



the partnership
for water sustainability in bc

Waterbucket eNews on October 17, 2023
<https://waterbucket.ca/wscblog/>

Living Water Smart in British Columbia:

***Green Infrastructure
is the Pathway to
Water Sustainability***

Note to Reader:

Waterbucket eNews¹ celebrates the leadership of individuals and organizations who are guided by the vision for [Living Water Smart in British Columbia](#)².

The edition published on October 17, 2023 featured an interview with Darrell Mussatto, former mayor of North Vancouver City. His time in office coincided with the timeline for the early adopter and leading by example phases of the Metro Vancouver region's green infrastructure journey. He views the journey through both the regional and local lenses.

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



Cover Image Credit: photo by Kim Stephens

¹ <https://waterbucket.ca/wscblog/>

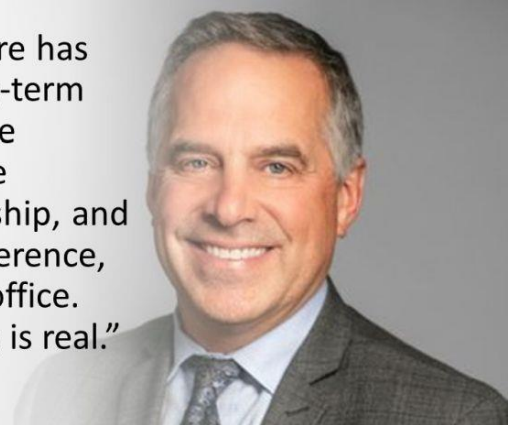
² https://waterbucket.ca/wcp/wp-content/uploads/sites/6/2017/11/livingwatersmart_book.pdf

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

One-Minute Takeaway

"Local government elected representatives can be the leaders that are desperately needed now," says former mayor Darrell Mussatto

"At the regional level, there has been a recent loss of long-term knowledge and experience because people who were providing regional leadership, and trying hard to make a difference, have retired from public office. The loss of understanding is real."



Darrell Mussatto served on North Vancouver City Council for 25 years from 1993 through 2018, including 13 years as Mayor (2005 to 2018).

His time in office coincides with the timeline for the early adopter and leading by example phases of the Metro Vancouver region's green infrastructure journey. He views the journey through both the local and regional lenses.

As mayor, Darrell Mussatto was prominent at the regional level. Appointed to the Metro Vancouver Utilities Committee in 2009, for example, he served as chair from 2012 through 2018.

The Utilities Committee provided political oversight for building of regional water supply and sewage treatment facilities. Oversight responsibilities also included the regional strategy for protecting stream systems.

This historical context provides Darrell Mussatto with a unique perspective. His reflections provide valuable insight.

Guided by Darrell Mussatto's leadership, in the early 2000s the City of North Vancouver embraced a vision for building rain gardens on public and private lands. An enhanced streetscape with rain gardens in "bump outs" became a standard requirement for all re-development projects in the City of North Vancouver.

"The City's goals are to enhance the city's streetscapes, restore the health of watercourses, and fulfil regulatory objectives for rainwater management," he stated in a 2014 interview.

Story of the Metro Vancouver region's Green Infrastructure Journey (1997-2023)

The past informs the future. It is about looking back to see ahead. In this edition of Waterbucket eNews, we weave a selection of quotable quotes from a conversation with Darrell Mussatto to tell a story.

With the downloadable version of this edition, we include a BONUS FEATURE. It is a preview extract from [Create Liveable Communities and Protect Stream Health in the Metro Vancouver Region: Moving Along the Green Infrastructure Continuum](#). This legacy resource will be published early in 2024.

The bonus is that the complete conversation with Darrell Mussatto is included as an appendix.



Editor's Perspective by Kim A Stephens

Understand your oral history and frame it to suit the times

The past informs the future. To paraphrase what Sir Winton Churchill once famously said, it does help to look back if one wants to see ahead. For many months, this has been my context for conducting conversational interviews in the Metro Vancouver region.

In talking to key players in government, both active and retired, I have been trying to understand why we were collectively successful in the 2000s, and what is different now. Looking back, we can clearly see that the 2000s truly was a transformational decade. It offered so much promise and hope.

With hindsight, it was fortuitous that after the 2005 local government elections, the Partnership established a mayors and chairs focus group. Thus, we have a written record of the thinking that guided the green infrastructure journey. This means we have a baseline!



In having conversations in 2023, then, it has been to understand the prevailing mindset for the "class of 2005" versus that for the "class of 2022". There are differences. It is a different crowd in 2023. When you look back to see ahead, you begin to appreciate the nature of those differences.

A lot of things that took place in the 2000s are the building blocks which people have forgotten. As Darrell Mussatto points out in the story behind the story, the loss of understanding is real. In the 2000s, politicians and staff were aligned. This fueled political commitment to take action to achieve a shared vision.

A common refrain is that what was possible in the 2000s would not be possible in the 2020s. Times are tough. Those who are in the front lines of local government are embattled, stretched to the limit, and under-appreciated.

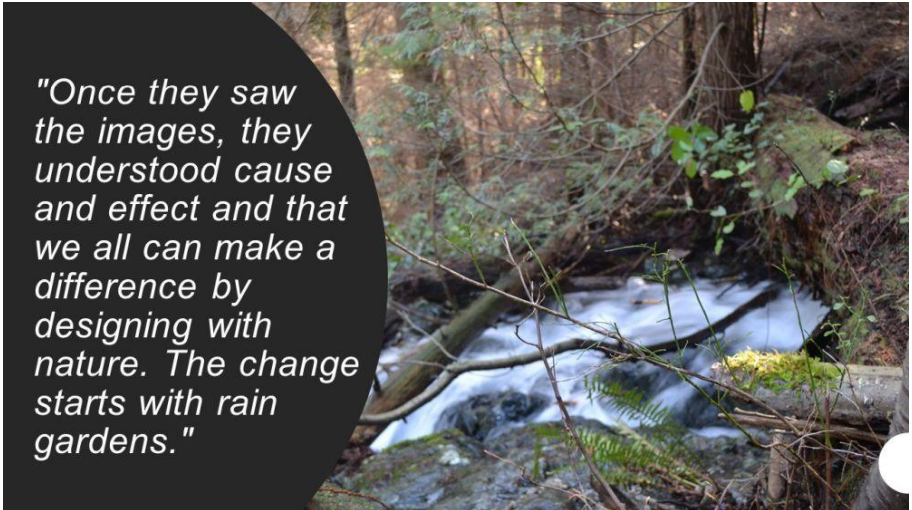
To find a path forward in these challenging times, you have to understand your oral history and frame it accordingly! Where we have landed on is **risk management**.

"We must inspire elected representatives to become champions and do the right thing," says Darrell Mussatto in his call to action.

Darrell Mussatto understands the connection between Storm Drains and Stream Health

"Years ago, I prepared a slideshow and met with community groups," said Darrell Mussatto when he told me his story. "First, I would show photos of catch basins. *Do you know where the road runoff goes after it enters the storm drain system*, I would ask. Often, there would be a lot of blank looks."

"Then I would show photos of Wagg Creek. This is where the water goes and look at the consequences. Erosion and channel bank instability. Light bulbs would go on. A common refrain would be: *I had no idea, but now I get it.*"



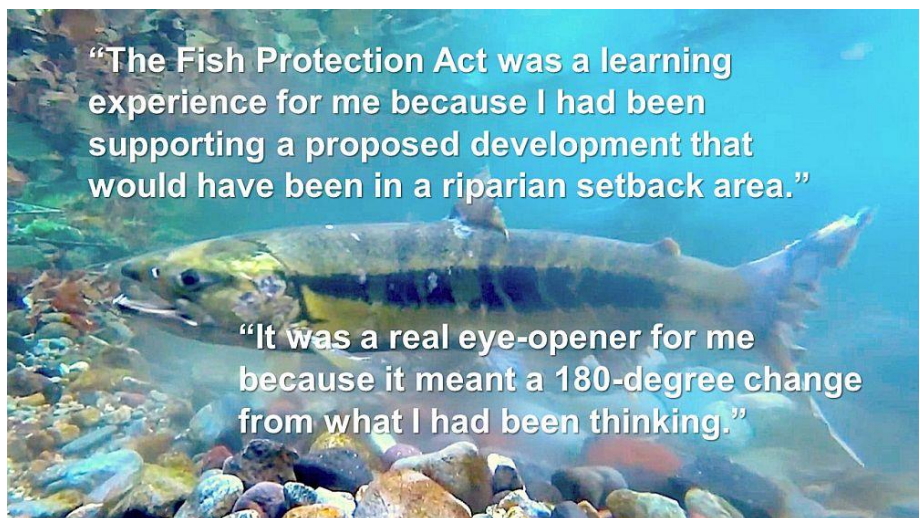
"Once they saw the images, they understood cause and effect and that we all can make a difference by designing with nature. The change starts with rain gardens."

STORY BEHIND THE STORY:

Green Infrastructure is the Pathway to Water Sustainability – *a conversation with Darrell Mussatto*

"You get elected, and you start to learn. And you become inspired by what you see happening. I remember when the Fish Protection Act passed in 1997, and municipalities were required to have setbacks in creeks. This happened in my first term on council and was quite a challenge for us," recalls Darrell Mussatto.

"This experience was my context when I served on and later chaired the Metro Vancouver Utilities Committee a decade later."

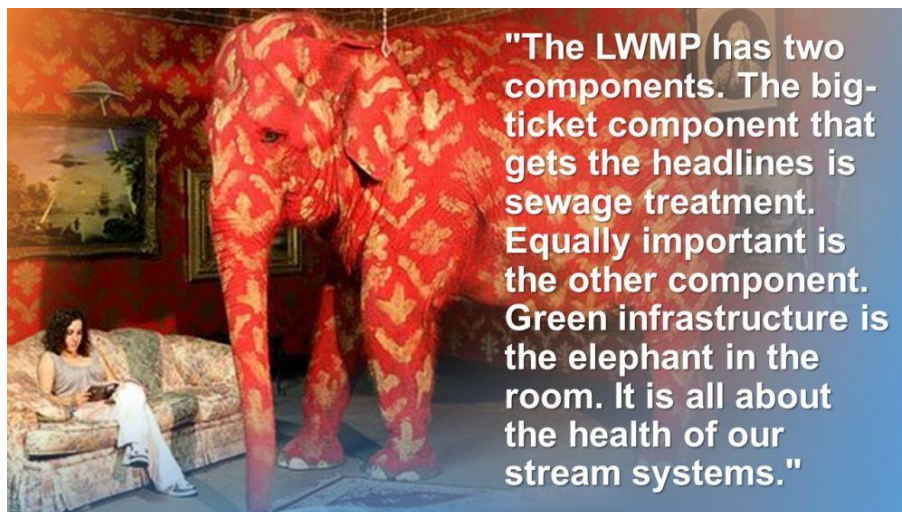


"The city's rain garden program is a significant achievement. Before, the prevailing mindset was out of sight, out of mind. We started the program to celebrate rain. We recognized that rain gardens have ecological importance. All those rain gardens add up."

"Neighbourhoods that were initially doubtful experienced the benefits of softened streetscapes where traffic is slower, and streets feel more liveable. People tell me that they love the rain gardens."

We must inspire elected representatives to become champions and do the right thing

"The Metro Vancouver region's Integrated Liquid Waste and Resource Management Plan (LWMP) was another learning experience for me. It is not like I had a burning desire to look into our LWMP and say this is where we need to go. It was all foreign to me. So, I relied on the energy and expertise of others, including Kim Stephens."



"The LWMP has two components. The big-ticket component that gets the headlines is sewage treatment. Equally important is the other component. Green infrastructure is the elephant in the room. It is all about the health of our stream systems."

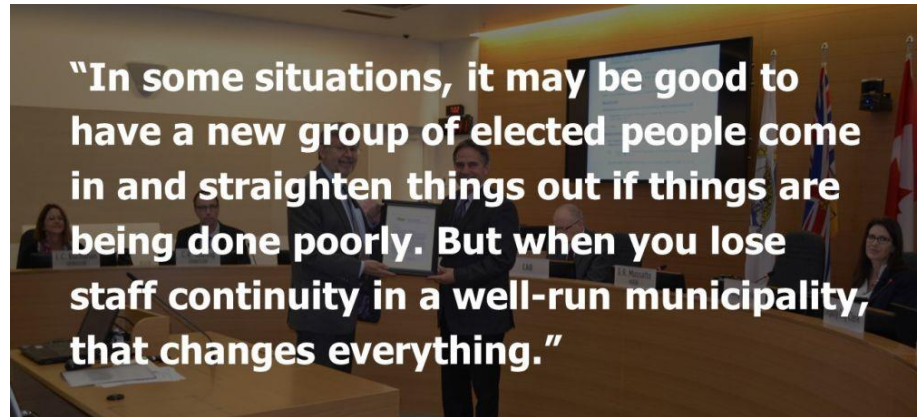
"After I became chair of the Utilities Committee in 2012, I asked Kim Stephens to meet with the committee twice yearly. The committee had gotten to know and trust Kim when he chaired the advisory LWMP Reference Panel."

"His presentations were critical in helping us understand what we could do as a committee. We saw green infrastructure as something positive. We could grab onto and run with it."

The loss of understanding among elected representatives at the regional scale is real

"As an elected representative, you go through the years, and you become more involved. And then in my case, 2018 comes along and you are not running for re-election again. After serving 25 years, you are done! That is a big, big shock. Once you are done, you are done."

"At the regional level, there has been a recent loss of long-term knowledge and experience. The loss of understanding is real. When politicians retire, staff are still there. They provide the continuity. As an outgoing elected person, you rely on the continuity of key staff to keep it all together."

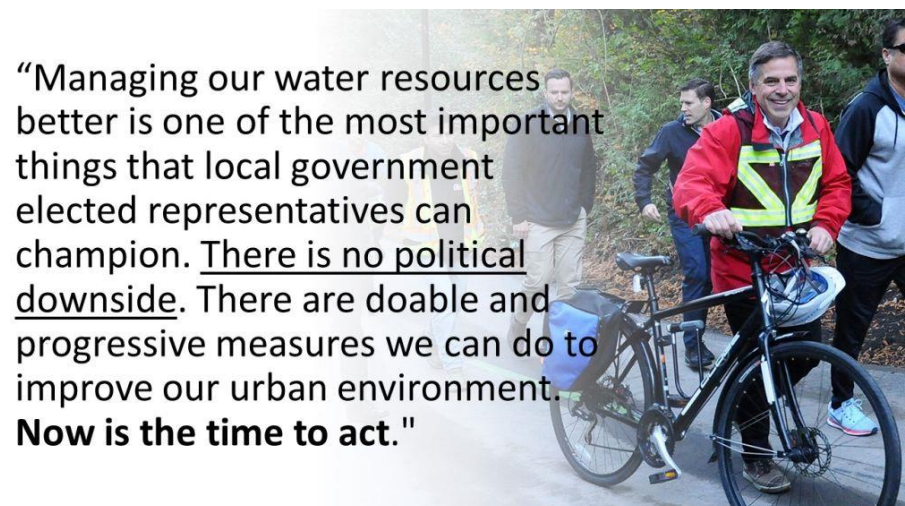


A better way is needed to pass along knowledge to the newly elected

"The loss of continuity in municipal engineering leadership throughout the region concerns me. Just imagine all the knowledge and understanding that must be re-learned. It has come at a critical time for the future direction of the region."

"Transitioning to a new council is also a challenge, and always has been. We need a better way to pass along the knowledge we gained to the newly elected ones without them feeling like the old crew are still in charge."

"We had our time in the office. Now it is their turn to carry the baton and be the champions," concludes Darrell Mussatto.



APPENDIX A

A window into the green infrastructure journey in the Metro Vancouver region:

A conversational interview with former mayor Darrell Mussatto provides a perspective on leadership



Rain Garden Champion

Fish Protection Act in 1997 was an eye-opener

Inspire elected representatives to become champions
and do the right thing

Relationships with First Nations matter

Reflections by Darrell Mussatto, former Mayor, City of North Vancouver (1993 – 2018)

Darrell Mussatto understands the connection between Storm Drains and Stream Health

"Years ago, I prepared a slideshow and met with community groups. First, I would show photos of catch basins. 'Do you know where the road runoff goes after it enters the storm drain system?' I would ask. Often, there would be a lot of blank looks."

"Then I would show photos of Wagg Creek. This is where the water goes and look at the consequences... erosion and channel bank instability...light bulbs would go on. A common refrain would be: 'I had no idea, but now I get it'. Once they saw the images, they understood cause and effect... (and) that we all can make a difference by designing with nature. The change starts with rain gardens."

Darrell Mussatto, 2014

Rain Garden Champion

Darrell Mussatto served on North Vancouver City Council for 25 years from 1993 through 2018, including 13 years as Mayor (2005 to 2018) when he retired from office. As mayor, he was prominent at the regional level, serving as chair of the Metro Vancouver Utilities Committee from 2012 through 2018 after being appointed to the committee in 2009.

Guided by Darrell Mussatto's leadership, the city was an early adopter of green infrastructure and embraced a vision for building rain gardens on public and private lands. "The City's goals are to enhance the City's streetscapes, restore the health of watercourses, and fulfil regulatory objectives for rainwater management," he stated in a 2014 interview.

"At the regional level, there has been a recent loss of long-term knowledge and experience because people who were providing regional leadership, and trying hard to make a difference, have retired from public office. The loss of understanding is real."

Darrell Mussatto, former Mayor of North Vancouver City



Darrell Mussatto's time in office coincides with the timeline for the region's green infrastructure journey. He was instrumental in the LWMP process and viewed the journey through the regional and local lenses. This historical context provides him with a unique perspective. His reflections provide valuable insight and are structured in four parts.

In 2014, a visiting French TV documentary team was an opportunity to profile North Vancouver's rain garden program. "When Kim Stephens asked for City assistance in hosting the French film crew, we were happy to help out," recalls Darrell Mussatto. "We immediately decided that it would be best to take the film crew to the Queen Mary Rain Garden. That was our flagship project." Refer to **Figure B1**.

Figure B1 – Queen Mary rain garden in North Vancouver City

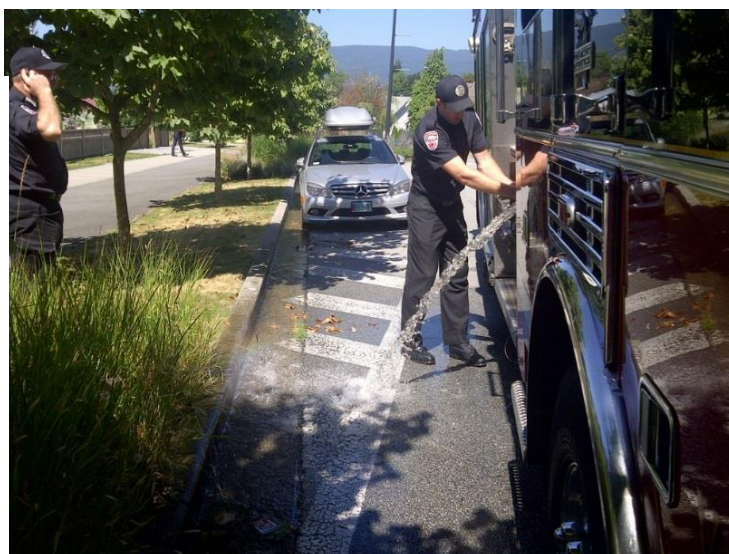


Queen Mary Rain Garden is tributary to Wagg Creek, a major riparian amenity

STORIES BEHIND THE STORY:

On a sunny day during an extended period of rain-free weather, the fire department helped out by providing a steady flow of water to simulate how a rain garden works.

*In researching who is doing what around the world, the French team discovered the Partnership's waterbucket.ca website. Intrigued by what they read, they wanted to know more for an episode titled **Can Water and Man Make Up?** In a 3-part television documentary titled **Water: A Novel**.*



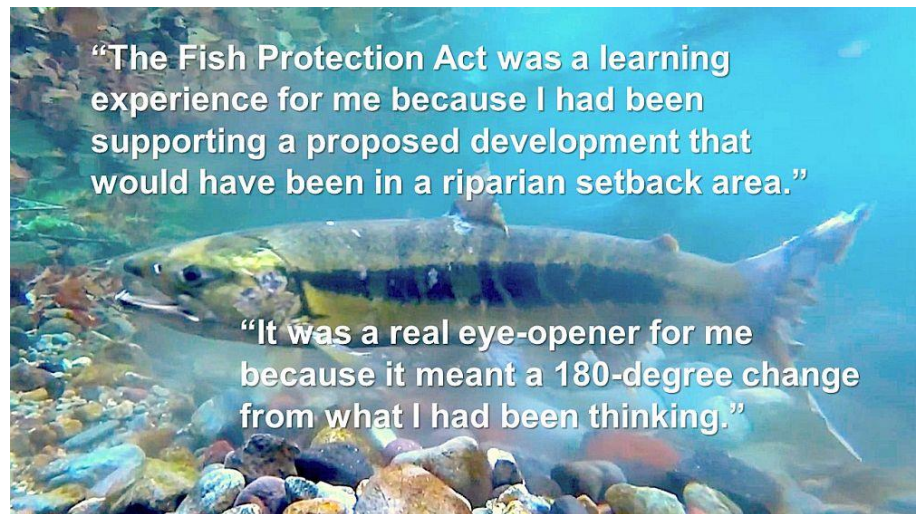
Visiting 3-man TV documentary crew from France flank their hosts during an on-location interview:

Pierre Bressiant (director) and Jean-Yves (sound) on the left; and Nagib (camera) on the right.

In the middle: Kim Stephens (L) and Darrell Mussatto (R)

Fish Protection Act in 1997 was an eye-opener

“You get elected and you start to learn. And you become inspired by what you see happening,” explains Darrell Mussatto. “I remember when the Fish Protection Act passed in 1997, and municipalities were required to have setbacks in creeks. This happened in my first term on council and was quite a challenge for us.”



“This experience was my context when I served on and later chaired the Metro Vancouver Utilities Committee a decade later. When the region embarked on the first update to the LWMP in 2008, I found it extremely rewarding to be working with a group of people that wanted to move the rainwater component forward and do things differently.”

What If: 1000 rain gardens

An enhanced streetscape with rain gardens in “bump outs” is a standard requirement for all re-development projects. Also, city budgets for all major transportation or greenway projects include provision of rain gardens and landscaping within bump outs.

“It took decades of urbanization to cause the progressive decline of North Vancouver’s creeks. A single rain garden will not make a material difference to conditions in Wagg Creek. But 1000 rain gardens would be a different story. These will take time to implement. The process will be incremental.”

“The city’s rain garden program is a significant achievement. Before, the prevailing mindset was out of sight, out of mind. We started the program to celebrate rain. We recognized that rain gardens have ecological importance. All those rain gardens add up.”

“Neighbourhoods that were initially doubtful experienced the benefits of softened streetscapes where traffic is slower, and streets feel more liveable. People tell me that they love the rain gardens.”

Story behind the story of North Vancouver's rain garden program:

"It was Tony Barber who introduced Council to the vision for building rain gardens and enhancing the city's streetscapes. He was the staff champion whose passion and commitment made the rain garden program a reality. This is part of his personal and professional legacy," says Darrell Mussatto. "Tony understood the relationship between the hardening of the urban landscape and the consequences for the City's small streams, in particular the loss of salmon."

Enhancement of the Lonsdale Corridor using "bus bulges"

"Rain gardens were included in the bus bulges on Lonsdale to minimize the impact of the built environment on Wagg Creek. But this is just part of the picture."

"The rain gardens also help to sustain the adjacent street trees and make the streetscape a more comfortable and attractive environment for walking. Studies have shown that appealing streetscapes also improve the viability of adjacent businesses."

"The bus bulges reduce transit dwell times and therefore help to make transit a more attractive alternative. To sum it up, bus bulges contribute to the social, economic and environmental aspects of the sustainability of the City of North Vancouver."

Tony Barber, 2008

"Tony Barber generated action. He successfully made the case that there had to be a better way. He initiated changes in the City's design practices. When I look back, I believe the turning point in Tony Barber's 'rainwater management mission' was the daylighting of Thain Creek. That gave the design with nature vision a huge lift, and Council embraced it."



When it was completed in 1999, Thain Creek was the largest creek daylighting project in BC. The project restored Thain Creek to its natural state as a fish bearing stream. "Creek daylighting provided value to the community through the creation of a visually attractive and ecologically functional stream corridor. Benefits included public education about fish enhancement projects," Darrell Mussatto notes.

Inspire elected representatives to become champions and do the right thing

"The LWMP was another learning experience for me. It is not like I had a burning desire to look into our LWMP and say this is where we need to go. It was all foreign to me. So, I relied on the energy and expertise of others, including Kim Stephens and Metro Van and CNV staff."

"After I became chair of the Utilities Committee in 2012, I asked Kim Stephens to meet with the committee twice yearly as an invited delegation. I did this because I believed his updates would help keep us informed about and committed to LWMP implementation. The original committee members had gotten to know and trust Kim when he chaired the LWMP Reference Panel. "

Reflections on the loss of long-term understanding and knowledge

"This loss worries me because it has come at a critical time for the future direction of the region."

"Transitioning to a new council is always a challenge. We need a better way to pass along the knowledge we gained to the newly elected ones without them feeling like the old crew are still in charge."

"We had our time in the office. Now it is their turn to carry the baton, be the champions, and support the work of the Partnership."

Leadership, inspiration, and champions

"Presentations by Kim Stephens were critical in helping us understand what we could do as a committee. We saw green infrastructure as something positive. We could grab onto and run with it."

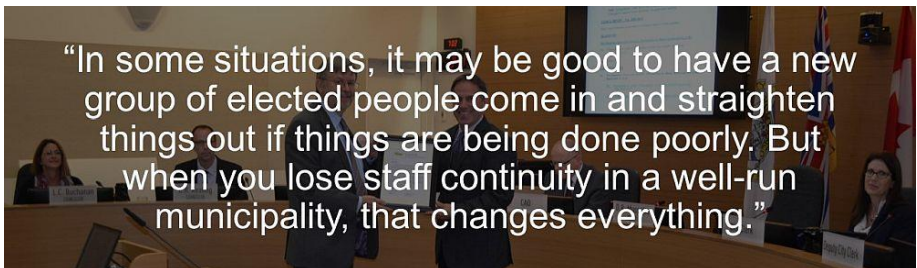
"And the newly elected members saw that they too could champion and be part of it. It is easy for municipalities to say something is important, and then go and put the money into something else because that something else is considered more important. The presentations by Kim Stephens inspired us. And this helped create champions and build committee support for green infrastructure."

"I am always in awe of the work that the Partnership does because you make a difference in a lot of people's lives. And you were very significant in my energy at Metro Van and in North Van. This was not something that I read in a book. I learned it from the Partnership and those who display the kind of leadership that inspires others."

Reliance on staff continuity in local government to keep it

altogether: "As an elected representative, you go through the years, and you become more involved. And then in my case, 2018 comes along and you are not running for re-election again. After serving 25 years, you are done! That is a big, big shock. Once you are done, you are done."

"At the regional level, there has been a recent loss of long-term knowledge and experience because people who were providing regional leadership, and trying hard to make a difference, have left public office. The loss of understanding is real. The scale where I believe the loss of understanding should be less is at the municipal level. When politicians retire, staff are still there. They provide the continuity."

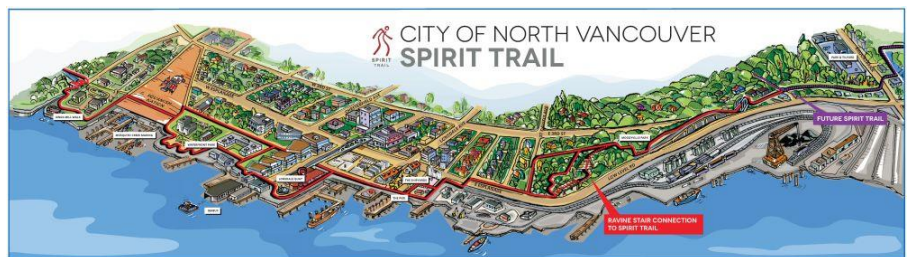


"As an outgoing elected person, you rely on the continuity of key staff to keep it all together. It concerns me to learn about loss of continuity in municipal engineering leadership throughout the region due to the wave of post-COVID retirements. Just imagine all the knowledge and understanding that must be re-learned."

Relationships with First Nations matter

In the course of the conversation about community benefits that land redevelopment and partnership opportunities can contribute to the social fabric and wellbeing of a community, Darrell Mussatto singled out the Spirit Trail project as an accomplishment that makes him proud.

“The North Shore Spirit Trail project is a fully accessible 35km greenway that will extend from Horseshoe Bay to Deep Cove. How the City of North Vancouver came to build the waterfront section through the Mosquito Creek Marina on Squamish Nation territory shows what can happen when you work with others to really achieve something.”



“Unbelievably, the Squamish Nation said we will allow you to build a public pathway through our land. The Squamish Nation said *that is all of our yard*. We put the path right through their marina, right through their nation, and connected a critical section of the Spirit Trail.”

“The Squamish Nation and their leadership were phenomenal. Over the years, the City of North Vancouver had developed strong relationships with the Squamish because that was important to me. Relationships with First Nations matter. It is how we can make it win/win for everyone. We have to find a way to do that. And we can. Working with First Nations is a really positive thing.”

*During Darrell Mussatto's watch as chair of the Utilities Committee, Metro Vancouver co-sponsored the **2017 Blue Ecology Workshop** which introduced Michael Blackstock to a local government audience. This is explained in Part E.*

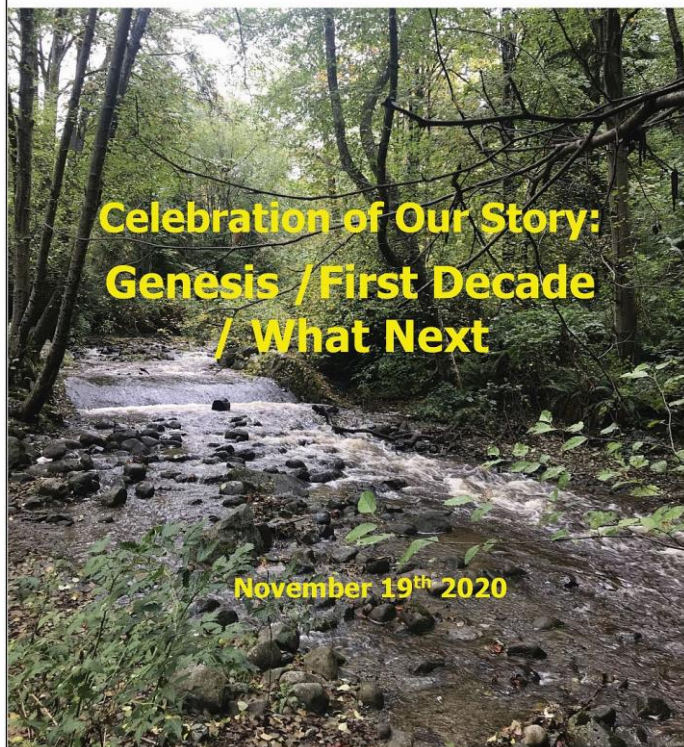
“First Nations are knowledge keepers and have a really unique way of looking at how we are on the planet. It is not just about today. It is about future generations. They really value that.”

- Darrell Mussatto





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

November 19th 2020

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<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.



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