


Cowichan Watershed Board Meeting	Monday November 30, 2020 9:30-11:30am via Zoom	 Cowichan Watershed Board
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Co-Chair: Aaron Stone, CVRD co-Chair

Participants: CWB Co-Chair CVRD Chief William Seymour, Alison Nicholson, David Anderson, David Slade, Debra Toporowski, Tim Kulchyski, Lori Iannidinaro, Dr. David Froese, Kristine Sandhu, Dale Desrochers

Regrets: Dr. Shannon Waters, Stuart Pagaduan

Guest speakers: Leroy Van Wieren, CVRD BCSRIF Project Manager; Brian Houle, Environment Manager, Catalyst Crofton; Darryl Tunnicliffe, Environment and Natural Resources Manager, Cowichan Tribes

Audience members: Members of the public

Minutes: Heather Pritchard

1	Welcome	Aaron S. called the meeting to order.	
2	Approve Agenda	Motion to approve agenda by Debra T.; seconded by Kristine S. No changes.	Approved
3	Review and approve Minutes of Sept. 28, 2020	Motion to approve minutes by Dale D.; seconded by Debra T. One change was requested. Under item #3, it should read "motion to approve <i>minutes</i> ..." and not "motion to approve <i>agenda</i> ...".	Approved as amended.
4	Correspondence and Announcements	Tom reviewed announcements in agenda package: <ul style="list-style-type: none"> • Earlier in the month, Catherine McKenna (federal Minister of Infrastructure and Communities) announced a grant for over \$24 million for flood mitigation in the Cowichan watershed. A link to the announcement was provided in the agenda. Darryl Tunnicliffe will provide more information later in the meeting. • An article in Water Canada Magazine featured the Cowichan Watershed Board as an example of innovative watershed governance and of a successful partnership. A link to the article was provided in the agenda. 	For information
5	Opportunity for public comment	One public comment: Genevieve Singleton spoke about a private members bill introduced by Alistair McGregor to prohibit freighter anchorages in the Salish Sea due to concerns about pollution, bilge dumping, invasive species introduction, and other issues. There is an online town hall meeting on Dec. 3 rd that community members can speak at. There is also an E-petition that people can sign. Genevieve also reminded the board and audience that the CVRD is	For information

		in the middle of budget planning, therefore this is a good time to provide input on the Park Acquisition Fund as discussed last meeting.	
7	Presentation – Cowichan Water: 2020 Summary	Brian Houle of Catalyst – Paper Excellence provided a presentation summarizing 2020 flows. See attached summary for details.	For information and discussion
6	Presentation – Cowichan BCSRIF Grant Update	Leroy Van Wieren, CVRD, provided an update of progress report on the weir design and shoreline assessment. See attached summary for details.	For information and discussion
8	Presentation – Cowichan Water Resiliency, federal DMAF grant	Darryl Tunncliffe, Cowichan Tribes, provided a project overview for the new federal funding to address flood mitigation. See attached summary for details.	For information and discussion
9	Other	None	For information
10	Adjourn	Next meeting – Mon. January 25 th , 9:30am	Adjourned (11:30 am)

Summary of presentations/discussion:

1. Presentation on the Cowichan Water 2020 Summary (Brian Houle)

- 2020 was a cool and wet year therefore there was no requirement to reduce flows. Fall flows followed the rule curve perfectly, which was helped by early rain in September. The lake is continuing to rise.
- In April 2020, it appeared that flows were trending toward low levels therefore early control was requested. However, it ended up that it was not required due to moist weather.
- Brian presented a slide that summarized a guidance program developed in 2020 by a committee of local partners. It shows target flow levels for different times of the year. A copy of this presentation (and slide) is provided.
- Brian provided an overview of recent trends in water flow regimes and climate. Data shows that 2019 and 2016 were record years with respect to low flows. There was no snowpack in 2019 which had a significant impact. April lake levels and annual release rates were the same in 2016 (drought year) and 2020 (more normal year), but climatic conditions were very different demonstrating the importance of “timing of flow” when assessing water regimes. When comparing water release rates between 2019 and 2020, February 2020 had 3 times greater, June had 2 times greater, July and August had 1.5 times greater, and September had almost 3 times greater water release.
- In summary, the data confirms that we need to be able to store more water.

Questions:

- David S. asked about chinook numbers. At their peak, there were 22,390 chinook; the 4 year average is 20,000, and the 12 year average is 10,090. Tom mentioned the DFO target is 6,500. A few years ago there were only 500 so the Cowichan River is doing well in terms of chinook recovery. Estimates for 2020 are 10,000 adults (excluding jacks).
- Dale asked if there have been any public comments with respect to flows. Brian responded that there is a general lack of public understanding about proper weir operation.
- Alison asked about snow predictions for this year and if the Heather Mountain snow pillow is in good condition. Brian commented that snow is accumulating and that levels appear above average so far. Brian had no information on the condition of the pillow. Tom and Aaron agreed to look into this. Kate Miller added that the snow pillow is a CVRD asset that is maintained by the province.

2. Presentation on BCSRIF Grant Update (Leroy Van Wieren)

Part 1: Weir update

- Leroy reported that the weir design is progressing on schedule and on budget but below forecast (that is, below spending). In the last 10 months a lot of significant tasks have been completed including desktop study, site assessment to confirm desktop study. Information critical to the design has been collected/analyzed: bore holes, bathymetric study, breach analysis and consequence classification assessment, and field work for environmental study. Hydraulic and geological modeling has been completed.
- Fish passage and riparian environment objectives have been prioritized. Recreation, navigation, and hydroelectric power objectives are also considered. Hydroelectric power will be looked at after fish needs are met. Recreation was determined to be out of scope for the current funding/project. A walkway (non-operational) will be designed and costed out for consideration.
- Fish passage workshops were conducted July and November to develop a matrix comparing fish species, life stage, and timing. The conclusion was that fish passage is needed all the time. Therefore 2 opportunities for fish passage are being created through Weir Island and the south abutment. It was also concluded that there is a need for a cold water intake to mitigate against lethal high water temperatures.
- The weir design is 80% complete and the location has been confirmed (7-10 m upstream from current location). Preliminary construction costs are unknown.
- The current project stage involves looking at what components can be reused versus which need to be replaced. Four features will be replaced: the overflow weir, island spillway, abutments, and fish passage/ladder. The boat lock and spillway foundation will be reused.
- Next steps include a public review (virtual platform) of preliminary design on Dec. 10th. The final design will be completed in January. Work on aesthetics, costing, and tender documents will target a May/June completion date.

Questions:

- Dale asked about weir impacts to water temperatures. Leroy replied that downstream water mixing has not been modeled well yet, however, some preliminary design work has been completed for attracting fish to any relocated cold water areas. Water measurement systems up and down stream and alarm systems are planned. Concerns are highest for summer when the river is at its lowest elevation. Leroy also commented that any hydro generation projects will consider vibration, noise, and lighting and their impacts to fish.

- David F. asked what a hydroelectric option would look like in that a hydro dam is a very different structure than what we've been telling the public about. Leroy responded that the hydropower option is not meant to be a major component. Rather, it would be a tertiary component such as solar or a paddlewheel to help keep the lights on in the structure and not to feed the grid. David F. then asked about the cold water intake option as we were always told this was off the table due to cost. Leroy responded that this was not an option with the old weir however the elevation of new weir provided adequate space for siphoning water such that pumping would not be required. This is more cost efficient as there is no drilling required.
- Alison asked if the siphon works with low lake levels and if a fountain was considered. Leroy replied that the siphon would work at low lake levels. And a fountain has not been considered.
- Tom asked how exactly the gates are operated remotely. Leroy explained that they will be controlled from a computer, for example, from Catalyst. Tom also commented that messaging to the public (esp. lake front owners) on why a new weir is needed is required. That is, interpretation is needed on complicated graphs demonstrating how the current weir is (not) working.
- Debra added that better graph interpretation and communication is needed with respect to impacts to Cowichan Tribe values. Debra also commented on the importance of consistent use of language when it comes to the weir. That is, a weir is a dam under legal definitions and this can create confusion. The public needs to know that when they hear "dam" that "weir" is intended.
- Debra also requested clarification on scheduling. Leroy responded that the project was originally behind because of the slow award process but is on track with original schedule.

Part 2: Natural boundary update

- Kerr Wood Leidal was retained in July for this assessment. The project is to assess and map current shoreline conditions, and to forecast changes with weir and climate change. The project assesses the natural boundary of Cowichan Lake based on water presence, evidence of wave action, and frequency of water reaching certain elevations.
- The methodology selected by the Steering Committee is complete, data review is underway, and field data collection is almost done. Results will determine current and predicted natural boundary elevation. The review will consider impacts at the lot-level.
- Overall project is expected to come in under budget.

Questions:

- Alison asked if any riparian restoration is planned? Leroy replied that there is not, but if work points to this need than that could be another project outside of this one.
- Tom asked that if project is under budget, is there the opportunity to scope in some of these extra ideas? Leroy responded that adding additional scope would be a challenge (and unlikely) as it would affect schedule.
- Tim commented that if with the new weir no pumping will be required, that this is a huge benefit and this needs to be tracked and communicated. Leroy responded that benefits are easy to talk about and hard to track. There are benefits, for example to wells, riparian vegetation, access to tributaries etc. Leroy agreed that more communication on this benefit would be helpful.
- Tim mentioned that people often state they want compensation for damage to docks, etc. Are we following up on liabilities, etc. with respect to consequences? Tom responded that he has been in touch with David Robinson from Water Authorizations (FLNRORD) on impacts to structures (retaining walls, docks, etc.) most of which were installed without permits. It appears there would likely be liability issues as these structures are grand-parented in.

- David A. asked what is the general public sentiment along lakeshore? Leroy stated that everyone seems to be aware, most are curious and positive, and a minority don't understand or are upset about access.

3. Cowichan Water Resiliency, Disaster Mitigation and Adaptation Fund Grant

- Darryl is a PEng working with Cowichan Tribes
- The proposal was submitted by Cowichan Tribes with help from Kate Miller, CVRD to the Disaster Mitigation and Adaptation Fund. \$24.2 M was received from the federal government. A total budget of \$38.2 M is proposed for work to address flooding and drought. Securing additional funding from partners is the goal.
- Work has not started yet. Cowichan Tribes is working through the agreement process. Staff will be hired to address capacity issues.
- The goal is to return the river to a more natural state, e.g. reversing damage from past log transport that changed water energy and action. The project area spans from the weir to the flood plain. The proposal includes weir construction. The project intends to determine weir ownership and financial arrangements (~2021-22). The licensing process and Environmental Appeal Board hearings will be explored in 2023. Capital works will be tendered in 2024.

Questions:

- Debra asked how the funding will be distributed - How much is for the weir versus other projects? Darryl responded that most money is for the weir (\$21.5 million), while \$5M and \$5.3M are for projects in the middle and lower sections, respectively.
- David F. stated that the weir isn't going to mitigate for flooding in lower section. Debra agreed that there are flooding concerns, and that 90% of the reserve area (i.e., Clem Clem) is under flood risk. Darryl responded that flood management planning will happen, and will require additional funding. Projects are needed to, for example, raise homes (separate) and to further evaluate flood hazards. There are efforts to chase several funding initiatives.
- Tim agreed there's a bigger process looking at flooding problems and other watershed issues. Losses of waterfalls and other past impacts have to be examined and addressed. Twenty-nine of 30 waterfalls were blasted. Restoring watershed health to mitigate flooding and drought is required.
- Alison asked for the lower river, what planning process will see us through the decades we need to plan for? Darryl responded that what we're doing now is figuring out the path forward. Emphasis on the flood plain has been a reaction, and now we need to look at issues more holistically. The CVRD is looking at a Natural Assets plan which introduces many management questions. Climate change is an important focus.
- David A. asked where the other \$14 million will come from. Darryl responded that there are still lots of details to be figured out.