

NORTH SHORE STREAMKEEPERS



STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

MARCH 18, 2017

LYNN VALLEY LIBRARY, COMMUNITY ROOM

STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

SPEAKERS

Kim Stephens



Executive Director of the Partnership for Water Sustainability in BC.. Kim has more than four decades of experience and has played a leadership role in British Columbia related to water conservation and sustainability, watershed health, rainwater management and green infrastructure. Kim participated in the development of the document “A Water Conservation Strategy for BC” and authored the “Water Balance Methodology” that the provincial government incorporated into “Stormwater Planning: A Guidebook for British Columbia and the Water Sustainability Action Plan for British Columbia.”. Kim’s recent work “Beyond the Guidebook 2015: Moving Towards Sustainable Watershed Systems, through Asset Management” and has received wide recognition. This includes a Premier’s Award for Excellence & Innovation.

Julie Wilson



Academic Coordinator of the professional Master of Land and Water Systems at UBC. She is also a lecturer, teaching courses in professional communications and urban watershed management. She is also a Professional Agrologist. Her research involves the assessment of natural and man-made landscapes and how they affect the quality and quantity of freshwater resources. Julie’s goals have evolved towards science outreach and communication: strengthening connections between the academic community and the public, policy makers, the private sector, youth, and more.

Workshop Organizers:
Janet Dysart, Karen Munro, Glen Parker

Opening Remarks by:

- Mayor Richard Walton
- MLA Jane Thornthwaite
- MLA Naomi Yamamoto

STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

CONCLUSIONS

1. IT STARTS WITH COMMUNICATION & EDUCATION

- PERMEABLE SURFACES MATTER AND GREEN INFRASTRUCTURE REDUCES FLOODING

2. TIME IS OF THE ESSENCE

- THE PEAK OF HOUSING TURNOVER IS NEAR AND THERE IS A WINDOW FOR ACTION

3. FINANCIAL & LEGAL INCENTIVES MOTIVATE

- TAXES & LAWS ON IMPERMEABLE SURFACES CAN OFFSET AND FUND STORMWATER INFRASTRUCTURE COSTS

4. ENGAGEMENT WITH LOCAL GOVERNMENT WORKS

- BUDGETS & CIVIC RESOURCES GO TO IDENTIFIED ISSUES THAT ALIGN WITH COMMUNITY VALUES
- DEVELOPMENT CAN BE MANAGED BUT WITH REGULATION THAT PUTS COMMUNITY VALUES FIRST




STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

PROPOSED ACTION

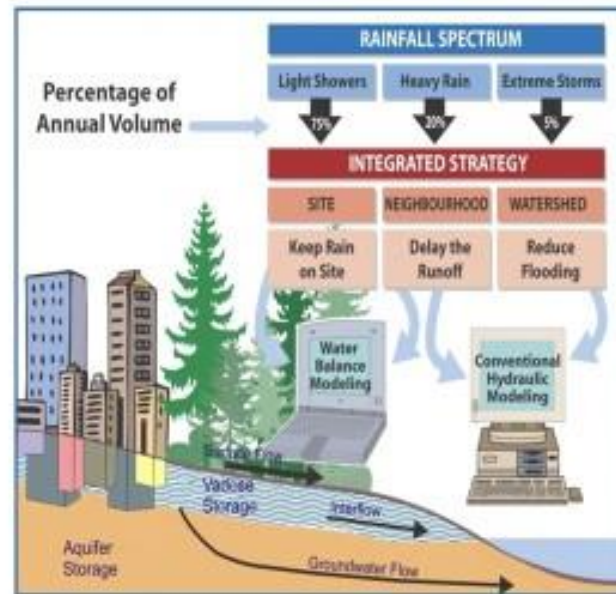
HAVE THE EXISTING “SEWER/DRAINAGE” TAX MODIFIED TO CONSIDER IMPERMEABLE SURFACES

STEPS TO SUCCESS:

- **MEET WITH ELECTED OFFICIALS IN DNV/CNV**
 - **HAVE DNV/CNV COUNCILS MOVE TO HAVE STAFF INVESTIGATE OPTIONS FOR TAXES ON IMPERMEABLE SURFACES (USE KITCHENER/WATERLOO AND VICTORIA AS EXAMPLES)**
 - **ADOPTION OF MODIFIED SEWER/DRAINAGE TAXES BASED ON IMPERMEABLE SURFACES**
- 

IT STARTS WITH COMMUNICATION & EDUCATION

Watershed protection starts with an understanding of how water gets to a stream, and how long it takes...



Surface runoff
from minutes to hours

Interflow
from days to seasons

Deep Groundwater
from years to decades or more

GUIDING PRINCIPLE #1:

Maintain the proportion of rainwater entering the stream via each pathway!

Constant Communication:

- Community to Government
- Government to Public
- Government to Developers

Lots of good work ongoing but frustration with results...more is needed to move to the Next Step

Mayor Walton: “Every resident should know their watershed”

STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

IT STARTS WITH COMMUNICATION & EDUCATION

Grey Infrastructure



Green Infrastructure



Rain Gardens



Rain Barrels



Infiltration Swales



Constructed Wetlands



Green Roofs

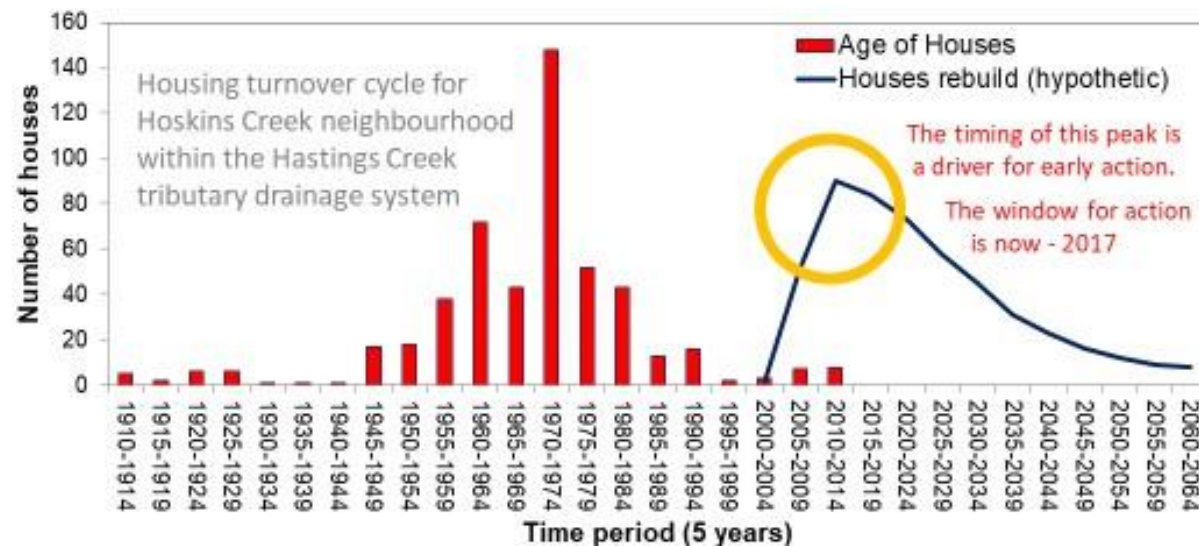
**Green
Infrastructure
Reduces
Flooding...
and can save
money!**

STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

TIME IS OF THE ESSENCE

Redevelopment of Single Family Neighbourhoods creates opportunities to “get it right” the second time and restore watershed health in North Vancouver


THE CHALLENGE: Will the District act in time to catch the peak? Time is of the essence!



**“an informed
stewardship sector may
prove to be the
difference-maker that
accelerates
implementation of the
water balance
approach.”**

Peter Law

FINANCIAL & LEGAL INCENTIVES MOTIVATE

 <div> <div>MEMORANDUM</div> <div> City of Kitchener City Hall, 200 King St. West P.O. Box 1118 Kitchener, ON N2G 4G7 </div> </div>					
Stormwater Charges -Schedule 'A' of City By-Law (July 1, 2011)					
Type Code	Description	Basis for Charge	Number of Dwelling Units	Monthly Charge per Property ¹	Annual Charge per Property ¹
1	Residential Single Detached Small	Detached homes with building footprint size of 105 m ² or less	1	\$5.67	\$68.04
2	Residential Single Detached Medium	Detached homes with building footprint size between 106-236 m ²	1	\$9.45	\$113.40
3	Residential Single Detached Large	Detached homes with building footprint size of 237 m ² or more	1	\$12.42	\$149.04
4	Residential Townhouse / Semi-Detached	Per dwelling unit	1	\$6.75	\$81.00
5	Residential Condominium	Per dwelling unit	1	\$3.78	\$45.36
6	Multi-Residential (2-5 Units)	Per building	Duplex	\$7.56	\$90.72
			Triplex	\$11.34	\$136.08
			Four-plex	\$15.12	\$181.44
			Five-plex	\$18.90	\$226.80
7	Multi-Residential (>5 Units)	Per property (according to number of dwelling units)	varies	Charge = (# units) × (\$1.89/month) See Note 2	Charge = (# units) × (\$22.68/year) See Note 2
8	Non-Residential Smallest	26 -1,051 m ² of impervious area	n/a	\$18.09	\$217.08
9	Non-Residential Small	1,052 -1,640 m ² of impervious area		\$48.33	\$579.96
10	Non-Residential Medium-Low	1,641 -7,676 m ² of impervious area		\$126.63	\$1,519.56
11	Non-Residential Medium-High	7,677 -16,324 m ² of impervious area		\$369.63	\$4,435.56
12	Non-Residential Large	16,325 -39,034 m ² of impervious area		\$895.86	\$10,750.32
13	Non-Residential Largest	39,035 m ² or greater of impervious area		\$1,923.21	\$23,078.52

... “tiered flat fee”
stormwater rate based upon impervious area...

...an equitable approach,
allocating costs associated with stormwater, instead of property value...

...opportunity to provide an incentive to property owners who manage stormwater on their site...

STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

ENGAGEMENT WITH LOCAL GOVERNMENT WORKS

City of Victoria NEW Stormwater Utility Bill & Rainwater Rewards Program



In 2015, the City of Victoria changed the way municipal storm water services are managed. These changes were made to help clean our waterways, reduce flooding in preparation for wetter, stormier winters and create a fair and equitable user-pay stormwater utility. The city also developed a rebate program for properties that wish to manage rainwater more sustainably. Rain gardens, cisterns, infiltration chambers, permeable paving, green roofs and an education option are currently part of the credit program.

About the NEW Stormwater Utility Bill

The City of Victoria NEW Stormwater Utility Bill will arrive in Victoria resident's mail boxes by the end of October 2016. The charges on your new bill will be based on the property's characteristics, including the area of non-permeable surfaces (roof, driveway, etc.), property use and length of street frontage.

Previously, the stormwater charges were included in property taxes and were determined by the assessed property value. The new utility bill is a user-pay system, connecting the impact a property has on the stormwater system directly to the bill. The bill will be sent annually to property owners.


**...resources go to
identified issues that
align with
community values**

**...development can
be managed but
only with regulation
that reflects
community values**



STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

APPENDIX

- 1. WORKSHOP BREAKOUT GROUP SUMMARY**
 - 2. WORKSHOP EVALUATIONS**
 - 3. WORKSHOP DETAILS**
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WORKSHOP BREAKOUT GROUP SUMMARY

Barbara Working with local governments on ISMP - ideas and approaches – involving Streamkeepers and community - engagement	<p>Group included SK representatives from Delta, Port Moody, West Van, Maple Ridge – ended up talking more about general SK engagement with local government, less about ISMP.</p> <p>What works – constant communication, representative from local government at SK meetings, dedicated contacts at local government that SK can contact when they find problems</p> <p>What isn't working – moving the next step from raingardens to changing how people redevelop their lot</p> <p>Ideas – develop a series of questions that members can ask at all candidate meetings; need an equivalent to "energy star" certification for green infrastructure that builders can use to advertise their efforts. Somebody must do this.</p> <p>Question for Panel – How effective will ISMPs be, and will there be consequences for non-compliance?</p>
ZoAnn Out of the box ideas	<p>Mixed reviews on tax based incentives, partly because it's not the current homeowner making the decision as to size of house, lack of soil or swales etc. Developers are building what they think will sell. Our neighbour's house has 4 bed, 5 bath. 1 bed suite with 2 little girls. They now have maid service to clean all the extra space and bathrooms. They have NO soil under the grass and now watch as the water goes off their land into the neighbours. Would need to allow developers to change their ways so it's not just the buyer paying more for lack of drainage.</p>
Brian Understanding and reporting problems	<p>Didn't do this session – combined with local government topic</p>
Ron Tools for Streamkeepers – things SK can do and SK monitoring tools from the Handbook	<p>What is working – community group involvement</p> <p>What isn't working – need more information about infrastructure, more incentives for better infrastructure development</p> <p>Important to recognize nature's assets in watershed functions and planning – how best to explain the 50-year booms of housing and infrastructure development</p>
Tacha Tools for homeowners – things we can encourage others to do on private property – spreading the word	<p>What is working – website resources (Water Balance, Geo Web), bio swales, rock pits</p> <p>Opportunities – organizing volunteers to use web tools (training, advertising); educating and training developers; apps for smart phone for Water Bucket; info booth at home shows,</p> <p>Questions – What incentives can regulators give homeowners for costs associated with home improvements for stormwater management? How could regulators help homeowners use web tools (e.g., hiring summer students)?</p>

Dolores Ideas for Community groups (community associations, garden clubs, banks, Scouts, Guides, schools) – weekend projects on public land	<p>All agreed community involvement was a vital part of improving watersheds; a great way to educate the public, especially engaging children and their parents; and one of the best ways to get projects done.</p> <p>What works – yellow fish symbols on storm drains, planting native species and removing invasives, other riparian enhancement projects, shoreline clean ups, public education efforts as part of fish releases, activities for school groups, Rivers Day etc.</p> <p>What isn't working – weed pulls without immediate replanting of disturbed soil, efforts to keep dogs and other encroachments away from sensitive areas near streams, hot spot problem areas of watersheds not being sufficiently addressed, adequate prevention of dumping of invasive species garden cuttings and chemical waste</p> <p>Ideas for community involvement – adding more yellow fish on storm drains and possibly marking the name of the watershed on the fish</p> <p>Question for Panel – How are other municipalities implementing or encouraging the use of the Water Balance Express tool?</p> <p>Also talked about linking ISMPs to overall watershed plans</p>
Sandie, Karen What are strengths of ISMPs when they are adopted – examples from other municipalities How will we know the IMSP is working when it is adopted – effectiveness monitoring, report cards for local government – checking that developments meet their commitments	<p>What works – City of Port Moody has stormwater incentives (point system) for building permits; in some regulators, if you want to subdivide a lot, it triggers a requirement for on-site stormwater retention; some regulators require permeable pavement, cisterns, bio swales, disconnected downspouts</p> <p>What isn't working - ISMP often does not apply to single family homes, no obvious incentives in District and City of North Vancouver</p> <p>Challenge/Opportunity – how to educate developers on stormwater management, especially for single family lots; develop condensed guidance on ISMP for developers (make it easier to understand)</p>

STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

WORKSHOP BREAKOUT GROUP SUMMARY

Group: How to work with local governments

- Constant communication – have municipal rep and make contacts before environmental problem occurs
- Question: How effective will the ISMP be?
 - Emphasis is on tools (water balance express). Keep focus on the regulatory tools at the site level.
 - One of the strengths – now creating water plan boundaries - plans that define roles for different organizations

Group: Outside of the box group

- Knowing own land and own water – observe your own watershed behaviour
- Reduce impermeable surfaces on own properties
- Broadly communicate that tools are available
- Cities are responsible for the outcomes
- Question – How successful is the tool?
 - Tool has been used in classroom situation - would like samples of the tool for real home owners to demonstrate impact on stormwater after renovations
 - Use of the tool depends on how municipalities require its use. Must be integral part of municipalities marketing of the tool

Group: ISMP that are adopted by municipalities

- Question: How to demonstrate the success of programs by municipalities
 - Where is educating the developers and how practices get implemented for single family redevelopments?
 - Give financial incentives and require owners to meet requirements
 - Large scale developers aren't the problem. The issue is the one site developers.
 - "Just tell them what the rules are"
 - Leverage LEED type certification to increase awareness on stormwater management for development. Typically, Green infrastructure doesn't catch people's attention.

Group: Communicate on stormwater management issues to homeowners

- Municipalities to advertise
- Apps on smartphones
- Trade show – with businesses
- Question: How to get homeowners to pay increased cost for rainwater management practices
 - Incentives?
 - get development community involved (engineering firms, etc.)
 - Begin initiatives to create interest (demonstrate rain garden) – Local government must take the lead to market the tool, and demonstrate the possible alternatives
- Question: Clarify how other municipalities are using the water balance express tool?
 - Municipalities are all struggling to go from talk to action. Express is just a tool – needs to be utilized effectively by municipalities to want to change impact at the site level.
 - Priorities can change with pressure from stewardship sectors to drive government sectors. An advocate in the system needs to work collaboratively with stewardship sectors to be most effective. Convince municipalities that it will save money in the long term.
- Question: What is the best way to exploit the specific timing opportunity of replacing housing stock now?
 - Relate it to energy conservation
 - Permeability on our properties is not costed correctly
 - Some short-term rebate programs work, but need something similar related to permeability to drive conservation of stormwater on properties
 - Value natural assets and services – currently "free", but they are not free. Early recognition, but need to continue to drive proper valuation and change behaviour. In reality and in a state of change there is need to continue to push the conversations by municipal staff

STORMWATER IMPACTS COMMUNITIES AND CREEKS – WHAT CAN WE DO?

WORKSHOP EVALUATIONS

Post-Workshop Evaluation – 19 evaluations

1 is Strongly Agree and 5 is Strongly Disagree (tick one per statement).

ABOUT THE PRESENTERS

Q1.	S A				SD
	1	2	3	4	5
A. The presenters communicated the information clearly.	13	2	1	1	1
B. The presenters made the subject matter compelling.	12	3	1	2	2
C. The presenters were able to answer questions.	14	4	1	0	0

ABOUT THE PRESENTATION

Q2.	SA				SD
	1	2	3	4	5
A. The workshop was relevant to me.	11	5	0	3	0
B. The workshop motivated me to take action.	9	4	4	1	0
C. I want to tell others about what was presented.	10	4	1	1	0
D. The handouts/supporting material were useful.	4	4	3	2	0

ABOUT THE WORKSHOP IN GENERAL

Q3.	SA				SD
	1	2	3	4	5
A. The venue was conveniently located.	11	4	0	1	1
B. The duration of the workshop was right for me.	10	3	3	1	0
C. The workshop was well organised.	11	4	1	0	1

Q.4. What was the best aspect of the workshop? Liked both speakers. Breakouts good but too short. Will slides be available to us? Speakers educated me, also liked ability to talk with others. Speakers had some similarities within topic, should be different (1 person). Now looking for my improvements to implement presented information. Thorough educational aspect. Practical component was a nice compliment. The online tools. Very impressed with workshop.

Q. 5 What aspect of the workshop needs improvement? Screen visibility. Where were the handouts & supporting materials? Evaluations need speaker 1 & speaker 2. Awareness brought to a) limit soil erosion b) prevent flooding c) improve water quality. Supply water. More publicity. Restrooms for public use were locked. More time to allow speakers to finish their slides. The names of connected websites & books for the subject matter be increased for greater vitality provision on workshops.

Q.6 Do you have any suggestions for future workshop? Eliminate politics (cheque handover during election not good). More time for both speakers and breakouts. Bring in developers and or an ISMP planner. We need to demonstrate what stream health and good ecosystems look like. Better communications and community involvement. Could easily be repeated for others. Improve the size and urgency of action.

WORKSHOP DETAILS

The Team:

Facilitator, Speaker contact, reporting and technical display – Glen Parker

Scribe – Jim Longman

Venue booking - Janet

Speakers introduced by – Rhiannon Coppin and Brian Comey

Speakers – Kim Stephens and Julie Wilson

Registration table – Sandie Hollick-Kenyon (DFO), Susan Chalmers (Cool North Shore)

Budget and food (Dolores Parker fish cookies, & Safeway) – Janet Dysart

Coffee, tea etc. – Waves

Breakouts – leader: Karen Munro, assisted by Zo Ann Morten, Sandie Hollick-Kenyon, Ron Den Daas, Barbara Frisken, Tascha Hyde, Brian Comey and Dolores Parker

Evaluations – Janet

Posters, pamphlets and donations - Janet

Registrations of public, advertising and event summary – Janet/Glen

Registration of speakers and VIPs – Glen

Speakers gifts – Karen and Ron Den Daas

VIPs – Mayor Richard Walton DNV, Naomi Yamamoto MLA North Vancouver, and Jane Thornthwaite MLA North Vancouver – Seymour

Funding Donations

North Vancouver Streamkeepers \$300.00; Lynn Valley Community Association \$100.00; Pacific Salmon Foundation \$500.00

Publicity

Eventbrite, North Shore News, North Vancouver Recreation

Newsletter, NSSK Message board & NSSK Facebook

Eventbrite is the only registration path, as the record keeping is all tabulated by the program and it is free. We also used Eventbrite to print name cards, attendance lists and reports

Attendance

52 participants, mostly Streamkeepers, and some were students. This includes the speakers and workshop planners. The majority registered prior to the event, but there were about 5 drop-ins or late registrants.