

# ANNUAL REPORT

## 2022





# Welcome to our Annual Report!

This report highlights the major activities and accomplishments of 2022, and speaks not only what we have achieved but, perhaps most importantly, how we have achieved it – through collaboration, engaging respectfully, building bridges and supporting the aspirations of our partners as we work together to ensure a more positive water future for our children and grandchildren. The Milestones refer to progress made towards our Targets and Priorities overall, not only by the Watershed Board but in community with our government and academic partners and the local stewardship community. Under the Progress on Priorities (Appendix), we report on the key Objectives we laid out in our 2022 Business Plan. Enjoy!



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## Reflections from our Co-Chairs – DRAFT FOR EDITING

Quote from Lydia

Quote from Lori or Aaron



For over a decade, as the Watershed Board has sounded the alarm over the harsh impacts of some types of change, we have focused on the macro scale – climate change, changes to forest ecosystems, changes in water levels, whether flooding or drought, changes in fish and wildlife populations and water quality, loss of riparian habitats, etc.

This year's challenge included an unusually dynamic human community in and around the Watershed Board's work - through retirements, elections, and political restructuring. This included new leadership and

project staff in both Cowichan Tribes and the CVRD, including new CWB co-Chairs; Provincial Ministry changes, including a new co-Chair for the Koksilah Watershed Sustainability Planning process, and a brand new Ministry overseeing watershed solutions; and perhaps most notably for the CWB, our fabulous Executive Director of 6 years, Tom Rutherford, stepped back into a project leadership role to enjoy a bit more time hiking the watersheds instead, and we welcomed a new Managing Director, Lisa Maria Fox.



While fresh faces bring new energy and perspectives that are always welcome, and an opportunity to fill a hole with just the right person, the Watershed Board also recognizes the value that established and trusted relationships contribute to maintaining momentum. 2022 was a year that demanded time to rebuild relationships, knowledge, and respect, amid the never-ending urgency to solve problems together. This takes a toll, and no one knows this better than the people who have lived here since time immemorial, watching the ebb and flow of **huwimtum** (settlers – spelling?).



So, it's against this backdrop that we send special appreciation for the people who have stayed put, and perhaps don't get their moment in the spotlight as a result. People who have been steadily working on issues through difficult transitions, sometimes for decades, maybe a lifetime, possibly for generations, or since time immemorial.

Big thanks too for all those who have retired or stepped back for the good work you contributed to the watershed's journey back to health. Huy ch q'ú siem and we hope you will stay in touch!



Respectfully,

[co chair sigs]

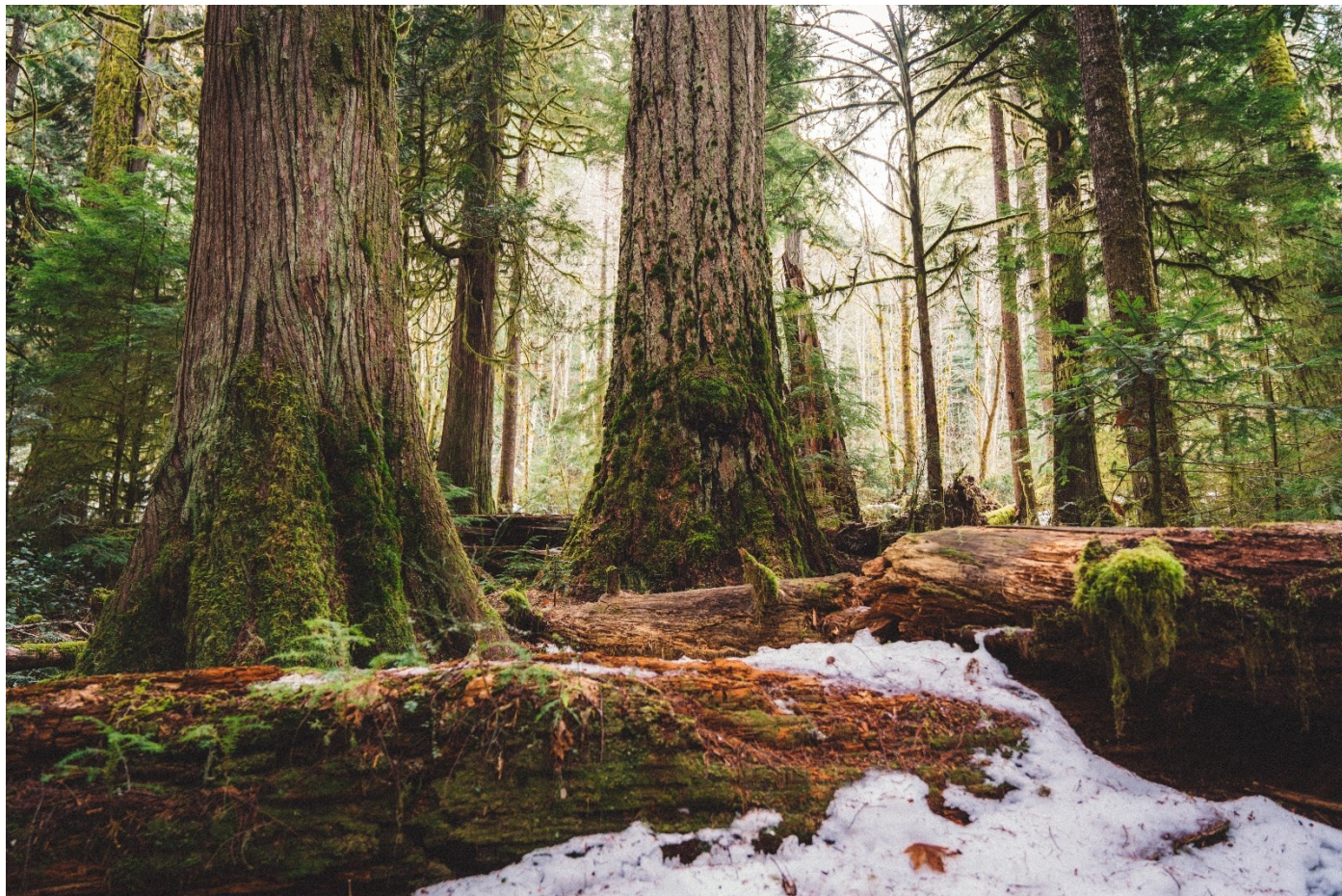


Photo by Rob Wilson, Arcas Media. Koksilah watershed.

Photos previous page - Top left: CoChairs Chief Lydia Hwitsum and CVRD Chair Lori Iannidinardo at River Cleanup 2022; Right: CoChair Aaron Stone greets the Big Dancing Fish. Bottom: Larry George Cowichan Tribes Lulumexun Lands and Governance Manager and Kate Miller, CVRD Environment Manager are recognized by our Co-Chairs and out-going Executive Director for their decades of work to improve the health of the Cowichan watershed (Jan 2023). Photos by B.Hetscho, JThompson



## Overview of the CWB

**Origins:** In 2007, prompted by years of declines in the Cowichan River's iconic salmon runs, and increasingly frequent low-flows in summer, the [Cowichan Basin Water Management Plan](#) was created. It benefitted from the participation of many local people and organizations working with provincial and federal agencies. Eighty-nine clear objectives were identified, and leadership for each was assigned to a variety of agencies and parties. However, no specific funding was allocated to accomplish the work, no governing body existed to coordinate between the parties, which often had overlapping jurisdictions, and indigenous leadership participation was lacking.

**Collaborative Governance:** In 2010, sitting Cowichan Tribes Chief Lydia Hwitsum and Cowichan Valley Regional District Chair Gerry Giles brought their councils together to create the Cowichan Watershed Board. The governance structure was anchored by an equal partnership of the two governments, co-chaired by the leaders of each, and by [core Principles](#). In 2018, through a two-year dialogue series engaging senior staff of the partners with CWB members, the [Governance Manual](#) was updated to better reflect the indigenous authority, knowledge and collaborative leadership that underlies the Board's success. An important new Core Principle was added through this process. *Nutsamat kws yaay'us tth qa': We come together as a whole to work together to be stronger as partners for the watershed.*

**Targets:** In 2011 the Board's Technical Advisory Committee established '[targets](#)' with the help of Cowichan Tribes, many local stewardship groups and relevant government agencies that had contributed to the Water Management Plan. The targets were intended to fill the gap between the ambitious Management Plan, and the reality of insufficient resources and authority to achieve its objectives. The targets honoured the direction and intent of the Management Plan while guiding and inspiring collaborative, locally-relevant, and achievable progress towards its goals. These targets and their associated measurable indicators have been reviewed and revised over the past 3 years, to establish the next steps on this path. See page xxx and [Appendix B](#).

**Working Groups:** Four Target Working Groups, comprised of approximately 30 organizations or branches of government, have emerged as the collaborative mechanism by which the Targets are pursued. The Watershed Board coordinates the Working Groups to improve sharing of knowledge, skills, and resources, but it is really the member organizations of each Working Group that must be recognized and celebrated for their contributions towards the Targets. [See page xx for details.](#)

**Priorities:** Due to climate extremes increasing the urgency of address low summer and fall river flows, the Watershed Board has also adopted two priority projects to support: 1) replacing the weir at Lake Cowichan to increase water storage and keep the Quw'utsun/Cowichan River flowing at a rate that supports salmon all year long, and 2) creating a long-term watershed-wide Watershed Sustainability Plan to address similar critical fish habitat and other issues in the Xwulqw'selu/Kokislah River. [See page xx.](#)



## Recognition of Cowichan Tribes' Statement on Inherent Rights

Quw'utsun mustmuhw, ni' 'o' ni' tthusht'esulhkws 'itst 'u tun'atumuhw, 'i' 'o' hwunst'e. Nilh 'o' thu-'it syuw'entst, tun ni' 'u kwthuhwun'amustimuhw 'iwutl'uts' 'i' 'u tun'atumuhwtst. Ni' yuxtse'tumtthu Quw'utsun 'u tthu-itumuhw, qa', kw'atl'kwatthuni' spupin' 'u tthutumuhw, ttho' mukw' stem ni' hakwni' 'u tthustl'ulnuptst. Kwuthushtun-ni' 'iwststni' yuxtse'tum 'u ttho' mukw' stem ni' ha'kwkwssthuthi'skwshuli-s. O' nilhtthu Quw'utsun mustumuhw, nilemuxtunstum 'u tthuni' snuwuntewut 'u tthushtunaalhtun, tst. Uwutumtem-us 'i' ni' tsttsmem't 'aanlhkwskwun-etewut, hwayumtun'as'aalhtl'ulnup. Quw'utsun Mustimuhw, ha'kwushtst kw' stutul'na'mutxetsul's kw' shtuhimstthustl'ulnuptst. Mukw' stem 'o' shilukw'tul 'i' nilhni' shkw'akw'umstthusulsuli'tst.

Cowichan Peoples have existing inherent rights. Cowichan as the original Peoples of this territory within which the Cowichan Watershed is included continue the right and responsibility to make informed decisions to manage and organize based on our history and continued connections. As told through time by our ancestors; the lands, waters, seas, minerals, air and all elements interconnected within the territories provided for and can provide a good sustainable life for Cowichan Peoples. Cowichan has never given away this right and continues to govern and make decisions to support the well-being and sustainability of our Peoples and territories.

*Source: Cowichan Watershed Board Governance Manual, 2018*





## Milestones - Top 10 Cowichan Watershed Victories in 2022



### Weir Ready

- CVRD completed the design and shoreline assessment for the Cowichan Lake weir replacement project on behalf of its partners
- Cowichan Tribes lead discussions into how the new weir could be governed and managed using a partnership approach.
- Cowichan Tribes, the CVRD and Paper Excellence signed a memorandum of understanding articulating a commitment to work as partners to pursue a water conservation license for the additional water storage.
- This partnership has now jointly applied for a conservation water license, which is needed before construction can begin. [Learn more here.](#)



### Xwulqw'selu (Koksilah) Watershed Co-Governance

- Cowichan Tribes and the Province of BC continue to work as partners towards BC's first Watershed Sustainability Planning process under the Water Sustainability Act.
- BC Ministerial Order signed in January to designate the entire Xwulqw'selu (Koksilah) watershed for the purpose of developing a WSP, recognizing Quw'utsun values, water users, fish species, etc.
- An interim Steering Committee is now finalizing its Terms of Reference and a Workplan for the next 3 years to develop the plan including more research and input from the community.

[Learn more here.](#)

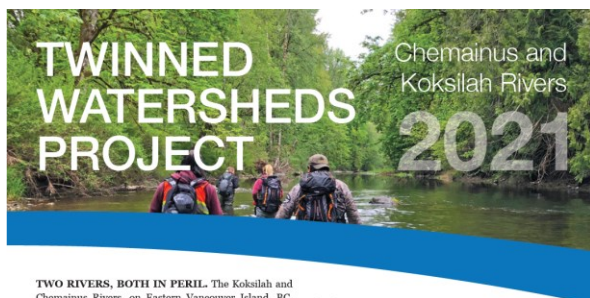


### Updated Targets for Watershed Health

- Updates and revisions for all targets presented to the Board for feedback, and are in final review.
- Began work to refresh and revive 4 Target Working Groups.
- Approximately 30 organizations or branches of government are collaborating through Working Groups, bringing local knowledge and subject experts together around mutual goals.

[Learn more here.](#) See page 21 and Appendix E





**TWO RIVERS, BOTH IN PERIL.** The Koksilah and Chemainus Rivers, on Eastern Vancouver Island, BC, have been similarly and severely impacted by climate change and land use. Low summer water flows and degraded stream habitats are a threat to salmon and salmon communities.

The Twinned Watersheds Project is an innovative and efficient way of sharing resources to give decision-makers the best information possible to turn this situation around, and restore health and resiliency to these watersheds. For the Koksilah, the findings will support the creation of an enforceable local water sustainability plan under BC's new Water Sustainability Act.

*"There's a lot to do. We are supporting each other by the sharing of resources, sharing of time and being able to get the work done a bit more efficiently than it would be if just the one system was being worked on."*  
(Larry George, Cowichan Tribes)

## Twinned Watersheds Field Research

- Completed an extensive and scientifically ground-breaking field research project in the lower Koksilah and Chemainus Rivers on behalf of Cowichan Tribes and Halalt First Nation.
- Elements included aerial imagery, detailed flow data, meso-habitat inventory, & a peer reviewed Environmental Flow analysis as well as integrating preliminary indigenous flow knowledge.
- Employed 48 local people, building capacity for aquatic & riparian field study and restoration.
- Restored riparian riverbanks and farm habitats.
- Salmon stock assessment now underway.

[Learn more here](#) or [download the Twinned Watershed Project Summary \(4 pages\) here.](#)



## Lower Cowichan River Cleanup 2022

- 111 volunteers.
- 1700kg of trash removed from 15 km of river -- Sandy Pools to Black Creek (+ some).
- Co-hosted by Cowichan Tribes, sponsored by Catalyst, supported in kind by CVRD-Bings Creek, Garage Café, Duncan Rotary, Adams TarpNTool, True Grain Bakery, Real Canadian Superstore, Island Tractor, Drillwell, and more.

[Learn more here.](#)



## Learning & Sharing Knowledge

- 10 insightful Twinned Watershed research presentations on "EFlows", Riparian habitat analysis, project findings & recommendations
- Why Fish Need Trees video; sequel to Why Fish Need Water (photo left: Arcas Media)
- Big Dancing Fish celebrated watershed helpers.
- Learned from elders at cultural workshops.

[Check out our YouTube channel](#) for more.



## Sustainable Funding is Coming!

- CWB has helped advocate for Sustainable Funding for Watershed Governance since 2018, recently with the BC Watershed Security Coalition. (Photo left: Chief Seymour speaking to a BC Finance Cttee ~ 2020)
- Early in 2022, the Province began development of a Watershed Security Strategy and Fund, anticipated to be a multi-million-dollar endowment with annual funding.
- Federal commitments have also been made to a \$1 billion Freshwater Action Plan and Canada Water Agency.



[Learn more here.](#)



### **Xwulqw'selu Connections:**

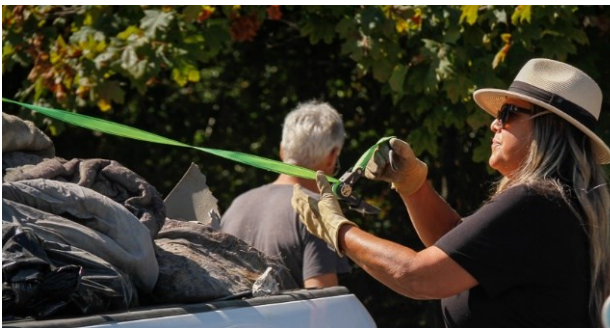
- Helped establish a 5-year research partnership in the Koksilah watershed, led by UVic hydrogeologist Prof. Tom Gleeson, two graduate students and two community coordinators.
- 25 local “citizen scientist” volunteers monitoring tributaries.
- connections are being made between groundwater and surface water in the Koksilah watershed, helping residents better understand the waters where they live, and decision-makers have better information to guide them.
- 1555 stream observations uploaded so far!

Learn more: [The Discourse](#) [2022 Results](#)



### **Synchronized Sampling!**

- A hearty crew of volunteers and Cowichan Tribes staff, lead by a committed “choreographer” (project lead) completed round 3 of a Provincially recommended sampling regime, required every 5 years to monitor trends in the Cowichan-Koksilah watershed.
- 10 days of sampling in 22 freshwater sites and simultaneously by the Cowichan Tribes marine team in the estuary at 9 marine sites.
- Testing included (site/season dependent) E.Coli, turbidity, pH, Nitrogen, Phosphorus, Carbon, Enterococci, Fecal coliform, metals, temperature, oxygen and conductivity.



### **Hellos and Huy ch q'us**

- A huge huy ch q'u is owed to departing Board members in 2022 --Chief William Seymour, Lori Iannidinaro, and Debra Toporowski. Thank you all for your years of dedication to the watershed, and guidance of the CWB.
- In August we welcomed a new Managing Director to the CWB staff team. Say hello to [Lisa Maria Fox](#).
- Executive Director Tom Rutherford retired from this role, but we are thrilled that he is still working for CWB on salmon sustainability and indigenous co-governance as the CWB Strategic Watershed Priorities Director. Thank you, Tom!
- Heather Pritchard returned to our staff team as Targets Coordinator to support the Target Working Groups.
- Chris Steeger, Elodie Roger, and a very hearty crew of volunteers supported our Water Quality Survey (see below).

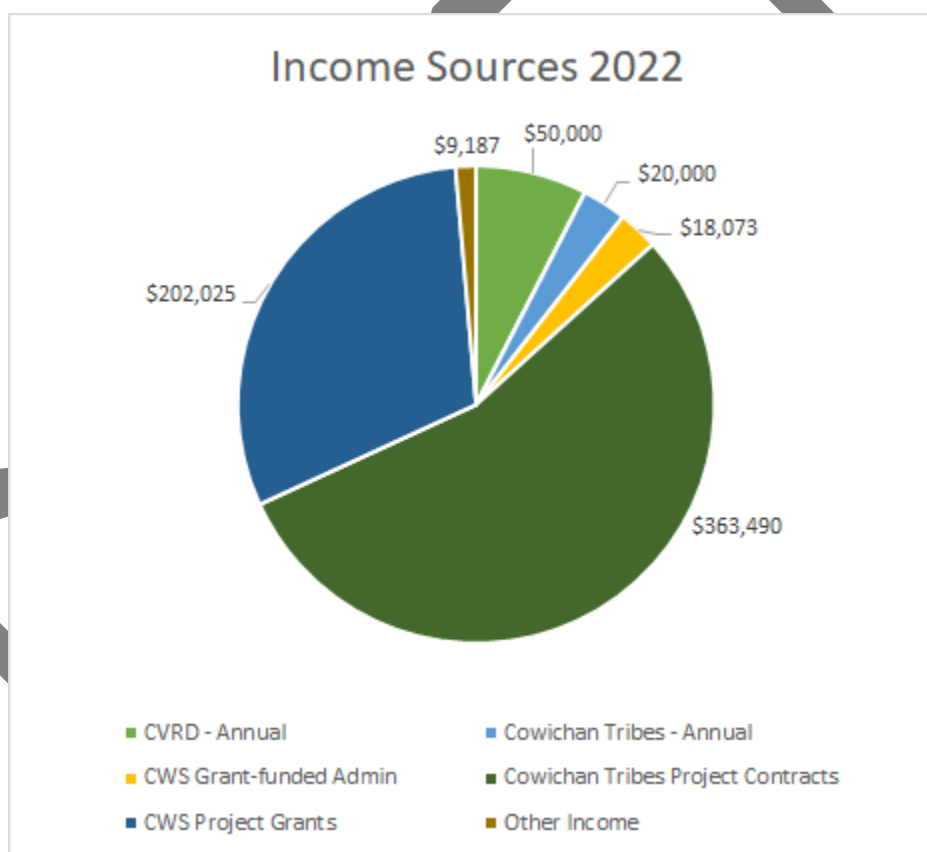


## Financial Summary

**Financial Support** for CWB activities was received by the Cowichan Watershed Society from:

- Cowichan Tribes First Nation (including Healthy Watersheds Initiative) in the form of Project Support Contracts (Koksilah Watershed Sustainability Planning, Water Quality Testing)
- Real Estate Foundation of BC grant
- Province of BC grant (Conservation Economic Stimulus Initiative) via Habitat Conservation Trust Foundation
- Ministry of Environment (Water Quality Testing)
- Cowichan Valley Regional District and Cowichan Tribes - annual contributions for Core CWB Coordination
- Paper Excellence (River Cleanup)

“Grant funded admin” reflects a 10-15% administration portion of grants/contracts.



**Generous in-kind support** is invaluable to the financial viability of the CWB, with dozens of collaborations leading to greater progress for our watershed(s) than any of us could achieve on our own. Please see Appendix C for details of the many in-kind contributions of community members, Governments, businesses and organizations.



## 2022 Budget to Actuals Comparison

### a) 2022 CORE Operating Budget

REVENUE	Approved	Actuals
<b>Core Revenue</b>		
CVRD Annual Contribution	\$50,000.00	\$50,000.00
Cowichan Tribes Annual Contribution	\$20,000.00	\$20,000.00
Sponsorship River Clean Up	\$2,000.00	\$2,000.00
Interest Income	\$150.00	\$29.82
GST Return		\$7,157.32
Grant-funded Admin		\$18,073.02
<b>Total Core Revenue</b>	<b>\$72,150.00</b>	<b>\$97,260.16</b>
<b>EXPENSES</b>	<b>Approved</b>	<b>Actuals</b>
<b>Professional Fees</b>		
Accounting and Legal	\$3,000.00	\$2,465.00
Managing Director (Lisa)		\$19,740.00
ED/Technical Director	\$30,000.00	\$22,942.50
Communications Director (Jill)	\$27,000.00	\$42,426.05
<b>Total Professional Fees</b>	<b>\$61,000.00</b>	<b>\$87,573.55</b>
<b>General Administration Expenses</b>		
Advertising, Marketing, & Communications	\$2,000.00	\$1,384.83
Email/Websites/Software/Licensing/Fees	\$2,000.00	\$1,586.97
Gas/Mileage/Travel		\$568.95
Insurance/WorkSafe/Training	\$2,500.00	\$2,026.16
Meeting Expenses/Printing/Office Supplies	\$2,500.00	\$2,167.91
<b>Total General Administration Expenses</b>	<b>\$9,000.00</b>	<b>\$7,734.82</b>
<b>Core Programs Expenses</b>		
River Cleanup	\$2,000.00	\$1,825.18
Volunteer Appreciation / Honorarium	\$150.00	\$338.23
<b>Total Core Program Expenses</b>	<b>\$2,150.00</b>	<b>\$2,163.41</b>
<b>Total Core Expenses</b>	<b>\$72,150.00</b>	<b>\$97,471.78</b>
<b>BALANCE (revenue - expenditures)</b>	<b>\$0.00</b>	<b>-\$211.62</b>

### b) 2022 Projects Budget

PROJECT REVENUE	Budgetted	EOY
<b>Restricted Funds - Contracts</b>		
Cowichan Tribes BCSRIF - Twinned Watersheds	\$5,000.00	\$1,500.00
Cowichan Tribes HWI 2021_2022	\$155,000.00	\$90,190.21
CT RBC Tech 4 Nature - WQ, Data, Education	\$16,000.00	\$54,800.00
<b>Total Restricted Funds - Contracts</b>	<b>\$176,000.00</b>	<b>\$146,490.21</b>
<b>Restricted Funds - Grants</b>		
HCTF/CESI Twinned Watersheds	\$110,000.00	\$110,000.00
Heritage Canada - River Day *	\$6,000.00	\$36,540.00
PSF - Education	\$2,500.00	\$1,485.00
REFBC - Flows, Weir Gov, Comms, Data	\$60,000.00	\$54,000.00
BCFLI Setting the Course	\$15,000.00	\$0.00
<b>Total Restricted Funds - Grants</b>	<b>\$193,500.00</b>	<b>\$202,025.00</b>
<b>TOTAL PROJECT REVENUE</b>	<b>\$369,500.00</b>	<b>\$348,515.21</b>
<b>Expenses - Contracts</b>		
Cowichan Tribes BCSRIF - Twinned Watersheds	\$3,000.00	\$1,216.44
Cowichan Tribes KoksWSP Scoping		\$5,234.25
Cowichan Tribes KoksWSP 2022	\$141,000.00	\$94,327.33
CT RBC T4N - WQA & Data	\$16,000.00	\$27,744.32
<b>Total Expenses - Contracts</b>	<b>\$160,000.00</b>	<b>\$128,522.34</b>
<b>Expenses - Grants</b>		
HCTF/CESI Twinned Watersheds	\$112,177.00	\$89,703.69
Heritage Canada - River Day *	\$6,000.00	\$33,349.84
PSF - Education	\$2,500.00	\$2,079.00
REFBC - Flows, Weir Gov, Comms, Data*	\$60,000.00	\$13,117.50
BCFLI Setting the Course		\$508.67
<b>Total Expenses - Grants</b>	<b>\$180,677.00</b>	<b>\$138,758.70</b>
<b>Total Project Expenses</b>	<b>\$340,677.00</b>	<b>\$267,281.04</b>
<b>BALANCE</b>	<b>\$28,823.00</b>	<b>\$81,234.17</b>



## APPENDIX A: Board Members

### 2022 COWICHAN WATERSHED BOARD MEMBERS

 Indicates Watershed Society Members

#### CO-CHAIRS



Chief Lydia Hwitsum  
Lilia?hulquminum sp  
Cowichan Tribes



Chair Aaron Stone, CVRD



Former CVRD Chair Lori  
Iannidinardo (until Nov '22,  
pictured in Water Woman cape!)

#### PARTNER REPRESENTATIVES



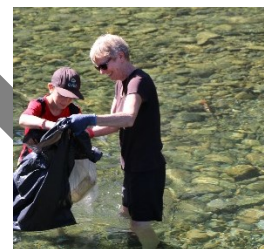
Councillor Stuart Pagaduan  
/ Qwiyahwult-hw,  
Cowichan Tribes



Councillor Debra  
Toporowski /Qwulti'  
stunaat, CVRD (until Nov '22)

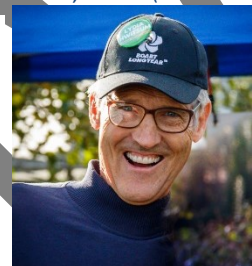


Mayor Michelle Staples,  
CVRD (appointed Nov'22)

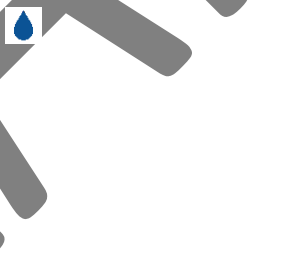


Director Alison Nicholson,  
CVRD

#### PROVINCIAL NOMINEES

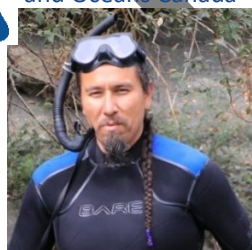


David Slade, Provincial  
Govt. Nominee,  
Groundwater specialist



Dr. David Froese, Provincial  
Govt. Nominee, Biologist,  
Family doctor

#### MEMBERS AT LARGE



Tim Kulchyski /  
Q'utxulenuhw, Member at  
Large, Biologist, Cowichan  
Tribes community member



Honourable David  
Anderson, Member at  
Large, Former Federal  
Fisheries Minister &  
Environment Minister



Dr. Shannon Waters,  
Member at Large, VIHA -  
Cowichan Valley Medical  
Health Officer



Councillor Kristine Sandhu,  
Member at Large, Lake  
Cowichan Town Council

BOARD ADVISOR: Oliver Brandes, POLIS Project on Ecological Governance, University of Victoria



## APPENDIX B: Key Personnel

### Tom Rutherford – Director of Strategic Watershed Initiatives (Executive Director until Aug 2022)



Tom worked with Fisheries and Oceans Canada for 35 years. He brings a strong technical background in salmon habitat inventory and restoration, stock assessment, stock enhancement and public outreach/citizen science.

Tom has experience planning and implementing technical processes and partnerships with First Nations, providing scientific direction and guidance for program delivery activities, supervision of staff, and successful development of strategies to meet Sr. Government resource management objectives. Tom served as the Watershed CWB's "top dog" (small pack) since 2016 and has now stepped back to enjoy more hiking time, but still serves as the CWB's Strategic Priorities Director, working to support our Partners in their ongoing efforts to ensure enough water for salmon by a) replacing the Cowichan Lake weir, and b) creating a whole of watershed solution to low flows in the Koksilah River, through a Water Sustainability Plan and other tools.

### Heather Pritchard – Targets Coordinator



Heather is a Registered Professional Forester with 30 years' experience in natural resource management. She brings expertise in applying ecosystem-based management principles in forest and land management with focus on protecting community and domestic water sources and fish habitat. Heather has been supporting the Cowichan Watershed CWB's 4 Technical Working Groups since 2019 to review, refine and revive the CWB's 7 Targets for Watershed Health, and measurable progress indicators for each. Watch the Targets section of the website for the new Targets soon!

### Lisa Maria Fox – Director of Operations



Lisa is a sustainability professional and environmental policy specialist with a passion for watersheds and a strong background in nonprofit management. She founded and managed a non-profit environmental education and sustainability-focused consulting firm in Alberta and spent most of her 25-year career contributing to the development of public policies, plans and programs for community and climate sustainability and watershed management across Canada in collaboration with local, regional, and provincial governments. Lisa recently relocated back to Vancouver Island and looks forward to learning from and working alongside our community and local governments to steward and protect the Cowichan Watershed.

### Jill Thompson – Projects Coordinator



Jill comes from Eastern Maritime roots, and grew up in the Grand River watershed, Six Nations Territory. She arrived in Clayoquot Sound in 1996 and has worked to protect Vancouver Island ecosystems ever since. Jill holds a Bachelor of Environmental Studies and a Bachelor of Arts and has 30 years' experience in environmental education and non-profit program leadership, fundraising, community engagement, and somewhat begrudgingly; non-profit administration. Jill is an experienced community builder who seeks out people who feel intrigued, motivated, and nourished by working together for a bright future, while having a bit of fun. She found the Watershed CWB teeming with them!

**The CWB is grateful for the contributions of other dedicated and skilled project staff in 2022, too many to name here, including the Twinned Watersheds aquatic, riparian, restoration, and education crews (49 people in total!) and our tenacious Water Quality Sampling coordinators, Chris and Elodie.**

## APPENDIX C: Collaborators & Volunteers - our Watershed Community

The Watershed Board only succeeds through the work, knowledge and collaboration of all levels of government, stewardship organizations, academic researchers, local business supporter and others. It is impossible to list everyone who helps but in 2022 we especially want to thank the following.



TARGET WORKING GROUP MEMBER ORGANISATIONS, DELEGATES	
Fish & Flows	CWB (Tim Kulchyski, Tom Rutherford), Cowichan Tribes (Tim), CVRD (Kate Miller), BC Min. Forests (Mike McCulloch), Fisheries and Oceans Canada (Kevin Pellett), Friends of Cowichan River (Joe Saysell), Catalyst Mill (Brian Houle), Mosaic (Dave Belleznay), BC Conservation Foundation (Jeremy Damborg), Cowichan Lake and River Stewardship Society (Parker Jefferson), Koksilah Working Group (Sarah Davies-Long), Somenos Marsh Wildlife Society (Paul Gowland), Other (Cheri Ayers).
Water Quality and Estuarine Health	CWB (Tim Kulchyski), Cowichan Tribes (Tim), CVRD (Kate Miller, Vanessa Thomson), BC Min. Environment (Rosie Barlak), Cowichan Estuary Nature Centre (Pamela Williams), BC Conservation Fdn (Thea Rodgers), Cowichan Estuary Restoration and Conservation Assoc. (Bill Heath), Koksilah Working Group (Rodger Hunter), Somenos Marsh Wildlife Society (Gina Hoar), Municipality of North Cowichan (Dave Preikshot), Nature Trust of BC (Tom Reid), Other (Cheri Ayers).
Riparian Habitats	CWB (Alison Nicholson), Cowichan Tribes (Tracy Fleming) CVRD (Tanya Soroka), BC Parks (Katy Fulton), Cowichan Stewardship Roundtable (Genevieve Singleton), Mosaic (David Vey), Cowichan Estuary Nature Centre (Jane Kiltnei), BC Conservation Foundation (Jeremy Damborg), Cowichan Lake and River Stewardship Society (Jean Atkinson), Koksilah Working Group (Alison Nicholson), Somenos Marsh Wildlife Society (Paul Gowland), Municipality of North Cowichan (Dave Preikshot), Stewardship Center BC – Green Shores (Kelly Loch), Coastal Invasive Species Committee (Jessica Bayley).
Watershed Connections	CWB (Stuart Pagaduan, Jill Thompson), Cowichan Tribes (Hilda Paige, Cheyenne Williams), CVRD (Tanya Soroka), BC Parks (Katy Fulton), Cowichan Valley Naturalists (Bruce Coates), Cowichan Estuary Nature Centre (Jane Kiltnei), Cowichan Community Land Trust (Stephanie Cottell), VI Recreational Paddling Assoc. (Rick Bryan), Cowichan Lake and River Stewardship Society (Judy Brayden), Koksilah Working Group (Scott Noble), Somenos Marsh Wildlife Society (Barry Hetschko), Xwulqw'selu Connections (Jennifer Shepherd), Wildsafe BC (Todd Carnahan)



## ORGANIZATIONS & BUSINESSES

Cowichan Tribes First Nation, Cowichan Valley Regional District, Fisheries and Oceans Canada, BC Government – Ministry of Forests, Lands, Natural Resources and Operations, Ministry of Environment, BC Parks, Cowichan Stewardship Roundtable, Cowichan Lake and River Stewardship Society, Koksilah Watershed Working Group, Cowichan Estuary Nature Center, Cowichan Community Land Trust, Somenos Marsh Wildlife Society, Vancouver Island Recreational Paddling Association, Cowichan Estuary Restoration and Conservation Association, Cowichan Valley Naturalists, Friends of Cowichan River, Mosaic, Catalyst/Paper Excellence, Duncan Rotary, Duncan Garage Café, Adam's Tarp N Tool, Real Canadian Superstore, Island Tractor, Vancouver Island Health Authority – Cowichan Region, Halalt First Nation, UVic POLIS Project, UVic Environmental Law Clinic, UVic Xwulqw'selu Connections, Quw'utsun Cultural Connections, MLA Sonia Furstenau and MP Alistair MacGregor.



## VOLUNTEERS

Many more irreplaceable individuals pitched in throughout 2022 in addition to those listed above. For example: 9 volunteers donated their Monday mornings over 10 weeks to the freshwater Water Quality sampling crews (Thank you Allison, Scott, Bill, Bernie, Sarah, Cliff, John, Anna, Jill); 111 people helped with River Cleanup, including several who gave more time to help organize (Tim, Vernon, David, Alison, Debra, Tom, Barry, and others); Quw'utsun elders and knowledge holders shared invaluable guidance through many avenues all year round; photographers contributed stunning images; provincial policy "wonks" (!) advised us; guest speakers educated us through presentations; dozens of watershed stewards helped make the Stewardship Roundtable's Quw'utsun Sta'lo' Skweyul a success, others supported the Xwulqw'selu Connections initiative, and many more volunteer to help all the organizations listed above who contribute to a healthier future. Huy tseep q'u volunteers!



## COLLABORATIONS / WORKING GROUPS CWB PARTICIPATED IN

Cowichan Lake Weir - Technical Advisory Committees	Cowichan Tribes, CVRD, Paper Excellence, CWB (facilitated by Compass)
Koksilah Watershed Sustainability Planning Interim Project Team	Cowichan Tribes, Province of BC, Advisors (incl. CWB) (facilitated by Compass)
Koksilah Low Flows Working Group	Province of BC, Water Survey Canada, agriculture and forestry representatives, local stewardship organizations, CWB
Xwulqw'selu Connections	University of Victoria Groundwater Science and Sustainability Research Group, Cowichan Tribes, Province of BC, Koksilah Working Group, CWB

## Appendix D: Progress on Priorities

Accountability Check: Are we Achieving the Objectives in our Business Plans?

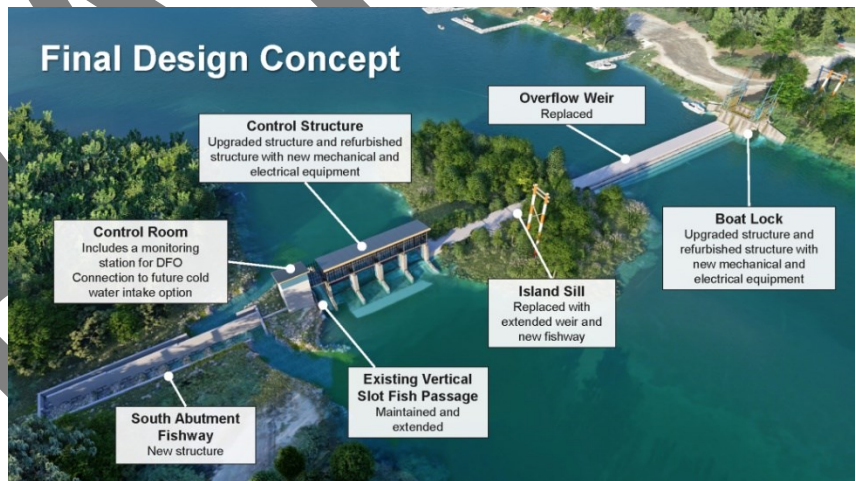
***“Just Add Water.”***

**Rebuild Cowichan Lake weir.  
Pursue solution to Koksilah low flows.**



### Quw'utsun Sta'lo' Cowichan River Water Supply

**Replacing the Cowichan Lake weir** to mitigate the growing impacts of climate change and land use issues remains the Board's top priority. The Board plays a supporting, convening, and advising role in these processes, supporting the lead partnership of Cowichan Tribes, CVRD, and Paper Excellence (Crofton mill), as well as the Province and the stewardship community to keep moving in the same direction to address low flows in the Cowichan River. The significant progress made this year follows over two decades of study, design, fundraising, public consultation, and building partnerships to raise/replace the weir. More information at <https://cowichanlakeweir.ca/>



#### 3 Year Objectives

Weir license is awarded to an entity supported by consensus of Cowichan Tribes, CVRD, Catalyst, and CWB.

#### Progress in 2022

Cowichan Tribes began a facilitated process with CVRD, Catalyst, the Province and CWB and advisors to discuss the options for managing and governing new weir and its associated water conservation license (ongoing). This process resulted in a Memorandum of Understanding between Cowichan Tribes, CVRD and Catalyst to jointly pursue a conservation water license, which is necessary to advance the weir approval process, and secure capital funding.



	In November, a water conservation license application for the weir was submitted by CVRD on behalf of its MOU partners.
The project is shovel ready and capital funds are in place to replace the weir, reflecting CVRD's Water Use Planning recommendations and design.	Cowichan Valley Regional District completed the Design and Shoreline Assessment phases of the Cowichan Water Use Planning project. More information at <a href="https://cowichanlakeweir.ca/">https://cowichanlakeweir.ca/</a> Work to secure funding is ongoing with the Federal and BC Governments, with the licensing process causing delays.
There is wild community enthusiasm for replacing the weir as a pathway to sustaining salmon, culture, economic benefits, and recreation in the Cowichan River in the face of climate change.	CVRD conducted public information sessions online in July and <b>November</b> , and CVRD project engineer Leroy Van Wieren maintained an informative "blog" <a href="#">here</a> . The CWB did not undertake community engagement on this project in 2022.
Water flows in Cowichan River are maintained at recommended environmental flow levels throughout the dry season at least 80% of the time for the next 50 years.	No progress. Summer flows were sustained by a cold wet spring this year, but an unexpected fall drought meant that fall flows were at historic lows, impacting the spawning habitats of returning salmon. A field crew funded by BC Salmon Restoration Innovation Fund was able to document some of this.
All native fish species remain viable in the Cowichan River for the next 50 years.	This long-term objective is dependent on raising the weir.

## Xwulqw'selu Sta'lo' Koksilah River Watershed Sustainability Plan

**Developing a long-term co-governed Watershed Sustainability Plan for the Koksilah watershed** is our second priority. This is an historic Government-to-Government process between Cowichan Tribes and the Province of BC. A major piece of this work is to create what will likely be BC's first legally enforceable Water Sustainability Plan (WSP) under the new *Water Sustainability Act*, modelling a whole of watershed approach and respecting the co-governance framework developed between the CoChairs over the past three years. Other elements of this work include cutting edge watershed science and community engagement to inform the planning process.



### 3 Year Objectives \*

Interim interventions are in practice to reduce low flow impacts on fish populations, including:

- "closing the source" to restrict new water licenses

### Progress in 2022

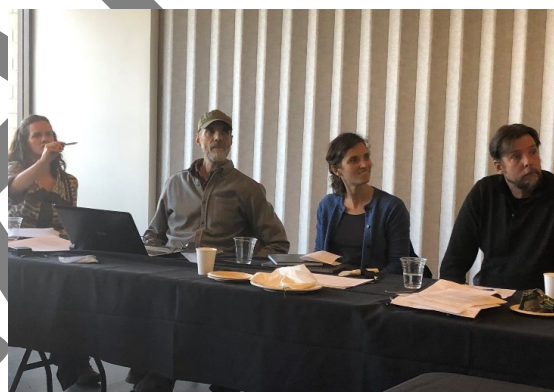
CWB staff participate regularly in a monthly discussion group, Koksilah Low Flows Working Group, with the water regulator (MoF) and stakeholders affected by low Koksilah water levels. This group coordinates voluntary, and when necessary regulatory, irrigation and watering restrictions. Due to the wet spring, Koksilah flows were above the critical fish habitat threshold during the irrigation season in

<ul style="list-style-type: none"> <li>• implementing irrigation schedules when needed</li> <li>• other water conservation and land use practices adaptations.</li> </ul>	<p>2022, and no irrigation restrictions were required. The irrigation season was complete before the fall drought occurred.</p> <p>The process required for closing the source is under development by the WSP Project Team.</p>
<p>WSP is based on more knowledge regarding fish, ecosystems and environmental flows than currently exists.</p>	<p>From March 2021-March 2022, CWB completed a \$500,000 Twinned Watershed research project, funded by the Province of BC and Habitat Conservation Trust Foundation, on behalf of Halalt First Nation and Cowichan Tribes.</p> <ul style="list-style-type: none"> <li>• Twinned Watersheds project recognized as some of the most extensive geomorphic field work ever done in the province to understand how low flows impact fish habitat, peer reviewed by senior provincial government and academic scientists.</li> <li>• Read the study reports <a href="#">here</a>. Presentations of the results were given to First Nations, the WSP Interim Steering Committee, CWB, agricultural producers in Koksilah watershed, and the broader community.</li> </ul> <p>In addition:</p> <ul style="list-style-type: none"> <li>• contracted 49 mostly local people working part-time in and around the lower Koksilah and Chemainus to build local knowledge.</li> <li>• interviewed 6 indigenous knowledge holders</li> </ul>
<p>Cowichan Tribes and Province of BC successfully develop a consensus based WSP for the Koksilah watershed, including:</p> <ul style="list-style-type: none"> <li>• Confirming WSP Terms of Reference.</li> <li>• Designating the entity (Responsible Person) responsible for preparing the proposed plan.</li> <li>• Koksilah WSP is in place by 2024</li> </ul>	<ul style="list-style-type: none"> <li>• The WSP Project Team successfully established proposed Terms of Reference and a draft workplan to guide an estimated 3 years of WSP development (aka Planning to Plan). After much collaborative work by both partners and the advisory team to change the way that watershed planning happens in BC, a WSP process is now anticipated to launch in spring 2023 for the Xwulqw'selu Koksilah watershed. A summary of the process to date, and recommended next steps is at <a href="https://koksilahwater.ca">koksilahwater.ca</a></li> <li>• Cowichan Tribes will assume the Responsible Person role (upon designation by the Minister) which is defined as a financial role in the draft Terms of Reference. Cowichan Watershed Society will provide administrative support to Cowichan Tribes to support the RP role, as requested.</li> </ul>
<p>Provincial policy advisors are integrated to support their ability to support other watershed sustainability planning processes with similar goals.</p>	<p>Several provincial policy advisors participate actively on the Xwulqw'selu Project Team.</p>
<p>WSP is based on attention to linkages between land use and watershed health throughout the watershed.</p>	<p>Reflected in Draft Workplan developed in 2022</p>
<p>WSP is based on pooling collective knowledge, science, and understanding of the Xwulqw'selu – Koksilah watershed and ecosystem health.</p>	<p>Reflected in Draft Workplan developed in 2022</p>



Includes development of guidance (with incentives) for more sustainable land use practices.	Reflected in Draft Workplan developed in 2022
Koksilah Connections project engages local people in watershed science and builds understanding of the connections between groundwater and the river/tributaries.	CWB is a local partner in the incredible <a href="#">Xwulqw'selu Connections</a> project -- a 5-year project lead by University of Victoria hydrogeology Prof Tom Gleeson that will illuminate connections between groundwater and surface water in the Koksilah watershed, connect that science to decision-making about the watershed, and connect people to the waters where they live. Read: <a href="#">What we Learned in 2022</a> . 1555 stream observations; 25 dedicated local volunteers; 4 information sessions hosted by this project in 2022
Majority of both indigenous and non-indigenous community members embrace and support the WSP approach: Ist' hwialasmut tu Xwulqw'selu Stol'lo – We are taking care of the Koksilah River.	Community Engagement was delayed while the government partners solidified their governance framework, gathered information and strengthened partnerships to ensure a successful process was possible.
All existing species of fish remain viable in the Koksilah River for the next 50 years.	This long-term objective is dependent on the completion of a Watershed Sustainability Plan.

\*informed by the consensus recommendations of WSP Scoping committee.



Scenes from various meetings to scope, plan and initiate a Xwulqw'selu Koksilah Watershed Sustainability Planning Process, co-Chaired by Cowichan Tribes and the Province of BC, and anticipated to begin in spring 2023.

## ***“Achieving our Targets.”***

**Facilitate collaborative working groups to achieve watershed targets.  
Implement legal tools to support targets where possible.**



### **Reviewing Targets, Reviving Working Groups**

In 2019, staff began a process of convening the CWB Working Groups (WG) to review our 7 current Targets for Watershed Health, set in 2011. The WG members, comprised of subject experts from ~30 participating organizations, First Nations, and other government agencies, discussed their collective progress towards each Target and whether the Target or its Indicators needed updating. The proposed changes were then reviewed by the Board, with feedback going back to the WG for further thought.

Due to a lack of funding, a pandemic, and extremely busy schedules of all involved, enhanced by a sincere desire to get this right, this has been a slow process throughout 2019-2022. The Board sends gratitude for the thorough, thoughtful and deeply knowledgeable review by the Working Group members. We also want to recognize Heather Pritchard for her patient curiosity, keeping everyone engaged in this “big picture” process, and the Real Estate Foundation of BC for supporting powerful local collaborations through coordination resources for the Target Working Groups.

Recommendations for revised targets will be presented to the Board for approval in spring 2023 as shown in Appendix E.



The Wise Water Use Working Group undertook a 5-year Water Conservation Challenge from 2014-2018. Above Municipality of North Cowichan is cheered by “Water Woman” for their progress. (2015 photo)

### **CWB Progress on Targets**

The following chart relays highlights from the CWB’s progress towards the targets in 2022, compared against our Business Plan objectives. We celebrate that for some targets, much more is being accomplished by other organizations towards these shared goals.



	1-3-Year Objectives (2021-2024)	CWB Progress in 2022 (Highlights)
Targets Review	<ul style="list-style-type: none"> <li>Ten-year review and update of CWB's 7 Targets for Watershed Health is complete and new targets are adopted.</li> <li>Four Target Working Groups (WGs) are making collaborative progress on the targets</li> </ul>	<ul style="list-style-type: none"> <li>6 Targets updated. Fish target is under further development to embed indigenous knowledge of fish sustainability. Estuary target is under further review to capture focus on habitat restoration.</li> <li>Working Groups have been revived and reconstituted with increased indigenous participation and encompassing the organizations now active on these target areas. The WGs started meeting again in late 2022/early 2023 with support from a Targets Coordinator (Heather Pritchard).</li> <li>The CWB website now has password protected webpages for each Working Group to allow them to use the website to store both public reports and information, and internal WG planning notes</li> </ul>
Water Quality / Estuarine Health	<ul style="list-style-type: none"> <li>Conduct 1 round of 5 in 10 sampling in partnership with Cowichan Tribes and stewardship orgs ~60 marine and freshwater sites.</li> </ul>	<p>Completed. 31 sampling sites 1x/week over 2 sessions (summer, fall) of 5 weeks each. Location: 9 Cowichan Bay marine; 9 lower Koksilah River basin; 13 Cowichan Bay tributaries.</p> <p>During both sessions, the marine environment was sampled for: Enterococci, Fecal coliform. The freshwater environment was sampled for: Turbidity, Phosphorous, Total E. Coli, Temperature, Dissolved Oxygen and Specific Conductivity</p> <p>In the fall session, the freshwater environment was also sampled for: Nitrogen: Nitrate, pH, Nitrogen: Ammonia, Carbon: DOC, METALS TOTAL - Metal Pkg. (ICPMS) – LOW, METALS: TOTAL – Hardness, METALS: DISSOLVED – Hardness, METALS: DISSOLVED - Metal Pkg. (ICPMS) – LOW</p>
Flows	<ul style="list-style-type: none"> <li>Cowichan Weir License is secured.</li> <li>Koksilah Watershed Sustainability Plan is complete.</li> </ul>	<p>A conservation water license application to store additional water behind the new weir has been submitted to the Province. <a href="#">See page 16</a></p> <p>WSP Transitional Steering Committee has completed a proposed Terms of Reference and draft Workplan to set the stage for WSP planning to begin within an indigenous co-governed, watershed-based framework. <a href="#">See page 17</a></p>

Fish	<ul style="list-style-type: none"> <li>• Cowichan Weir License is secured.</li> <li>• Koksilah WSP is complete.</li> <li>• Twinned Watershed E-flows, meso habitat and riparian habitat studies complete. Koksilah/Chemainus (2021-2022)</li> <li>• Twinned Watershed fish population study complete (Koksilah/Chemainus (2022-2024)</li> </ul>	<ul style="list-style-type: none"> <li>• See above RE Weir and Koksilah WSP</li> <li>• Twinned Watershed studies completed see page...</li> <li>• Twinned Watershed fish population study underway, led by Cowichan Tribes.</li> </ul>
Riparian Health	<ul style="list-style-type: none"> <li>• Riparian ecosystem analysis of Lower Koksilah and Chemainus Rivers.</li> </ul>	<p>As above, Twinned Watershed study complete. <a href="#">See report here.</a></p> <p>Also:</p> <ul style="list-style-type: none"> <li>• Twinned Watershed teams planted over 7000m2 of native plants and removed over 11,000 m2 of invasive species from riparian habitats.</li> <li>• Initiated a partnership with Farmland Advantage to fund more restoration.</li> </ul>
Watershed Connections	<ul style="list-style-type: none"> <li>• Produce educational video series “Why Fish Need...”</li> <li>• Stth’aqwi’ the salmon mascot builds culture of optimism and belonging as “salmon people.”</li> <li>• Roving River Reporters interview watershed stewards.</li> </ul>	<p>2<sup>nd</sup> Video in series completed. Why Fish Need Trees. <a href="#">Watch here.</a></p> <ul style="list-style-type: none"> <li>• <a href="#">Big Dancing Fish videos</a> with the Roving River Reporters built culture of belonging and optimism, thanks to watershed stewards of all kinds.</li> <li>• 100 educational posts, videos and reports, attended 32 events.</li> </ul>
	<ul style="list-style-type: none"> <li>• Engage 100 residents / year in Annual Lower River Cleanup.</li> </ul>	111 volunteers engaged in 2022
	<ul style="list-style-type: none"> <li>• Support Stewardship Roundtable and Cowichan Tribes’ Bi-annual Quw’utsun Sta’l’o Skweyul.</li> </ul>	CWB raised and administered a grant to support the Roundtable to host a highly successful watershed wide event. <a href="#">Details.</a>
	<ul style="list-style-type: none"> <li>• Partner in in Xwulqw’selu Connections project.</li> </ul>	CWB is a partner in this exciting project. 25 volunteers + VIU grad students and Mosaic staff successfully monitored the whole watershed. <a href="#">See page...</a>
Wise Water Use	<ul style="list-style-type: none"> <li>• Support partners to reduce Koksilah water use in dry periods.</li> </ul>	Regular participant and contributor to the Koksilah Low Flow Working Group. See page...



## **“Building Partnerships.”**

**Support indigenous co-leadership, cross jurisdictional collaboration and public engagement for watershed health.**



**Nutsamat kws yaay'us tth qa'** *We come together as a whole to work together to be stronger as partners for the watershed.*

Like a connected web of life, a connected watershed stewardship community builds resilience and results. Here are the primary ways we worked to connect in 2022.

### **Community Engagement and Collaborative Watershed Governance**

#### **3 Year Objectives**

Public understanding about watershed problems, and trust in proposed solutions, is strong through the difficult transition period ahead.

CWB maintains trusted relationships with knowledge-holders, opinion leaders, and the people most affected by decisions.

#### **Progress in 2022**

- Hosted a community meeting to share the Twinned Watershed research findings about how low water flows and the state of river condition are impacting fish habitat.
- Four CWB Target Working Groups were re-convened in 2022 to coordinate local knowledge and commitments towards achieving mutual watershed goals (Targets). First Nations participation and knowledge in each has been improved. Heather Pritchard has been contracted to support ongoing collaboration, and provide a venue for regular dialogue between entities who share similar goals. See the list of participants on page 15.
- Regular participation in watershed stewardship organizations to build connections, share knowledge, promote their work, and help secure resources for mutual goals. E.g. Cowichan Lake and River Stewardship Society, Koksilah Watershed Working Group, Cowichan Stewardship Roundtable, Xwulqw'selu Connections.
- Provided fundraising, communications and administrative support to the Cowichan Stewardship Roundtable's whole-of-watershed Quw'utsun Sta'lo' Skweyul event.
- Encouraged inclusion in CWB's monthly meetings, including presentations from stewardship organizations and local knowledge holders.

	<ul style="list-style-type: none"> <li>Responding to correspondence (email, phone) including suggestions, complaints, observations and questions about the watershed.</li> </ul>
A vision for CWB's second decade: Undertake workshops about "Setting the Course for 2030".	A full day Setting the Course Workshop was planned for 2022 but delayed until Jan 2023.
Improved governance systems between CVRD and CWB address communication gaps	The Setting the Course Workshop (Jan 2023), and sub-meetings and initiatives before and after the workshop, have improved governance and communications systems. More work is planned in 2023.
Coordinate interesting and engaging monthly meetings of the CWB members to discuss, learn and develop trusting relationships. (10 meetings / year)	<p>Xx Board meetings were held, including two in-person meetings. Despite CoVid, efforts have been made to keep the meetings open to anyone interested via Zoom webinar (courtesy of UVic's POLIS Project). Meetings are regularly attended by stewardship organization representative and elected MP and MLA reps,</p> <p>Xx Presentations by knowledge holders, scientists, policy makers, etc.</p>
Keep CWB website updated with resources and news about Cowichan-Koksilah watershed, as well as CWB meeting minutes and watershed research, maps, and data.	<p>CWB meeting agenda packages, presentations, and detailed meeting minutes are all on the website to respect our Principle of Transparency.</p> <p>It has been a challenge to keep up website content, and this is a goal for 2023.</p>
Initiate a data sharing and management planning process for Cowichan, starting with CWB and its project partners. Expand scope of facilitation to all Cowichan Stewardship Roundtable member organizations as time permits.	This work has been delayed but is funded for 2023.
Other – maintain an annual large "hands-on" community event in the river.	<p>River Cleanup, including 111 people on the day, and many hours of efforts before and after to link agencies, organizations and individuals also impacted by or involved in keeping the river and riparian zones little free. <a href="https://www.facebook.com/events/1160205817886053">https://www.facebook.com/events/1160205817886053</a></p>



## Appendix E: CWB's Revised Targets for Watershed Health

Original	Revised 2022 – 2023 (pending)									
<p><u>Water Quality:</u> We want clean water in our watershed. We want to be able to swim safely in Cowichan Lake, Cowichan River, and Cowichan Bay.</p> <ul style="list-style-type: none"><li>• Turbidity levels should meet accepted water quality guidelines.</li><li>• E. Coli levels should be below guidelines for swimming and recreation.</li></ul>	<p>We want swimmable, drinkable, and fish-friendly water in our watersheds.</p> <p><b>Indicators:</b></p> <ol style="list-style-type: none"><li>1. E. coli levels in the Cowichan and Koksilah watersheds are within acceptable provincial and health authority guidelines for swimming and recreation.</li><li>2. Total suspended solids (turbidity) levels in the Cowichan and Koksilah watersheds consistently meet accepted provincial water quality objectives.</li><li>3. Phosphorus levels in the Cowichan and Koksilah watersheds meet accepted Vancouver Island guidance.</li></ol>									
<p><u>Estuary Health:</u> We want to be able to eat shellfish from Cowichan Bay.</p> <ul style="list-style-type: none"><li>• Shellfish from designated areas of Cowichan Bay will be harvested for human consumption by 2020.</li></ul>	<p>We want to be able to eat shellfish from Cowichan Bay. [under development] Work is underway to broaden this target to a ‘whole of estuary’ approach.</p> <p><b>Indicators:</b></p> <ol style="list-style-type: none"><li>1. Shellfish from designated areas of Cowichan Bay are harvested for human consumption by 2020.</li></ol>									
<p><u>Fish Health:</u> We want healthy fish populations in the watershed.</p> <ul style="list-style-type: none"><li>• Salmon and Steelhead juvenile abundance should meet or exceed target densities.</li></ul>	<p>We want healthy, wild, and diverse fish populations in the Cowichan-Koksilah watershed.</p> <p><b>Indicators:</b></p> <ol style="list-style-type: none"><li>1. Fish abundance in the Cowichan watershed meets or exceeds targets set by fisheries agencies:</li></ol> <table><tr><th colspan="3">Cowichan River</th></tr><tr><th>Species</th><th>Fry</th><th>Adult</th></tr><tr><td>Steelhead</td><td>Fry of the year meet or exceed target densities Fry will be abundant enough to saturate all steelhead parr habitat with certainty (&gt; 100 Fry /100 M2) and optimally near suitable</td><td>Abundance estimates meet MOFR Target Adult steelhead abundance will be maintained in the “Routine Management Zone” (Johnston, 2000) exceeding 30% of equilibrium stock</td></tr></table>	Cowichan River			Species	Fry	Adult	Steelhead	Fry of the year meet or exceed target densities Fry will be abundant enough to saturate all steelhead parr habitat with certainty (> 100 Fry /100 M2) and optimally near suitable	Abundance estimates meet MOFR Target Adult steelhead abundance will be maintained in the “Routine Management Zone” (Johnston, 2000) exceeding 30% of equilibrium stock
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		habitat capacity (1000g/100m2)	size, or approximately 750 adults
	<b>Rainbow Trout</b>	–	Fluvial Rainbow trout population remains stable over time
	<b>Chinook</b>		Chinook escapement meets or exceeds DFO Target of 6.5K (50% females)
	<b>Coho</b>	Fry of the year meet or exceed target densities	Coho adult escapement meets or exceeds 25K; does not fall below 15K
	<b>Chum</b>		Chum adult escapement meets or exceeds DFO target of 165K
	<b>Cowichan Lake</b>		
	<b>Species</b>	<b>Fry</b>	<b>Adult</b>
	<b>Cutthroat</b>		Cutthroat population remains => MSY (Maximum Sustainable Yield).
	<b>Kokanee</b>	-	Population remains stable over time
	<p>2. Chinook, Chum and Steelhead escapement estimates are generated on an annual basis for the Koksilah River.</p> <p>3. [under development] An Indigenous Indicator is being developed in consultation with Cowichan Tribes to reflect traditional knowledge/values.</p>		
<p><u>Flows:</u> We want to ensure that Cowichan River summer flows are maintained at levels that support the needs of people and fish.</p> <ul style="list-style-type: none"> <li>Manage water reserves in Cowichan Lake such that the rate of flow in the Cowichan River never falls below 7 cubic meters per second.</li> </ul>	<p>Seasonal flows throughout the Cowichan-Koksilah watershed support the needs of communities and aquatic ecosystems.</p> <p><b>Indicators:</b></p> <ol style="list-style-type: none"> <li>Water reserves in Cowichan Lake are managed such that the rate of flow into the Cowichan River meets the soft targets established in the Cowichan Water Use Plan (2018), delivering, at minimum, the following flow regime:</li> </ol> <p>March &amp; April: 25 cms (cubic meters / second)  May 1 - June 15: 15 cms  June 15 - arrival of fall rain: 7 cms</p>		



	2. The Koksilah watershed is managed so as to deliver rates of flow defined as required Environmental flows (E-flows) as per Water Sustainability Planning process currently underway.
<p><u>Riparian Health:</u> We want to protect and enjoy the benefits of healthy stream, lakefront, and estuary habitats.</p> <ul style="list-style-type: none"> <li>• 50% of intact riparian habitats protected by 2021.</li> <li>• 10% of impacted riparian habitats restored by 2021.</li> </ul>	<p>We want to protect and restore fully functioning streamside, lakefront, wetland, and estuary habitats.</p> <p><b>Interim Indicators:</b></p> <ol style="list-style-type: none"> <li>1. Area estimates of protected riparian habitats along Cowichan River, Cowichan Lake, and Koksilah River, and their major tributaries, are available.</li> <li>2. Area estimates of successfully restored riparian areas along Cowichan River, Cowichan Lake, and Koksilah River, and their major tributaries are available.</li> </ol>
	<p>The people of the Cowichan Valley understand and value that their well-being is interconnected with the well-being of their watershed. Mukw' stem 'o' shilhukw'tul, everything is interconnected.</p> <p>Indicators:</p> <ol style="list-style-type: none"> <li>1. All students in grade 2 participate in at least one place-based learning experience to form a connection to their watershed.</li> <li>2. All students in grade 9 participate in an outdoor place-based experience to help them understand how their well-being is interconnected with their watershed.</li> <li>3. An annual tally is kept to track the overall educational and stewardship opportunities offered to help residents of all ages understand and value their watershed.</li> </ol>
<p><u>Wise Water Use:</u> We want Cowichan watershed residents to use water wisely.</p> <ul style="list-style-type: none"> <li>• Reduce annual residential consumption to less than 263 litres per person per day by 2018.</li> </ul>	<p>No update - This target and Working Group have been paused since the conclusion of the <a href="#">2014-2018 Cowichan Water Challenge</a>, and the creation of a new CVRD Regional Drinking Water and Watershed service.</p>

For more information, visit <https://cowichanwatershedboard.ca/cowichan-watershed-board-targets/>