water-resilient future!

But there is a caveat - moving from understanding to implementation requires a sustaining commitment by local governments to implement ‘standards of practice’ that restore the desired watershed condition over time.

Some communities already have some of the puzzle pieces needed to ensure a water-resilient future. What is lacking, however, are precedents that demonstrate HOW to fit those pieces together to form a complete puzzle picture.....AND also ‘walk the talk’ to implement a pragmatic whole-system approach that resets the baseline. This is a major gap. The Partnership is working with our local government partners to fill it through development of the **Ecological Accounting Protocol**.

By the end of 2017, success would be measured by progress on two case studies that would refine, apply and test application of the Ecological Accounting Protocol to show that: *To protect watershed health, engineered infrastructure out to fit into natural systems, rather than the other way around.*