



To: Harley Machielse, Saanich Director Engineering  
Cc: Mayor and Council  
From: Darrell Wick, President FMDPS  
Date: April 16, 2021  
Re: Douglas Creek Storm Water Bypass  
Is Douglas Creek doomed?

Over the past 150-200 years, the Douglas Creek watershed has changed from forest to almost all farmland with few houses by 1965. Subsequently from 1965, urban density has increased at an ever faster pace. As a Society formed to safeguard Mount Douglas Park and Douglas Creek, our primary role is not to address these land use changes but to focus on the effect of these changes on the Park and creek. We are very concerned that these effects, without mitigation, could well doom Douglas Creek. But this does not need to be the case and this letter is to request examination of a viable solution.

Watershed changes that have a detrimental impact on Douglas Creek.

- 2021 rain surge levels at 1 metre, fifty times low levels, are currently destroying creek banks, dislodging bank rock reinforcements, washing out spawning beds and eroding the creek channel down to clay.
- Current estimates place roughly 50% of the watershed, exclusive of parks and playfields, as non-permeable surface<sup>i</sup>.
- Recent legalization of secondary suites throughout the watershed will result in more non-permeable parking areas.
- Recent legalization of carriage houses will add even more non-permeable roof tops along with additional non-permeable parking areas.
- Proposed new housing strategy for apartment buildings throughout current residential areas instead of concentrating them around villages and transportation hubs will additionally increase the percentage of non-permeable surface within the watershed.
- Over the past 50 years the Douglas Creek watershed has transformed from almost exclusively permeable farmland to its present urban structure.
- There are already properties within the watershed that exceed 80%, 90% and a few even 100% non-permeable surface.

- **There can be little doubt the non-permeable surfaces within the Douglas Creek watershed will continue to significantly increase well beyond the already very damaging levels.**

Functioning creeks are a significant societal asset.

- Walk along Douglas Creek. It provides a beautiful healthy atmosphere, provides habitat and benefits for birds and animals, riparian area, spawning salmon. This is also true for a few other creeks such as Colquitz and Goldstream
- Sadly we have buried and destroyed other Saanich creeks including Bowker Creek<sup>ii</sup>, headwaters of Douglas Creek<sup>iii</sup>, Cecelia Creek, Hospital Creek<sup>iv</sup>, and Hobbs Creek<sup>v</sup>.

Forgotten lessons from the past.

- In 1967, not that long ago, the Colquitz river had been “abused and neglected” and was “heavily polluted”. The design engineer for the Corporation of Saanich was asked to determine the cost of enclosing the entire stream. He determined the cost to be three million dollars, but he fortunately also estimated the cost of “preserving and even restoring the stream” to be just over half a million dollars. Council abandoned the enclosing idea in favour of restoration, likely for economic not environmental reasons<sup>1</sup>.
- The cost of preserving and restoring the stream was one sixth the cost of enclosing it. No doubt this cost ratio remains even when the enclosing is done piece by piece over many years as has been done with Bowker and Douglas Creeks.

What about the open section of Douglas Creek within Mt Douglas Park?

- Up until the 1960s, long time residents report that Douglas Creek was teeming with salmon.
- It is currently a barely viable salmon spawning stream, but it could be much better. Since Saanich introduced strong pollution bylaws there has been a very significant improvement in water quality, water temperature is good and springs provide summer water.
- It is a beautiful Park asset for people, animals, birds, and salmon.
- The overwhelming threat to the creek is its extreme flashiness with the huge rain storm surges increasing creek flows by more than a factor of 50.
- Without a significant reduction in surge volumes, let alone future surges due to changes in the watershed, there is little hope for the creek. Note that minor flashiness is needed to provide additional flows for upstream migration during salmon spawning season.

How can the extreme rain water surges be addressed?

Option 1: Rain gardens, swales, downspout disconnects, and similar mitigations offer good water cleansing removing some pollutants but the total water volumes vastly exceed the capacity of these devices to offer significant effect. They are worth pursuing for their cleansing ability.

Option 2: There are two storm water pipes that drain into Douglas Creek. It is possible that flows from about 35% of the area served by the east pipe could be redirected north along Majestic Ave directly to the ocean. However, as the area covered by non-permeable surfaces increases, corresponding flows directly into the creek will continue to increase.

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1 <https://www.saanich.ca/assets/Parks~Recreation~and~Community~Services/Documents/FENeatePanel.pdf>

Option 3: Construct a new pipe somewhat following the Churchill Trail, roughly parallel to the natural watercourse and continuing to the ocean. At the southern weir end of the creek, construct a “spillway” to redirect high volume flows into this pipe. In this way storm surges that would otherwise scour the creek would be redirected, bypassing the creek altogether, while still allowing moderate changes in flow volumes to occur naturally.

With regards to option 3, what would be the effect on the Park by burying such a pipe? We do have an example. Roughly 50 years ago the large water tank for fire suppression was constructed at the Churchill Drive upper parking lot. This is filled by a buried pipe that starts in the area of the old quarry on Cordova Bay Road. One would be hard pressed to locate the pipe’s route up the side of the mountain since nature has restored and completely hidden the pipe excavation.

If such a bypass pipe were buried under a trail, there might actually be trail benefits. If it was buried elsewhere, we know from the water pipe example that the area can be completely restored.

Saanich has chosen to allow the Douglas Creek watershed to change to ever increasing non-permeable surfaces resulting in ever increasing ecological damage caused by extremely large rain storm surges. Addressing the effect of these changes must be considered a (not so hidden) ancillary cost. Douglas Creek is too valuable an environmental and community asset to not protect it for future generations of people and salmon.

**The Friends of Mount Douglas Park Society formally requests Saanich Engineering to initiate a study that determines the feasibility of such a bypass storm water pipe, its cost, external funding opportunities, regulatory implications, and identify necessary steps for this project to proceed.**

Attachments: Support letters from DFO and PSF

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- i Non-permeable surfaces including roads, sidewalks, driveways, and rooftops measured using Saanich GPS map.
  - ii [https://www.crd.bc.ca/docs/default-source/initiatives-pdf/bci-pdf/obh-restoration/bowker-creek-oak-bay-restoration-project-description.pdf?sfvrsn=ca329fc9\\_2](https://www.crd.bc.ca/docs/default-source/initiatives-pdf/bci-pdf/obh-restoration/bowker-creek-oak-bay-restoration-project-description.pdf?sfvrsn=ca329fc9_2)  
<https://waterbucket.ca/rm/2019/03/13/bowker-creek-restoration-is-a-beacon-of-hope-agree-on-the-vision-set-the-targets-provide-planners-with-the-detail-necessary-to-guide-site-level-decisions-as-opportunities-arise-then-implement/>
  - iii <https://www.crd.bc.ca/docs/default-source/crd-document-library/maps/watersheds/douglas-creek-watershed-map-2011.pdf?sfvrsn=6>  
[http://www.urbanstreams.org/creek\\_douglas.html](http://www.urbanstreams.org/creek_douglas.html)
  - iv [https://www.crd.bc.ca/docs/default-source/crd-document-library/maps/watersheds/hospital-creek-watershed-map-2011.pdf?sfvrsn=38c171ca\\_6](https://www.crd.bc.ca/docs/default-source/crd-document-library/maps/watersheds/hospital-creek-watershed-map-2011.pdf?sfvrsn=38c171ca_6)
  - v [https://www.crd.bc.ca/docs/default-source/crd-document-library/maps/watersheds/hobbs-creek-watershed-map-2011.pdf?sfvrsn=71524aca\\_6](https://www.crd.bc.ca/docs/default-source/crd-document-library/maps/watersheds/hobbs-creek-watershed-map-2011.pdf?sfvrsn=71524aca_6)  
<http://www.urbanecology.ca/documents/PDF%27s/Vicente.pdf>  
[https://www.aqua-tex.ca/projects/recent-projects/sb\\_expander\\_articles/43.php](https://www.aqua-tex.ca/projects/recent-projects/sb_expander_articles/43.php)



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

April 12, 2021

Harley Machielse  
770 Vernon Avenue,  
Victoria, B.C. V8X 2W7

Dear Harley Machielse

Thank-you for taking the time to consider the proposal put forward by the Friends of Mount Douglas Park. I am writing to you at the request of the group to highlight the importance of Douglas Creek as salmon habitat and a watershed education site, as well as draw attention to the work that has gone in to re-establishing the salmon population in the watershed.

Historically Douglas Creek was home to both Coho and Chum Salmon. Time and development changed the habitat and nearly irradiated salmon returns. Hard work by volunteers and government groups has changed the habitat from inhospitable to one that can potentially support salmon. As recently as 2012, surveyors have documented returns of both Coho and Chum salmon. Douglas Creek has been receiving outplants of salmon from Goldstream Hatchery since prior to 2000. The released salmon are part of stewardship projects, but also contribute to environmental education of local students that tour the park and learn about the importance of urban salmon streams and natural habitat. The long time commitment of DFO and Saanich to support salmon, salmon habitat restoration, maintenance of the trails and salmon signage is an indication of the value placed on the resource.

Storm water run-off plays a negative role on salmon habitat as a result of the materials that it carries, but also due to the force and frequency of flows. Any increase in force and flow will likely result in increased detriment to the salmon habitat. Considering the time and effort that has gone in to restoration, as well as the commitment from Saanich, DFO, and especially the community and volunteers, I support the Friends of Douglas Creek in their request for an exploration of an alternate to increasing storm run-off in the salmon habitat.

I hope that the salmon habitat in Mount Douglas Park will continue to improve and I thank you for your time in considering storm drain management as it impacts salmon habitat.

Sincerely,

Melissa Nottingham  
DFO Community Advisor, South Vancouver Island

Pacific Salmon Foundation t. 604.664.7664 www.psf.ca  
300 - 1682 West 7th Avenue f. 604.664.7665  
Vancouver, British Columbia  
Canada V6J 4S6



April 15, 2021

**Support for the Friends of Mount Douglas Park Society  
Douglas Creek Storm Water Bypass**

Dear committee members,

The Pacific Salmon Foundation is a long-standing supporter of the Friends of Mount Douglas Park Society and their work. We are writing today in support of the organization and this project.

The Pacific Salmon Foundation supports this program given the value that it would bring to salmon habitat protection. Storm water runoff can have major detrimental effects on urban watersheds and the proposal as written by the Friends of Mount Douglas Park offers a tenable and sound solution. This project is an important contribution to conservation of the wild salmon resource and the public good, and is consistent with the operational principles and mandate of the Pacific Salmon Foundation.

Please consider this proposal from the Friends of Mount Douglas Park Society as their work is of great importance and carries lasting benefit for the legacy of Pacific salmon and their habitat.

If you have questions or need assistance please contact me at 604-664-7664 x112.

Sincerely,

Jim Shinkewski  
Director, Grants and Community Programs  
Pacific Salmon Foundation

jshinkewski@psf.ca