FLOOD AND DROUGHT PLANNING COMMITTEE

2016 – March 2021

Okanagan Water STEWARDSHIP COUNCIL

Term 9: 2019-2021

MEMBERS	
Chair: Scott Boswell - OCCP	Brittany Lange - RDCO
Lorne Davies - BCWF	Kellie Garcia - OBWB
Ryan Whitehouse - FLNRORD	Danika Dudzik - RDCO
Luke Dempsey - City of Kelowna	Robinson Puche - City of Kelowna
Janelle Taylor- RDCO	

Okanagan Water STEWARDSHIP COUNCIL

OBJECTIVES

The overall goal is to improve the resiliency for our communities in planning for droughts and flooding.

The objectives of the committee include:

- Improving communications of flood and drought issues for all levels of government
- Identifying funding opportunities to support drought and floodplain planning
- Support the development and the consistency for drought and flood management plans throughout the region

Okanagan Water STEWARDSHIP COUNCIL

ISSUES

- 2016 Lack of Floodplain Management Plans
- A lack of a coordinated approach for Flood Planning

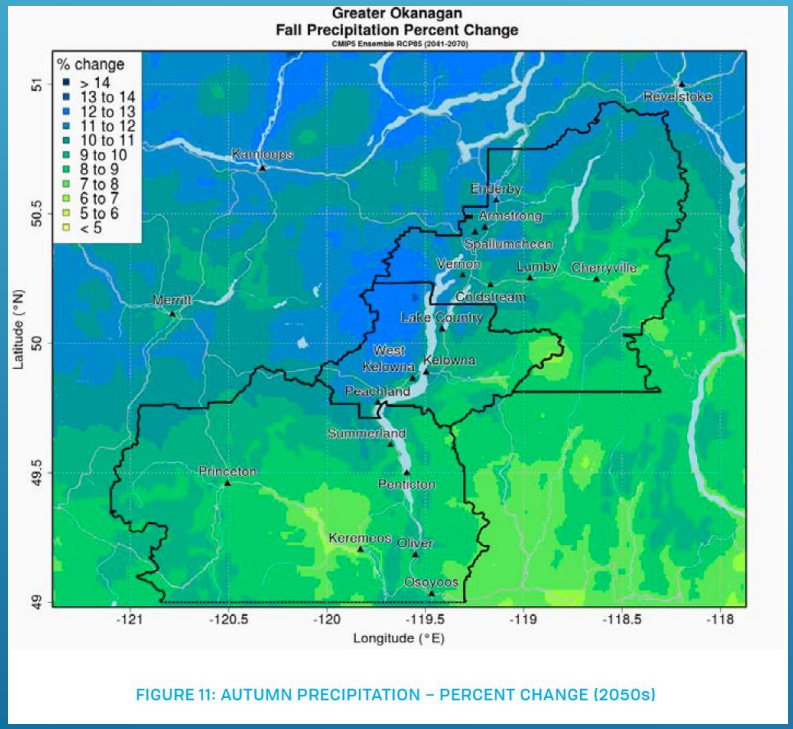


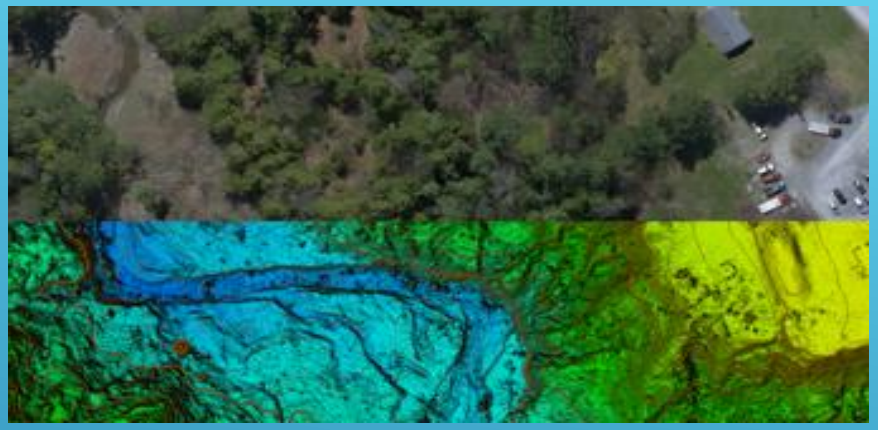
FIGURE 11: AUTUMN PRECIPITATION – PERCENT CHANGE (2050s)

- An increase in the frequency and magnitude of flooding events due to Climate Change

Percentage increases in fall precipitation

Okanagan Water STEWARDSHIP COUNCIL

OUTCOMES



- Gap analysis identified a need for new floodplain mapping.
- Coordination among local governments and Sylix and Spatsin communities for LIDAR collection and floodplain mapping.
- The Flood Story Website - A Public flood planning tool
- Workshops – Sharing information with Industry and the Public

Okanagan Water STEWARDSHIP COUNCIL

POLICY COMMITTEE

2019-2021

Okanagan Water STEWARDSHIP COUNCIL

Term 9: 2019-2021

MEMBERS	
Chair: Brian Guy - CWRA	Marta Green - BC Ground Water Association
Bernie Bauer - UBCO	Bob Hrasko - BMID
Rob Birtles – Interior Health Authority	Nelson Jatel - OBWB
Hans Buchler – BC Agriculture Council	Denise Neilsen - OBWB
Renee Clark – Independent	Several non-Council members for specific issues
Craig Nichol - UBCO	

Okanagan Water STEWARDSHIP COUNCIL

MISSION

- To help OBWB influence legislation and policy at other levels of government - on issues that are relevant to OBWB's mandate

Okanagan Water STEWARDSHIP COUNCIL

HOW DO WE DO THIS?

Reactively:

- By responding to requests from other governments for feedback on proposed legislation or policy.

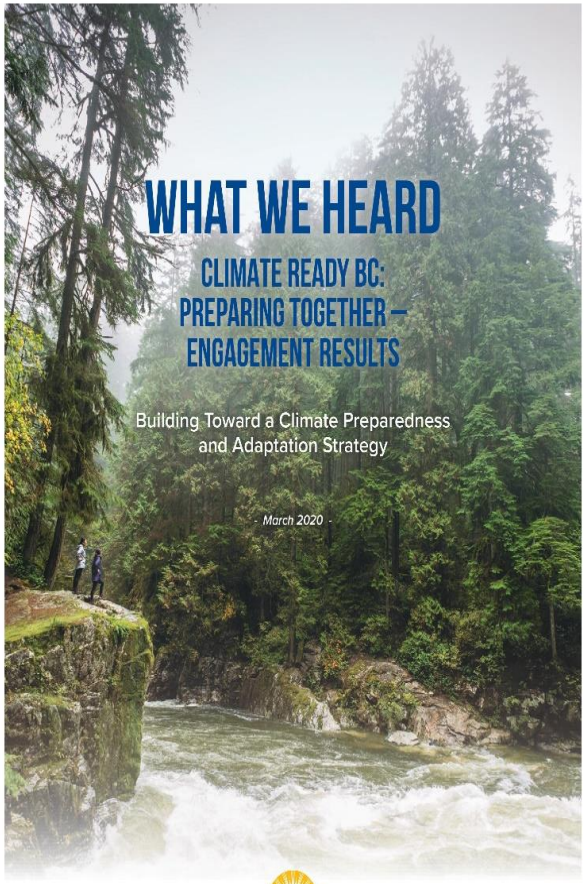
Proactively:

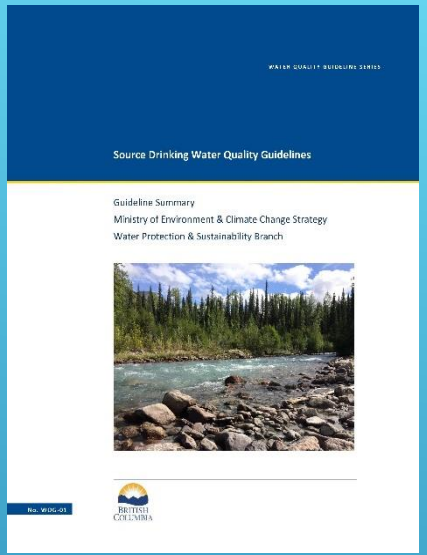
- By seeking opportunities to influence governments that have responsibilities for Okanagan water.

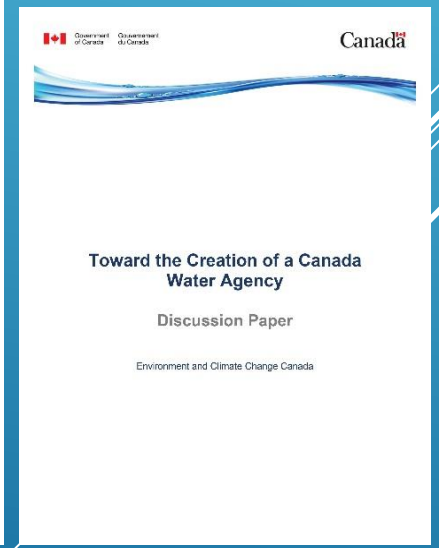
Okanagan Water STEWARDSHIP COUNCIL

TERM 9 ISSUES ADDRESSED

- Livestock watering regulations
- BC wetland policy
- Agricultural waste control regulations
- Modernizing the Emergency Program Act
- Osoyoos aquifer water quality objectives
- BC climate adaptation strategy
- Source drinking water quality guidelines
- Canada Water Agency







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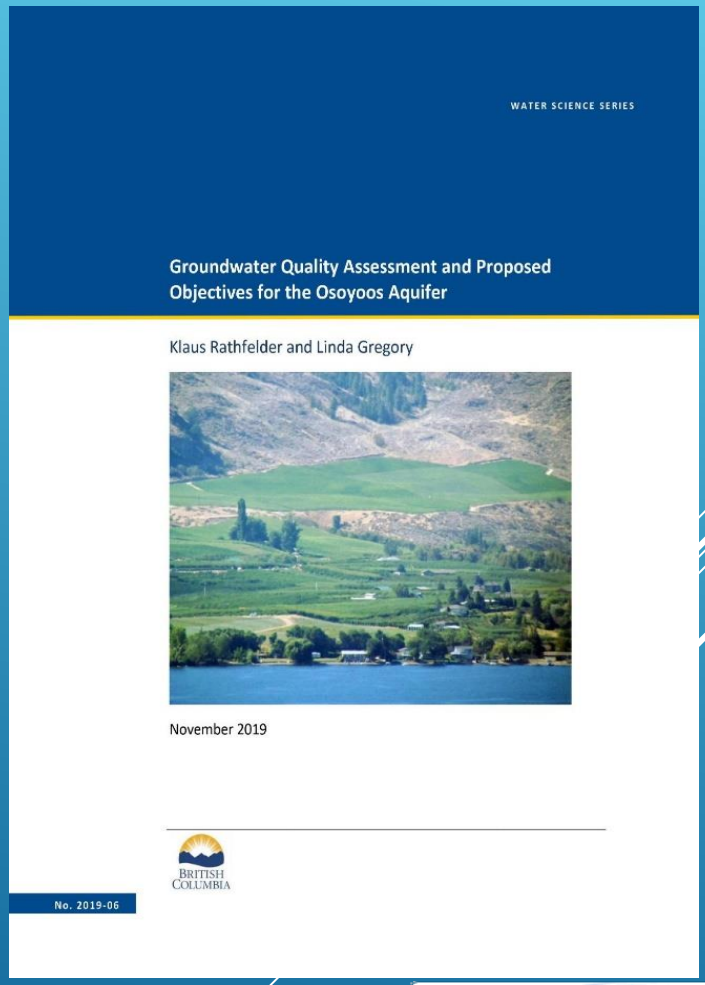
OTHER CONTRIBUTIONS IN TERM 9

- UNDRIP/TRC recommendations to OBWB
- Data management:
  - Overcoming barriers to use of satellite-derived data.
  - Preserving access to research datasets.
- Advice to province on Water Sustainability Act implementation.



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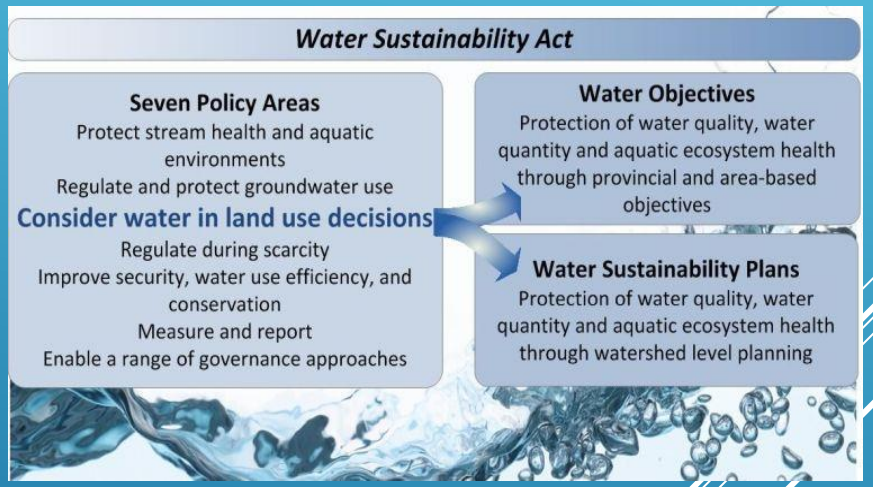
NEXT STEPS

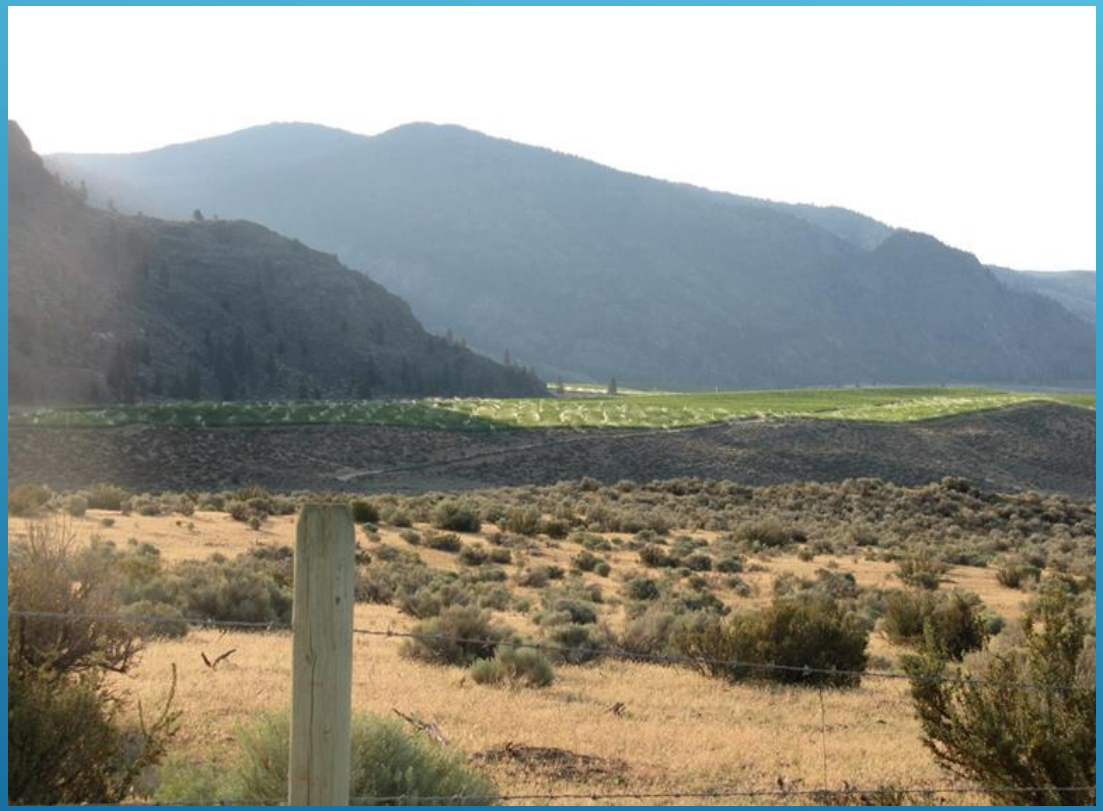
- Continue to help OBWB influence other levels of government – both reactively and proactively
- Some ongoing and new Issues:
  - Water Sustainability Act implementation
  - Data (satellite-derived data, and research datasets)
  - GeoBC: strategic advice on moving from the current survey datum to a new one
  - Environmental indicators



Okanagan Water STEWARDSHIP COUNCIL

AGRICULTURE AND WATER COMMITTEE

2019-2021



Okanagan Water STEWARDSHIP COUNCIL

Term 9: 2019-2021

MEMBERS	
Chair: Kirsten Hannam – AAFC	Rod MacLean – City of Kelowna
Co-Chair: Bruce Naka – IIA BC	Nelson Jatel - OBWB
Adrian Arts – Independent	Jennifer Miles - RDCO
Hans Buchler - BC Agr. Council	Andrew Petersen – Ministry of Agriculture
Lorraine Bennest – Independent	Stephanie Tam – Ministry of Agriculture
Bob Hrasko - BMID	Ted Van der Gulik – Partnership for Water Sustainability
Glen Lucas - BC Fruit Growers Association	Tony Zanotto - Okanagan Shuswap Natural Resource District
Dawn Machin - ONA	Denise Neilsen - OBWB

Okanagan Water STEWARDSHIP COUNCIL

OBJECTIVES

- **Clarify process for obtaining groundwater licenses under the Water Sustainability Act**

- Establish steps for developing Agriculture Water Reserves as part of Water Sustainability Planning under the Water Sustainability Act.

- Clarify the requirements of the Agricultural Environmental Management Code of Practice as it pertains to agricultural producers in the Okanagan Valley.

- Continue to promote efficient irrigation practices through education and technical transfer.

Okanagan Water STEWARDSHIP COUNCIL

KEY FINDINGS

- Only ~20% of the expected applications have been received; of these, only ~30% have been granted

- Ground and surface water license allocations are not calculated for a sprinkler-irrigated forage crop; instead, water is 'licensed to use'.

- Common reasons for processing delays include:

  i. disagreements over how much water should be allocated.

  ii. insufficient documentation

  iii. the requirement to abandon surface water licenses.

Okanagan Water STEWARDSHIP COUNCIL

KEY FINDINGS

- No single, publicly available document has been developed to provide policy and procedural guidance to Water Authorization Officers.
- After March 1, 2022, the lack of a groundwater license may have significant consequences for existing groundwater users, including a loss in property value.
- The province has no plans for additional enforcement after the March 1, 2022 deadline.

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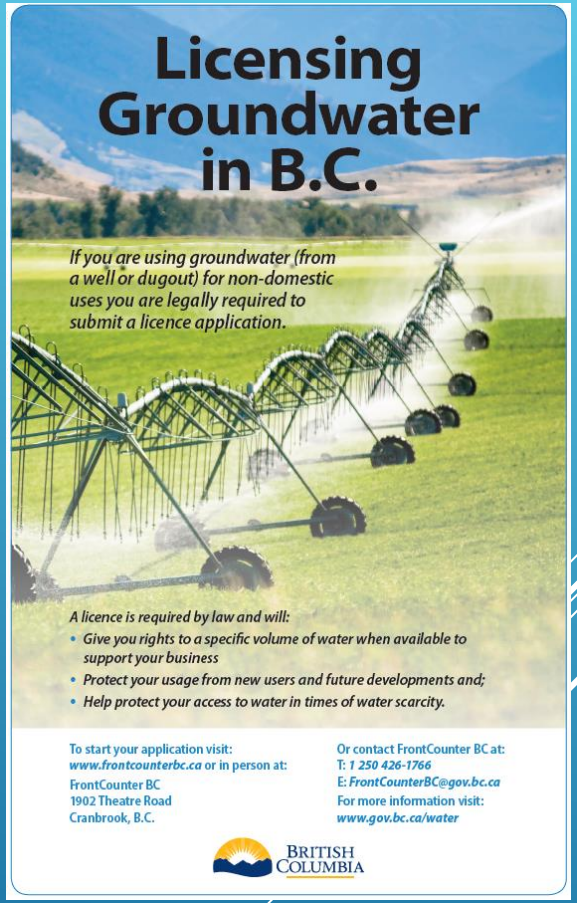
OUTCOMES

- **A 'state of knowledge' paper on groundwater licensing in BC is in preparation. Discussion topics include:**

  - Why should groundwater users apply for a license before March 1, 2022?
  - What is involved with applying for a groundwater license?
  - What are the most common reasons that applications are delayed?
  - What are some reasons for 'groundwater licensing hesitancy'?
  - What are some ways to accelerate this process?



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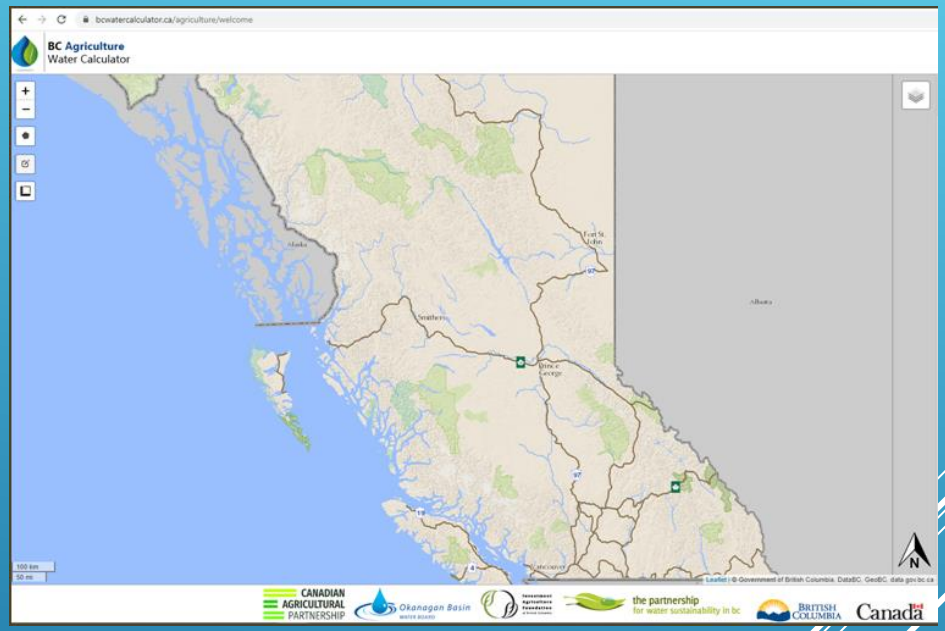
NEXT STEPS

- Projects under consideration for Term 10 include:

i. re-investment in sector-specific irrigation workshops.

ii. development of drought-management tool for agriculture.

iii. analysis of historic patterns of irrigation water use.



Okanagan Water STEWARDSHIP COUNCIL

DAMS AND RESERVOIRS COMMITTEE

2019-2021

Okanagan Water STEWARDSHIP COUNCIL

Term 9: 2019-2021

MEMBERS	
Co-Chair: Bernard Bauer – UBCO	Toby Pike - formerly w. SEKID
Co-Chair: Bob Hrasko – BMID	Don Dobson - Dobson Consulting
Tricia Brett - RDNO (FLNRORD)	Mike Noseworthy – FLNRORD
Mike Nolan - KWL Consultants	Shaun Reimer – FLNRORD
Rod MacLean - City of Kelowna	Hans Buchler - BC Agr. Council
Dwayne Tannant - UBC Okanagan	Alf Leake - BC Hydro

Okanagan Water STEWARDSHIP COUNCIL

INTRODUCTION

Mandate

To review the current state and future direction of dam and reservoir management in the Okanagan.

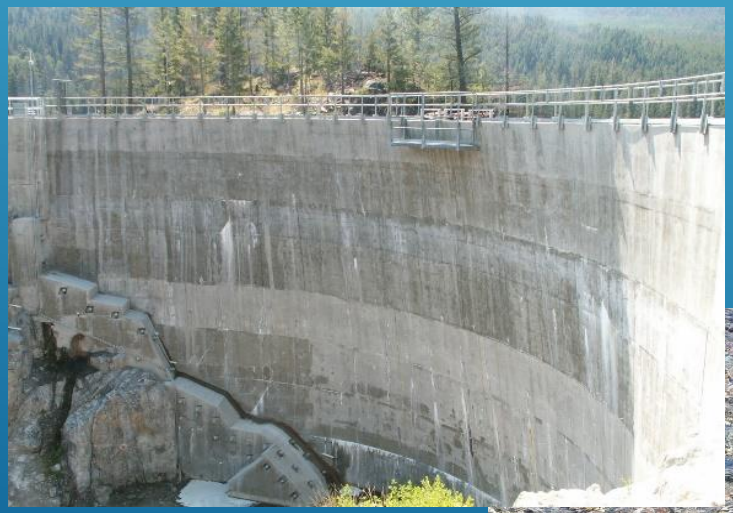
Timelines

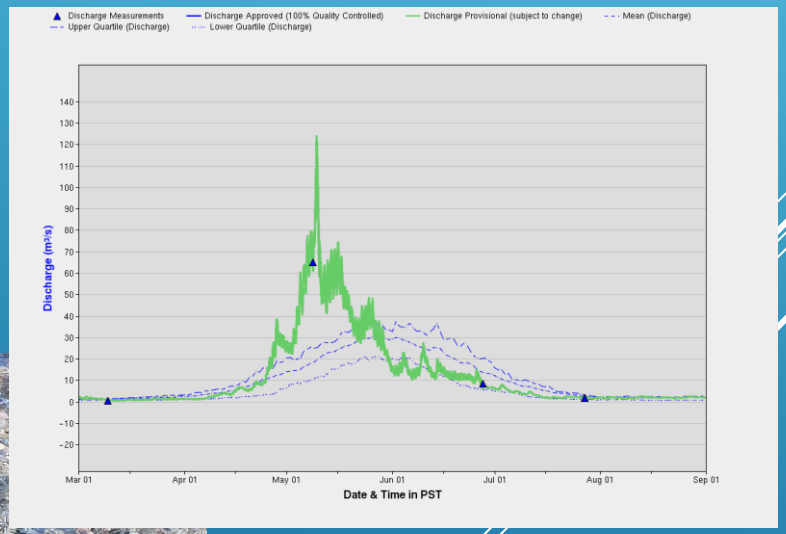
- Established - April, 2018 (start of Term 8)
- Terms of Reference & Work Plan - September 2018
- SWOT Workshop – November, 2018
- Meetings and online discussions – 2018-2020
- Deliverables – spring 2021
- Dissolution – March, 2021 (end of Term 9)

Okanagan Water STEWARDSHIP COUNCIL

ISSUES … a mouthful in a nutshell

The fundamental challenge facing all dam owners, managers, and regulators in the Okanagan is to facilitate a smooth and seamless transitioning from an immutable past to an uncertain future given that we presently live amidst a complex array of ever-changing financial, regulatory, and knowledge constraints as well as shifting climatic conditions and socio-cultural norms.





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SCOPE

- Limited to matters within purview of OBWB (recommendations to OBWB, not Province).
- Mid- to upper-elevation dams and reservoirs (not main-stem lake system).

DELIVERABLES

- FAQs and FACTS on Dams & Reservoirs in the Okanagan.
- Okanagan Dams and Reservoirs – Past, Present, and Future
A White Paper on Issues, Concerns and Recommendations for Dam & Reservoir Management in the Okanagan Region.
- Spreadsheet of Water Licences with Storage (as of March,2021).
- Compendium of References/Documents/Reports.

* all to be posted to the OBWB website.

Okanagan Water STEWARDSHIP COUNCIL

REGULATORY ASPECTS

Testalinden Creek 2010

Dams are regulated under the Water Sustainability Act (WSA) in two ways:

(1) a licence must be authorized to allow diversion and storage of water;

(2) dam design, construction, maintenance, and operation must adhere to the Dam Safety Regulation (DSR).

BY THE NUMBERS

Failure Consequence Class	Regulated Dams Subtotal	Unregulated Dams Subtotal	Dams Total
Extreme	6	0	6
Very High	32	0	32
High	41	0	41
Significant	45	3	48
Low	49	28	77
Unclassified		1	1
Dam Totals	**173**	**32**	**205**

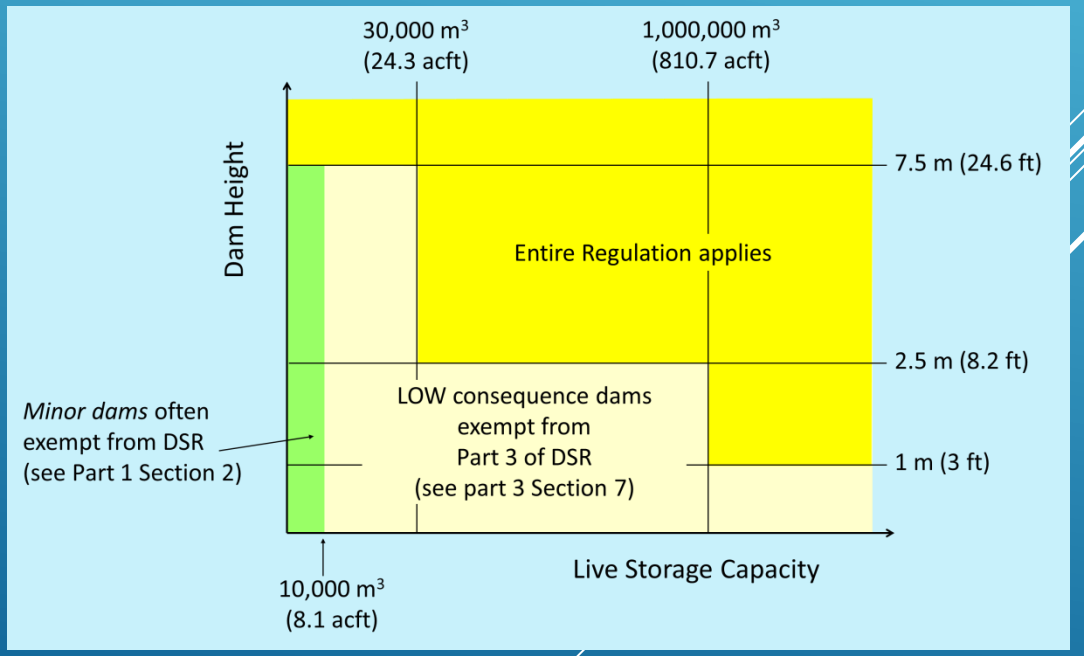
Another 64 are 'listed' + unknown #

Total Licensed Storage Volume
161 x 10^3 ML (226 x 10^3 ML; Dobson, 2008)

Estimated Annual Storage
133 x 10^3 ML

Unused/Undeveloped Capacity
20% (40%)

BC Dam Safety Regulation



KEY FINDINGS & FUTURE CHALLENGES

- Dam ownership and management is increasingly complex
  - Stricter regulations and enforcement.
  - Downstream development may lead to reclassification (failure consequence class).
  - Shifting social norms and attitudes (e.g., environmental dimensions.

- Dams and reservoirs are increasingly expensive to operate and maintain
  - Historical legacy issues associated with aging infrastructure
    fiscal plans for infrastructure reinvestment are uncommon or deferred
    few cost-sharing opportunities.

- Changing climate and land-use patterns are influencing hydrologic runoff regime

- Increasing water demand from population growth and agricultural expansion
  - Should storage capacity be increased, or do we live within our means?

- First Nations (socio-cultural; governance) and environmental considerations are increasingly important

Okanagan Water STEWARDSHIP COUNCIL

RECOMMENDATIONS

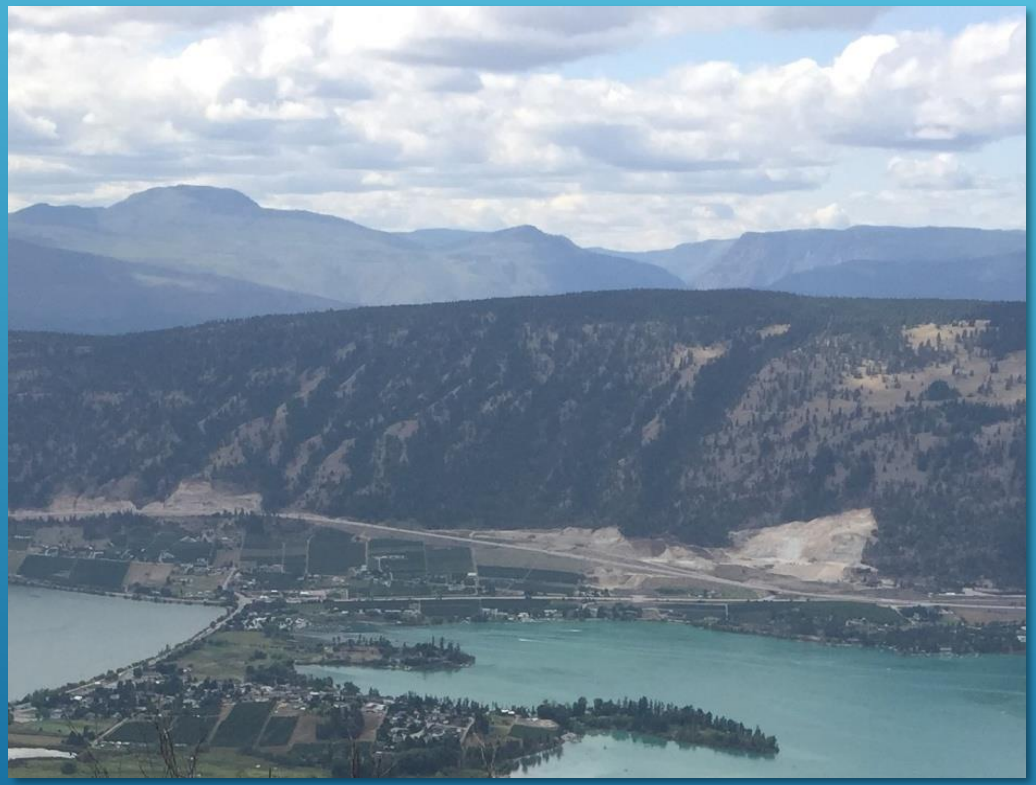
Read the White Paper!!!

Okanagan Water STEWARDSHIP COUNCIL

- The OBWB should ***initiate and lead (with local and provincial governments) discussions with the goal of exploring and implementing financial mechanisms in support of long-term infrastructure maintenance and sustainable dam and reservoir operations***.
- The OBWB should continue to ***lobby the provincial and federal governments to expand regional capacity for measuring and modeling hydro-climatic trends into the near and distant future***.
- The OBWB should ***encourage, commission, and co-sponsor a range of scientific and technical studies focused on the future role of dams and reservoirs within a valley-wide water management strategy*** that also considers, for example, water conservation, environmental flows, and zoning by-laws.
- The OBWB should ***collaborate with local Indigenous Peoples*** in hopes of incorporating their perspectives and needs into a valley-wide reservoir management strategy with targeted solution that properly recognizes the contextual nuances of dams owned by First Nations.
- OBWB should ***collaborate with local governments and the Province to explore possible mechanisms to achieve efficiencies and economies of scale associated with coordinated reservoir operation*** under a 'one operator' model for sub-watersheds that have multiple dam owners.
- The OBWB should ***collaborate with the Province and water industry organizations to address evident gaps in existing outreach (education) programs*** offered by a range of national and international organizations.
- The OBWB ***should investigate the extent to which the land surrounding existing and yet-to-be-developed reservoirs could be protected from future development, privatization, and in the case of Crown Land, from lease arrangements***.

SOURCE WATER PROTECTION COMMITTEE

2019-2021



Okanagan Water STEWARDSHIP COUNCIL

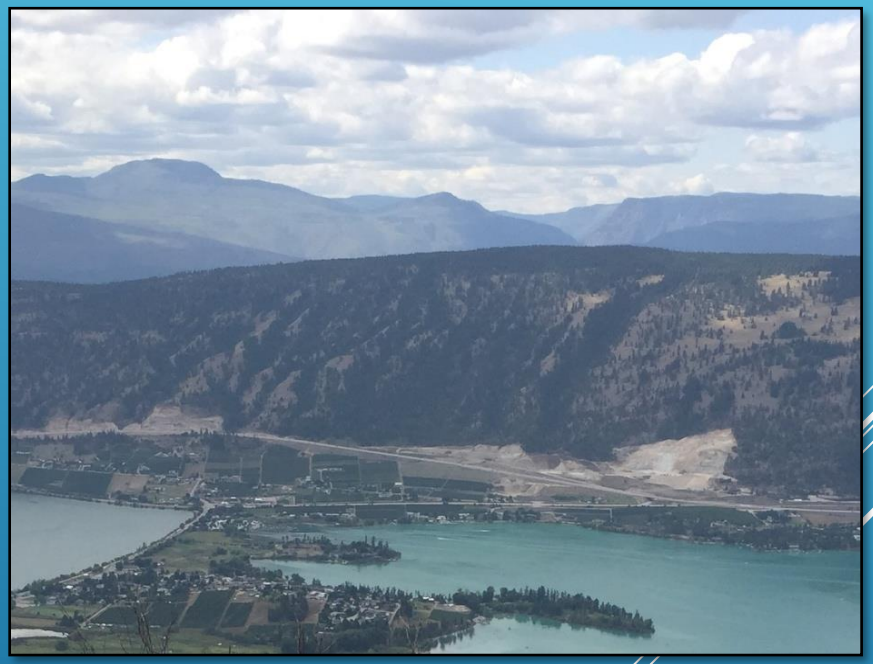
Term 9: 2019-2021

MEMBERS	
Chair: Renee Clark - Independent	Scott Smith - Eternna Consulting
Co-Chair: Marni Turek – UBCO	Patti Meger – WSA BC
Rob Birtles - Interior Health Authority	Heather Larratt - Larratt Aquatic Consulting Ltd.
Nicole Penner – Associated Environmental	Don Dobson – Dobson Consulting
Lorne Davies - BC Wildlife Federation – Region 8	Keith Duhaime – OK College

Okanagan Water STEWARDSHIP COUNCIL

INTRODUCTION

- The SWPC active in Term 8 and 9.
- Source Water Protection is complicated and complex.
- Land use impacts the water quality and quantity.
- Increased cumulative impacts.



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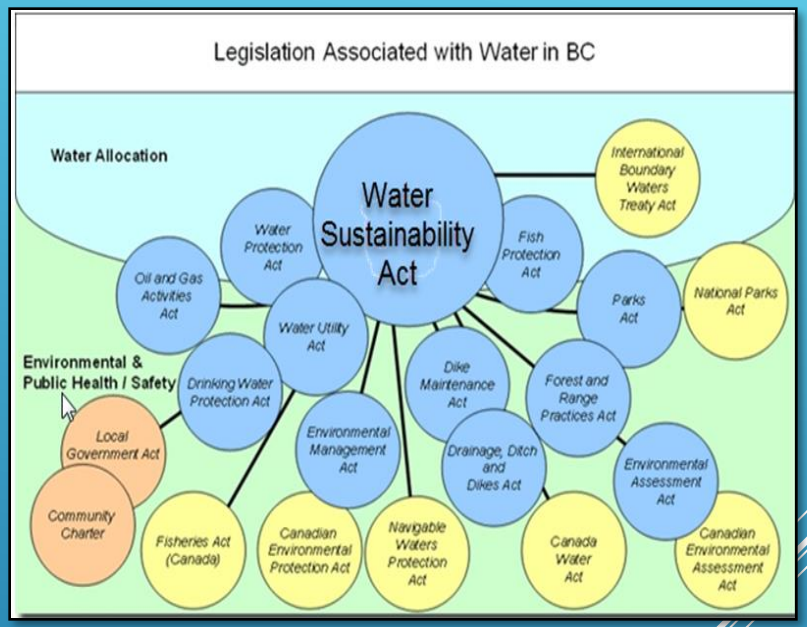
ISSUES

- In BC ~ **23 different pieces of legislation** with **eight ministries** that have responsibilities for protecting water.
- Local governments (Municipal and Regional) can set **policy** and **bylaws** to protect water
- **Lack** of coordination and accountability.
- **Lack** of leadership.
- **Lack** of resources – people and dollars
- **Reactive not proactive**



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OUTCOMES

- **Source Protection Tool Kit**

OBWB staff, Kelly Garcia, led this project. SWPC provided input for the Technical Advisory Committee. Phase 1- development is near completion. Phase 2 funding for implementation is secured.

- **Position Paper**

Complete and presented to the WSC in December and to the OBWB Directors in April.
A recommendation to advocate for Source Water Protection in BC and 4 Key Actions.

Okanagan Water STEWARDSHIP COUNCIL

OUTLOOK

- A creation of a Watershed Security Strategy and Fund is anticipated for 2021
- OBWB needs to continue advocating for Source Water Protection in the Okanagan and BC
- Assign an OBWB representative to report on progress of Watershed Security and Fund. Advocate for implementation.

Okanagan Water STEWARDSHIP COUNCIL