




Bouncing Forward in BC

Land Use Planning and Flood Risk Areas – May 21, 2020

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An Introduction ...

- ▶ [Local Govt Act](#) (Part 14 and 13) – Local Govt autonomy, no appeal, no overarching prov guidelines, Pacific Climate Impacts Consortium
 - ▶ Diking since 1864
 - ▶ Initial FP designations and mapping done by prov (1974)
 - ▶ Devolved to Local Govts in 2003, with guidelines (200 year flood)
 - ▶ [BC Flood Emergency Plan](#) and ...
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Support to...

- ▶ local governments for two flood risk assessment, flood plain mapping, and flood mitigation programs: [National Disaster Mitigation Program](#) in BC (admin by Emergency Management BC) and [Community Emergency Preparedness Fund](#) (admin by the Union of BC Municipalities)
- ▶ to the Fraser Basin Council
 - for the [Lower Mainland Flood Management Strategy](#) modelling to simulate flood conditions, support for regional planning, potential mitigation and to suggest next steps
 - to conduct investigations into the status of [flood plain mapping](#) (coverage, gaps, costs, governance), modeling, flood risk assessment, and climate change science across BC.
- ▶ Engineers and Geoscientists BC for [Professional Practice Guidelines for Legislated Flood Assessments in a Changing Climate in BC](#) and [Professional Practice Guidelines for Flood Mapping in BC](#)

Emergency Management BC has funded GeoBC to undertake and prepare significant LiDAR mapping used as the base for floodplain mapping (mapping is available to local govts)

BC is reviewing its role in flood plain mapping and the progress to date made by local governments to complete this critical aspect of flood risk assessment as part of its Flood Risk Strategy.

Something's changed



- ▶ Estimated cost of total flood response in 2017:
more than \$73 million

[Addressing the New Normal: 21st Century Disaster Management in BC](#)

- ▶ Wildfire suppression was more than \$568 million
 - 65,000 people evacuated
 - More than 1.2 million ha burned
 - 70-day prov State of Emergency
 - Future flooding ?
- ▶ And drought... will trees die later?



Okanagan Lake 2017



- ▶ Inflow was 229% above average
- ▶ impacted 3,200 residents, 500 parcels of land, 1,250 docks,
- ▶ tens of \$millions damage to public/ private property and infrastructure – despite 2 million sandbags and pumps at 6 different locations
- ▶ **X** boat launches shut down, beaches closed, Canada Day fireworks rescheduled, tourism decreased, and hotel occupancy decreased 7%

[Our Kelowna as We Take Action, Kelowna's Community Action Plan](#)

CIP's Climate Committee says climate change is Super-Wicked

Wicked (resistance to resolution/not evil)

- ▶ multi-causal
- ▶ complex interdependencies
- ▶ solving one aspect of a wicked problem
- ▶ may reveal or create other problems



Super-Wicked 1. Time is running out. 2. No central authority. 3. Those seeking to solve the problem are also causing it. 4. Policies discount the future irrationally into the complexity of the issue

More CIP

- ▶ CIP's Policy on Climate Change's [Call To Action](#) have an ethical obligation to consider climate change in their practices... and to collaborate
- ▶ CIP signed [Joint Statement from Canada's National Professional Associations: Advancing Integrated Climate Action](#) (ACT, SFU [Low Carbon Resilience Best Practices for Professionals](#))

Risks are changing



- ▶ 1°C increase = 7% more water vapour (Clausius–Clapeyron relationship is a thermodynamics equation)
- ▶ Atmospheric Rivers 2019 scale (1–5) & [pinch points](#)
- ▶ Taking Action Amidst Uncertainty [Climate-ADAPT](#)

Bouncing forward

– John Robinson

COVID-19 & Sustainability



- ▶ First order effect (i.e. build a highway)
- ▶ Second (& third) order – consequences are often opposite and bigger (i.e. new highway is quickly overwhelmed and causes other problems)
- ▶ Bouncing forward

Bouncing forward using

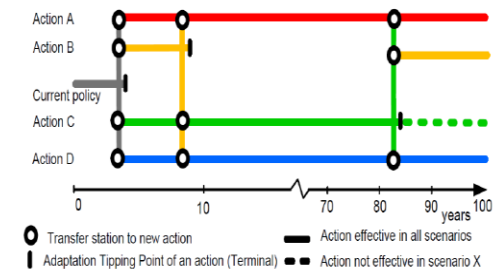
1. Integrated sustainability scenarios
2. Community engagement
3. Adaptation + Mitigation together



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Scenarios would have

- ▶ planning for multiple, divergent outcomes
- ▶ pathways– dig down to what's underneath
- ▶ no regrets/worth doing anyway
- ▶ strategies to bounce forward



BC's Leaders



Scenarios: 7%, 229%, pinch points

- ▶ [Collaborative for Advanced Landscape Planning](#) at UBC [visioning](#), [Future Delta 2.0](#) and [Citizen's Toolkit on Climate Change and Forestry](#).

Community engagement and collaboration:

- ▶ [Surrey Coastal Flood Adaptation Strategy](#)
- ▶ [Crescent Beach Community Meetings Series, Summary Report on Coastal Flooding and Climate Change](#)
- ▶ [Northeast Climate Risk Project](#)
- ▶ [Green Waterfront Design Charrette](#)

More Leaders



Adaptation and Mitigation:

- ▶ CIP Planners – Call to Action and Joint Agreement
- ▶ Asset Management BC–[Primers](#) on climate change, natural assets, operations & maintenance, land use planning
- ▶ ACT, SFU – [Low Carbon Resilience](#)
- ▶ So my thoughts on Bouncing forward in BC ...

Include Natural Assets



- ▶ AMBC – Sustainable Service Delivery Primers
- ▶ ACT, SFU – Low Carbon Resilience
- ▶ CALP – Citizen’s Coolkit

Bouncing forward



Stay tuned for

BC Climate Action Toolkit's Adaptation & Mitigation
website update

Thank you John and CIP

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