Managing Floodplains Collaboratively: Cross-border learning on fish, farms, and floods

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Speaker
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Managing Floodplains Collaboratively: Cross-border learning on fish, farms, and floods

David Roberts, Peak Sustainability
Gillian Fuss, First Nations Emergency Planning Secretariat
Lina Azeez, Watershed Watch Salmon Society
Dan Straker, Resilient Waters
Lindsey Desmul, Washington Department of Fish and Wildlife
Kari Quaas, Snohomish Conservation District
Beth LeDoux, King County
British Columbia, Fraser River Valley
Fraser River Watershed

- Fifth largest watershed in Canada
- Land use and flood mitigation have disrupted river flow, water quality and sediment dynamics
- Home to seven species of salmon, migratory birds, and mouth is considered an ecological hotspot
Flooding in the Lower Mainland

- Diking is the main method of flood protection, 97% of the Dikes are not up to current standards
- Environmental impacts from diking and single-use floodplains are numerous
- Lack of regional or watershed coordination and goal setting
- Lack of funding and appetite for different solutions
- Emergency Planning Secretariat

- Emerging body in the Lower Mainland, supporting Mainland Coast Salish First Nations with climate adaptation and emergency planning

- Support communities with proactive flood planning

- Improving emergency planning/response capacity

- Advocate for large scale change, and for UNDRIP to be upheld in all planning activities
| Priorities for Action                                                                 |
|-------------------------------------|-----------------------------------|---------------------------------|---------------------------------|
| Understanding Disaster Risk         | Strengthening Governance          | Investing in Risk Reduction and Resilience | Enhance Preparedness & Build Back Better |
|                                     |                                   |                                 |                                 |
|                                     | Strengthening Tactical Capacity    |                                 |                                 |
|                                     | Emergency Humanitarian Aid (Sphere) |                                 |                                 |
• 600km of dikes
• 100 pump stations
• 500 gates

Flood control infrastructure impacting potential salmon habitat in the lower Fraser River floodplain

DISCONNECTED WATERS

1,500 km of potential salmon habitat impacted by 156 flood control structures

119 additional structures control farm land, urban or industrial areas

Legend
- Floodbox and/or Pump Station
- Fish-friendly Flood Control Structure
- Upgrade to Fish-friendly Structure (2016)
- Disconnected Waterways
- Partially Disconnected Waterways
- Other Waterways
- Highways
- Municipal Boundary
- Fraser River Watershed
- Canada/US Border
- Floodplain
- Lakes and Rivers

These data are up to date as of March 26, 2014. However, WWSA is continuing to work with municipalities and landowners to confirm types and locations of flood control structures, including whether the infrastructure is fish-friendly.
What’s the issue?

• In the lower mainland, over 85% of floodplain lost or removed

• Insufficient habitat for salmon’s early rearing stage

• Costly infrastructure upgrades are required

• Current flood control, structures are aging, undersized, and blocking salmon access to important former habitats

• Current flood control upgrades are not required to be nature-based or fish-friendly

• Many of the affected salmon populations are designated as endangered or threatened and require rebuilding. They may also support at-risk wildlife (e.g., SARA-listed killer whales).
The objectives of the workshop were to:

- foster shared learning and collaboration;
- begin developing a shared vision for future fish-friendly flood control infrastructure (FCI);
- discuss the challenges in upgrading outdated flood control infrastructure along the lower Fraser;
- collaborate in a multi-sector/agency environment to develop a comprehensive list of issues and actions, priorities and success indicators for future consideration and follow-up; and
- identify key criteria for prioritizing flood control structures and adjacent habitats for restoration.
Identifying Restoration Opportunities: 2019-2021

www.resilientwaters.ca/map-data
Collaborative Research

- Fish and Habitat Assessment Pearson Ecological
- Colony Farm Gate Study – UBC, Kwikwetlem FN, Metro Vancouver
- Modelling Wetland Evolution – SFU
● Re-imagining Floodplains Advisory Group
● Building Back Better Together – Flood Recovery
Washington State, Snohomish and Stillaguamish Rivers
2022 Salish Sea Ecosystem Conference

Beth leDoux
King County
Water and Land Resources
Why FFF is needed
The origin of Fish Farm Flood

With FFF

Without FFF
Fish Driver

Historical Chinook Abundance

Today
Fish Priority
Farm Priority
Flood Driver
Flood Priority
Fish Farm Flood 2.0
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Why?
What?
How?
If we are serious about making progress for farm, fish, and flood interests, we must find concrete ways to bring the right people together to develop solutions.

We need to remove physical, regulatory, policy, and funding barriers.