

Proposed Revisions to the Cowichan Watershed Board Targets for Watershed Health

February 27, 2023

Heather Pritchard, Targets Coordinator

Overview:

Between 2019 and now, the CWB has been convening four CWB Working Groups to review its seven original Targets for Watershed Health, set in 2011.

The Working Group 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 Working Group for further thought. The table below summarizes these revisions.

Decisions Pending; Further Development of Some Targets:

As outlined in the chart, there are six Targets under Review. (The Water Wise target is ‘paused’).

- Two were previously approved, and appear here for clarity.
- Four sets of revised Targets and Indicators are proposed for approval today, with the caveat that further changes are planned, as noted below.
- The Board’s confirmation of the Targets and Indicators is requested to allow the Working Groups to switch their focus to action and project planning. In addition, communications materials (postcards) are being created for each Target for outreach activities, and staff would like to use the most current thinking available on the Targets.

Specifically, motions for approval are requested as follows:

- Adopt the Fish Health Target and Indicators 1 & 2, with the understanding that a third indicator addressing indigenous values and knowledge regarding Fish Health will be developed and brought back to the Board for a further revision at that time.
- Adopt the Riparian Health Target and Interim Indicators, which are designed to establish baseline data, with the understanding that once baseline data exists, measurable indicators will be developed and brought back to the Board for a further revision.
- Adopt the Water Quality Target and Indicators. The Working Group has incorporated the Board’s request to change their proposed ‘fishable’ language to ‘fish friendly’.
- Adopt the Estuarine Health Target (no change) without any Indicators while further work is completed. In February 2023, the Water Quality / Estuarine Health working group decided to halt revisions on the existing target and indicators in order to broaden the scope to a more ‘whole of estuary’ approach to recognize all ongoing work related to estuary health that benefits shellfish and other values.

Targets and Indicators	Status
Watershed Connections	
Target: 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’ slhilhukw’tul, everything is interconnected.	Approved – January 2022
Indicators: 1. All students in grade 2 participate in at least one place-based learning experience to form a connection to their watershed. 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.	Approved – January 2022

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.																						
Water Flows																						
Target: Seasonal flows throughout the Cowichan-Koksilah watershed support the needs of communities and aquatic ecosystems.	Approved – January 2022																					
<p>Indicators:</p> <p>1. 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:</p> <p style="margin-left: 40px;">March & April: 25 cms May 1 - June 15: 15 cms June 15 - arrival of fall rain: 7 cms</p> <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>	Approved – January 2022																					
Fish Health																						
Target: We want healthy, wild, and diverse fish populations in the Cowichan-Koksilah watershed.	Pending																					
<p>Indicators:</p> <p>1. Fish abundance in the Cowichan watershed meets or exceeds targets set by fisheries agencies:</p> <p>Cowichan River:</p> <table border="1"> <thead> <tr> <th style="background-color: #4F81BD; color: white;">Species</th> <th style="background-color: #D9E1F2;">Fry</th> <th style="background-color: #D9E1F2;">Adult</th> </tr> </thead> <tbody> <tr> <td style="background-color: #4F81BD; color: white;">Steelhead</td> <td style="background-color: #D9E1F2;">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 habitat capacity (1000g/100m2)</td> <td style="background-color: #D9E1F2;">Abundance estimates meet MOFR Target Adult steelhead abundance will be maintained in the “Routine Management Zone” (Johnston, 2000) exceeding 30% of equilibrium stock size, or approximately 750 adults</td> </tr> <tr> <td style="background-color: #4F81BD; color: white;">Rainbow Trout</td> <td style="background-color: #D9E1F2;">–</td> <td style="background-color: #D9E1F2;">Fluvial Rainbow trout population remains stable over time</td> </tr> <tr> <td style="background-color: #4F81BD; color: white;">Chinook</td> <td style="background-color: #D9E1F2;"></td> <td style="background-color: #D9E1F2;">Chinook escapement meets or exceeds DFO Target of 6.5K (50% females)</td> </tr> <tr> <td style="background-color: #4F81BD; color: white;">Coho</td> <td style="background-color: #D9E1F2;">Fry of the year meet or exceed target densities</td> <td style="background-color: #D9E1F2;">Coho adult escapement meets or exceeds 25K; does not fall below 15K</td> </tr> <tr> <td style="background-color: #4F81BD; color: white;">Chum</td> <td style="background-color: #D9E1F2;"></td> <td style="background-color: #D9E1F2;">Chum adult escapement meets or exceeds DFO target of 165K</td> </tr> </tbody> </table> <p>Cowichan Lake:</p> <table border="1"> <thead> <tr> <th style="background-color: #4F81BD; color: white;">Species</th> <th style="background-color: #D9E1F2;">Fry</th> <th style="background-color: #D9E1F2;">Adult</th> </tr> </thead> </table>	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 habitat capacity (1000g/100m2)	Abundance estimates meet MOFR Target Adult steelhead abundance will be maintained in the “Routine Management Zone” (Johnston, 2000) exceeding 30% of equilibrium stock size, or approximately 750 adults	Rainbow Trout	–	Fluvial Rainbow trout population remains stable over time	Chinook		Chinook escapement meets or exceeds DFO Target of 6.5K (50% females)	Coho	Fry of the year meet or exceed target densities	Coho adult escapement meets or exceeds 25K; does not fall below 15K	Chum		Chum adult escapement meets or exceeds DFO target of 165K	Species	Fry	Adult	Pending
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 habitat capacity (1000g/100m2)	Abundance estimates meet MOFR Target Adult steelhead abundance will be maintained in the “Routine Management Zone” (Johnston, 2000) exceeding 30% of equilibrium stock size, or approximately 750 adults																				
Rainbow Trout	–	Fluvial Rainbow trout population remains stable over time																				
Chinook		Chinook escapement meets or exceeds DFO Target of 6.5K (50% females)																				
Coho	Fry of the year meet or exceed target densities	Coho adult escapement meets or exceeds 25K; does not fall below 15K																				
Chum		Chum adult escapement meets or exceeds DFO target of 165K																				
Species	Fry	Adult																				

Cutthroat		Cutthroat population remains => MSY (Maximum Sustainable Yield).	
Kokanee	-	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. <i>(Indigenous indicator to reflect traditional knowledge/ values is under development in consultation with Cowichan Tribes.)</i></p>			
Riparian Health			
Target: We want to protect and restore fully functioning streamside, lakefront, wetland, and estuary habitats.			Pending
Interim Indicators:			Pending
<p>1. Area estimates of protected riparian habitats along Cowichan River, Cowichan Lake, and Koksilah River, and their major tributaries, are available.</p> <p>2. Area estimates of successfully restored riparian areas along Cowichan River, Cowichan Lake, and Koksilah River, and their major tributaries are available.</p>			
Water Quality			
Target: We want swimmable, drinkable, and fish-friendly water in our watersheds.			Pending
Indicators:			Pending
<p>1. E. coli levels in the Cowichan and Koksilah watersheds are within acceptable provincial and health authority guidelines for swimming and recreation.</p> <p>2. Total suspended solids (turbidity) levels in the Cowichan and Koksilah watersheds consistently meet accepted provincial water quality objectives.</p> <p>3. Phosphorus levels in the Cowichan and Koksilah watersheds meet accepted Vancouver Island guidance.</p>			
Estuarine Health			
Target: We want to be able to eat shellfish from Cowichan Bay. <i>[Under development: Work is underway to broaden this target to a 'whole of estuary' approach.]</i>			Pending
Indicators:			
<p>1. Shellfish from designated areas of Cowichan Bay are harvested for human consumption by 2020. [Paused - requires update]</p>			