

Living Lakes Canada



15TH INTERNATIONAL CONFERENCE
ON LAKES AND WETLANDS



Overview

- National Community- based water monitoring project
- Columbia Basin Framework
- Wetland Restoration



National Community-based Water Monitoring Program

- Stream Health Assessment protocol:

Canadian Aquatic Biomonitoring Network
CABiN



Community-based Water Monitoring & Indigenous Involvement in CABiN



The Canadian Aquatic Biomonitoring Network (CABiN) protocol and Indigenous Knowledge



CABiN & eDNA metabarcoding technology with community-based water monitoring



eDNA metabarcoding analysis for a National community-based freshwater monitoring initiative - STREAM



 STREAM



CABiN & Wetlands



THE COLUMBIA BASIN WATER MONITORING FRAMEWORK AND DATA HUB INITIATIVE

A collaborative transboundary initiative focused in the Canadian Columbia Basin. This project is aimed at identifying and acting on key priorities relating to water data gaps and ensuring a sharing of data occurs on a broad scale.

EL MARCO DE MONITOREO DE LA CUENCA DE COLUMBIA E INICIATIVA DEL CENTRO DE DATOS

Una iniciativa transfronteriza de colaboración centrada en la Cuenca canadiense de Columbia. El objetivo de este proyecto es identificar y actuar sobre las prioridades clave relacionadas con las brechas en los datos del agua y garantizar que el intercambio de datos ocurra a gran escala.







Welcome



INITIATIVE GOALS

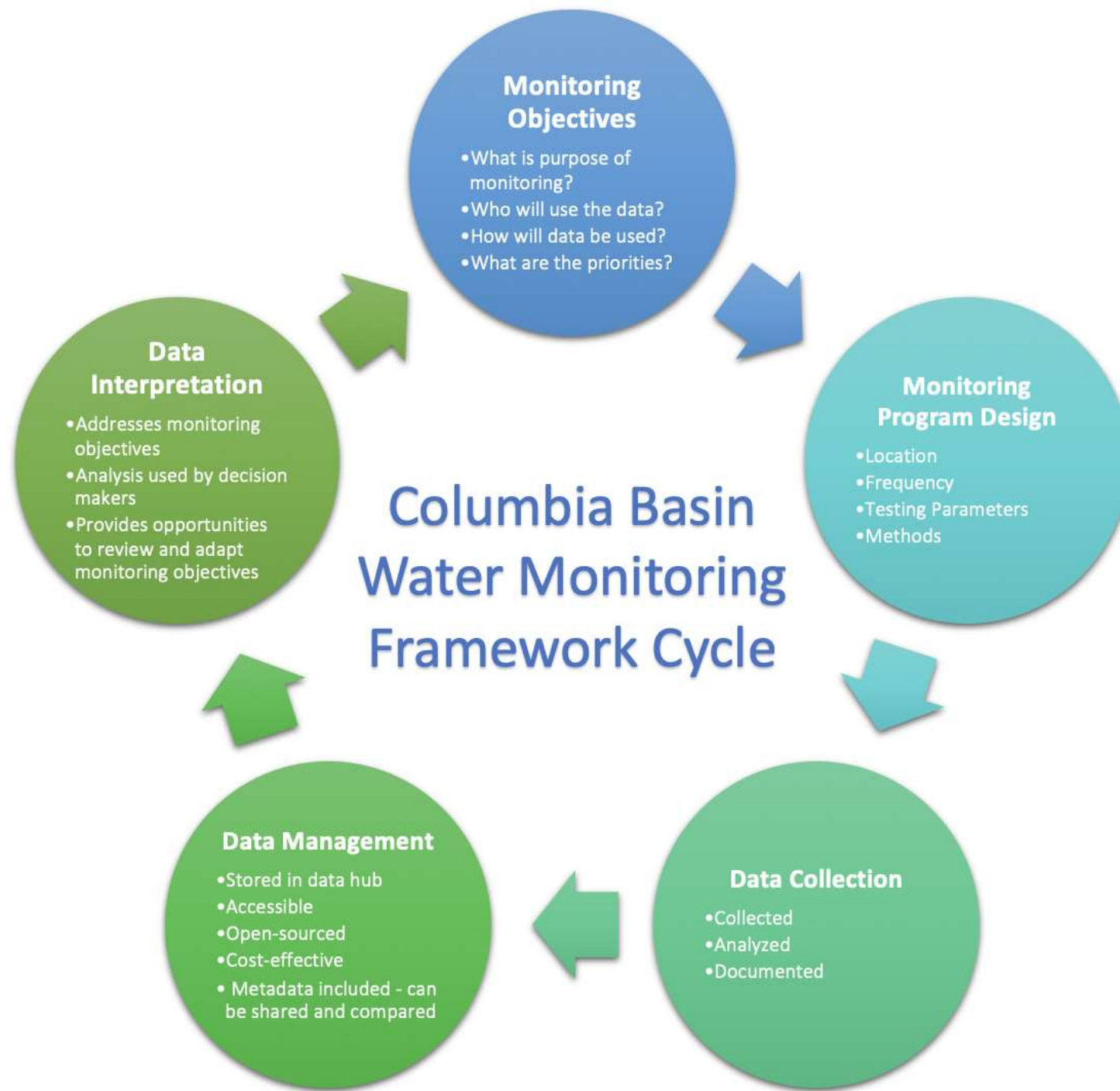
1. Develop a Columbia Basin Water Monitoring Framework
2. Develop a cost-effective, open source Data Hub
3. Provide applied science for decision making
4. Provide training, mentoring and technical support
5. Provide research opportunities
6. Be a central funding hub
7. Be a model for other regions in Canada
8. Become a transboundary collaborative

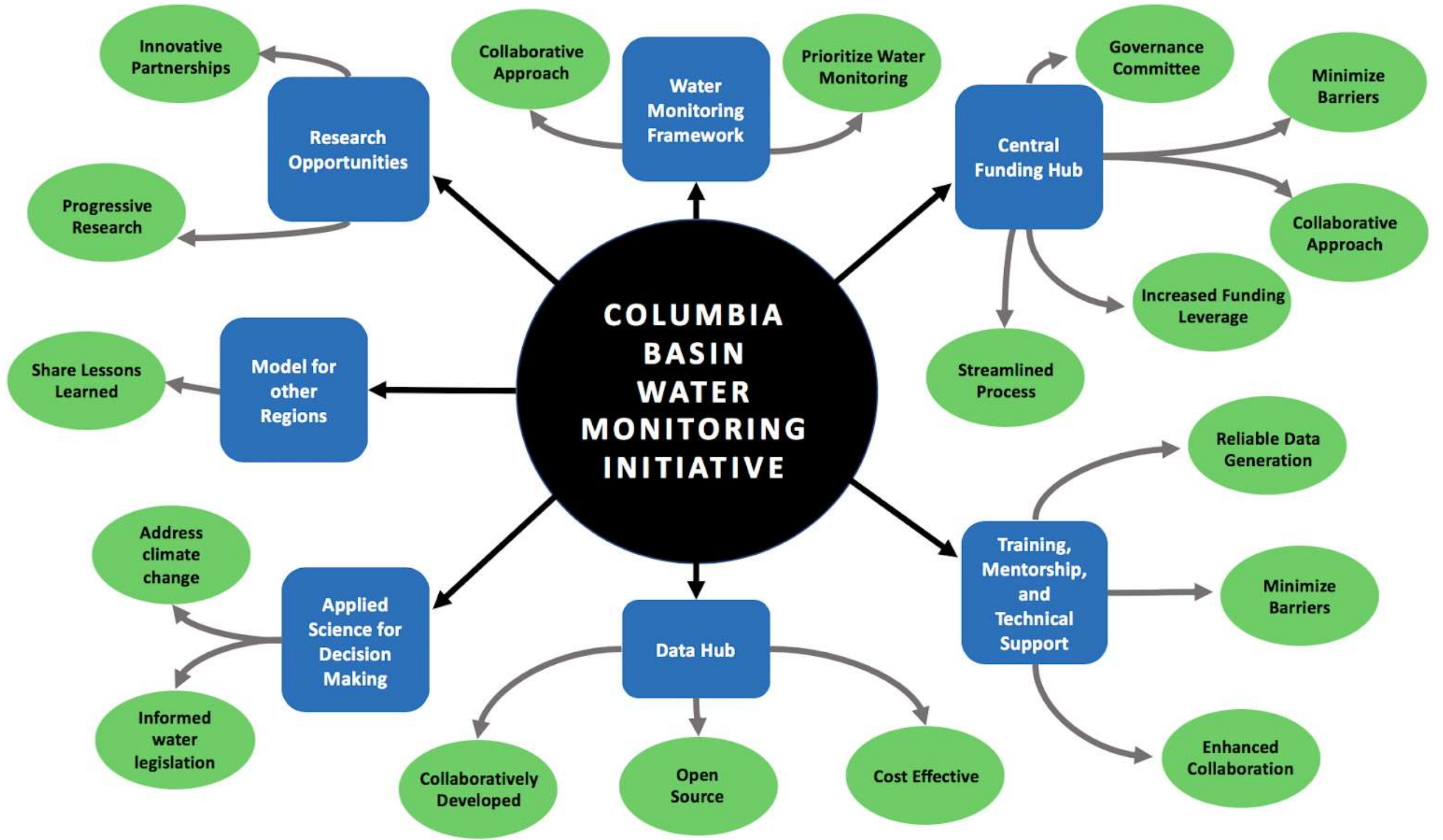


MAJOR OBJECTIVES

1. This initiative will coordinate, collaborate, and communicate a systemic framework for addressing water monitoring data collection and open source data storage needs in the Columbia Basin .
2. Work with cross-sector participation, including Indigenous and non-indigenous governments, academia, industry, tech sector, and communities, this initiative will build upon the backbone of government water monitoring.







CRITERIA MATRIX

The purpose of steps one and two are to, with the use of an algorithm, identify:

1. Which types of monitoring (e.g. Hydrometric, Climate, Water quality etc.),
2. At which elevations (high, mid and low),
3. In what hydrological regions, and
4. Which are most valuable to decision makers.



CRITERIA MATRIX

Step Two: Science Committee (SC) Identified Data Gaps

								Hydrologic Region										Elevation Range ^z			
			All	Current	Columbia-Kootenay Headwaters	SC Recommended	% Difference	Ranking	Upper Kootenay	Upper Columbia	North East Columbia	Northwest Columbia	Mid-Columbia Kootenay	Lower Kootenay Columbia	S.M.Mt. Mary-Moyie	Canoe Reach	Kettle inoonaikin	low (<900 m)	mid (900-1,500 m)	hi (>1,500 m)	
			Data Group	Type					Current												
Table 1	Climate - Snow and Glacier Monitoring	Climate	Annual	122	13	15	13%	1	28	7	6	25	10	29	3		1	60	40	22	
			Seasonal	32	5	20	75%	4	1	1		11	6	7	1			8	8	16	
		Snow	All	53	8	34	76%	5	3	4	2	15	6	7	5	1	2	4	11	37	
			Pillows	9	1	20	95%	5		2	1	3	1				1				9
			Courses Pole	41	7	14	50%	3	3	2	1	11	5	5	5	1	1	3	10	27	
		Glacier	Mass Balance	3	0	0	0%	0				1		2			1		1	1	1
			Supersite	5	0	0	0%	0		2	1			1			1				5
Table 2	Water-quantity sites monitoring sites	Stream discharge	Active	45	2	7	71%	4	20	6	2	4	17	14	3			49	17	2	
			Lake level	Active										2					2		
			Reservoir level	Active	4								1	2	1				6		
			Ground-water	Active	6	1				3	1				1				5	1	
			Stream	Active	66	5				28	3	1	6	10	6	7			35	24	7
			Lake	Active	33	5				6			1	10	7	2			25	6	1

Friends of Kootenay Lake Stewardship Society

Our mission is to improve the health and stewardship of Kootenay Lake through monitoring, habitat restoration, capacity building, and the empowerment of local communities, First Nations, and stakeholders.

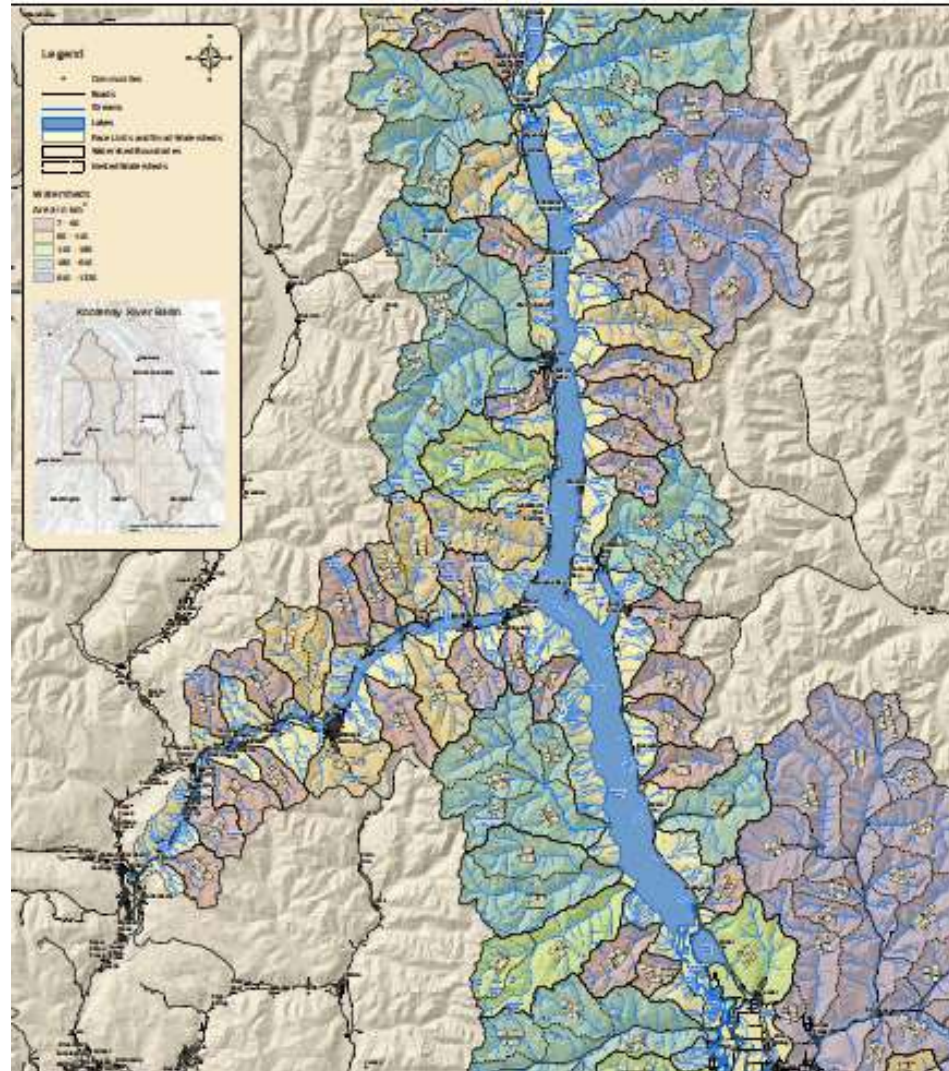


Friends of
Kootenay Lake
Stewardship Society

The Headwaters of British Columbia



CARRIE COCKBURN/THE GLOBE AND MAIL » SOURCE: COLUMBIA BASIN TRUST



Harrop Wetland Restoration Site



Date Saved: 28/05/2015
Map Projection: NAD 1983 UTM Zone 11N

Document Path: \\warm\el\Workarea\amw\el\FWCP_F16\Wetlands\map_documents\Harrop_restoration_Features_2.mxd



Harrop Wetland Pre-Restoration



1. Upland pond pre-restoration



2. Foreshore Pond Pre-Restoration

Harrop Wetland Post-Restoration



1 & 2. Upland Pond Restoration



3. Foreshore Pond Restoration

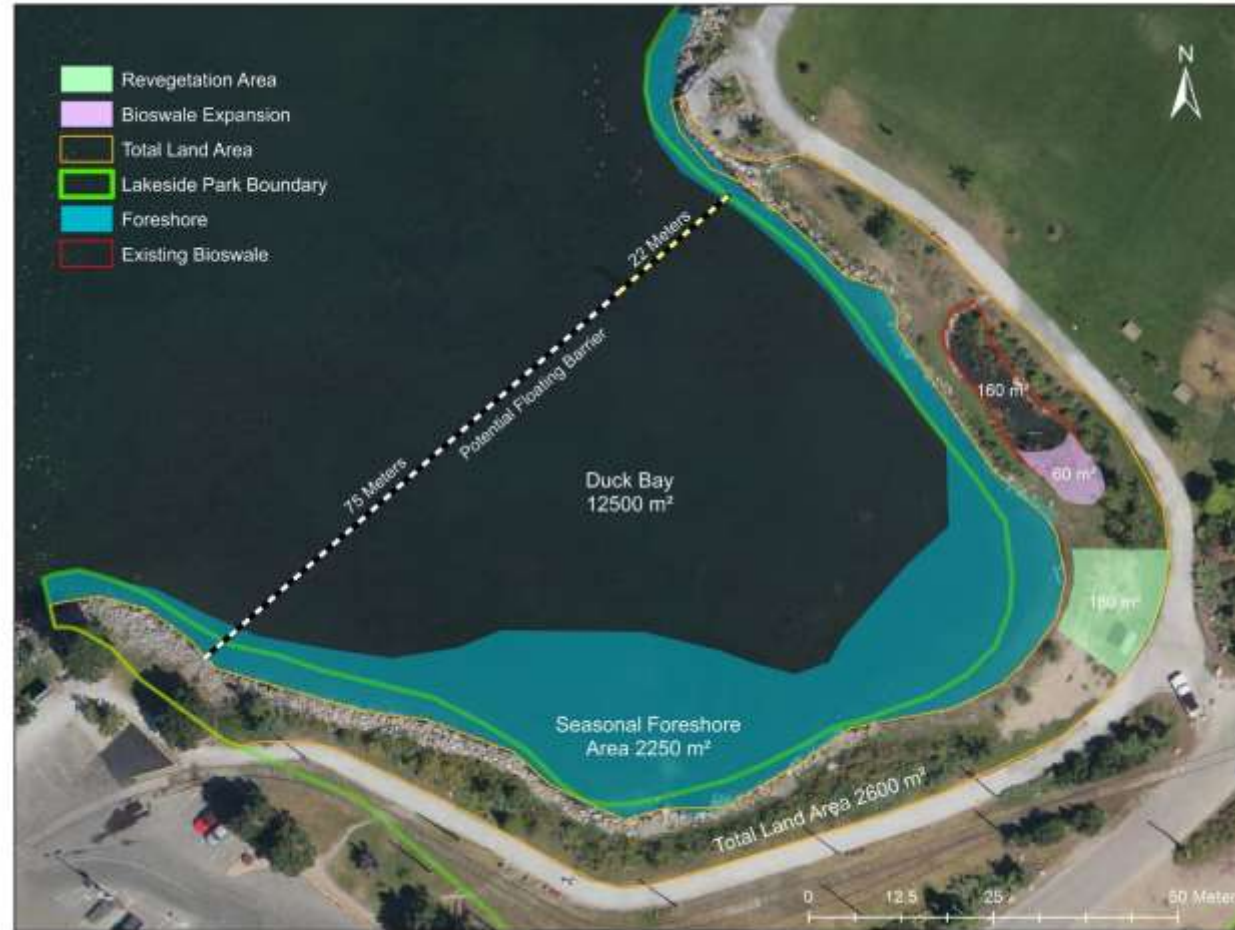
Ways citizen scientists were engaged in this project

- Consulting with community members and stakeholders during the planning process
- Consulting with stakeholder groups
- Involving the community in the restoration component
- Educating community members to encourage ongoing monitoring
- Engaging with a local primary school to develop educational signage

Duck Bay Wetland Restoration Site



Source: Google Maps



Duck Bay Wetland Pre-Restoration



Duck Bay Wetland Post-restoration



Ways citizen scientists were engaged in this project

- Consulting with stakeholders and local interest groups during the planning process
- Involving local school groups and community members in the restoration component
- Engaging with a local primary school to develop educational signage
- Providing educational programs within local schools to foster interest and involvement

Duck Bay Restoration – Continuing



FUNDERS

Columbia Basin **trust**



Connect with us!
Conectar con nosotros!

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