

## SUMMARY

# Columbia Basin Regional Advisory Committee Meeting #6

**June 20<sup>th</sup> – 21<sup>th</sup>, 2017 Prestige Lakeside Resort, Nelson, BC**

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## INTRODUCTION

[The Columbia Basin Regional Advisory Committee](#) (CBRAC) held its 6th in-person meeting on June 20th and 21st, 2017 in Nelson, BC. 34 of the 40 members attended, along with representatives from the B.C. Ministry of Energy and Mines, the Columbia River Treaty Local Governments' Committee, BC Hydro, FortisBC, Columbia Power Corporation, Columbia Basin Trust and the Government of Canada.

Before the meeting kicked off, CBRAC was invited to attend an optional tour of local hydro facilities on June 19<sup>th</sup>. BC Hydro and Columbia Power Corporation hosted a well-received and well attended tour of Hugh Keenleyside Dam, Brilliant Dam and Kootenay Canal generating station.

The meeting began on June 20<sup>th</sup> by acknowledging traditional territories of the Ktunaxa, Secwepemc and Syilx First Nations, and acknowledging National Aboriginal Day on June 21<sup>st</sup>.

Global Affairs Canada, the federal agency responsible for Columbia River Treaty negotiations, shared opening remarks and offered updates on the status of Columbia River Treaty negotiations. The Columbia River Treaty Local Governments' Committee also gave an update, emphasizing the Committee's commitment to building relationships with Treaty stakeholders, acting as an intermediary voice between the BC and Canadian governments, and Columbia Basin residents.

Through presentations from BC Hydro, CBRAC learned how climate change is predicted to impact the Columbia Basin, and what to expect from hydro operations in 2017. CBRAC held a follow up discussion on the study exploring a mid-elevation scenario for the Arrow Lakes Reservoir, and learned what other activities are happening to explore improving ecosystem functions through the Columbia River Treaty.

The second day began with a celebration of National Aboriginal Day. Members of Yaqan Nukiy (Lower Kootenay Band) performed a flag song and blessing, with voice and drums. CBRAC spent the rest of the day providing feedback to BC Hydro, Columbia Power Corporation and the Province on a variety of public education opportunities, which could be used to inform the public on the basic details of Basin hydro operations. The meeting concluded with a roundtable of closing comments.

CBRAC generally feels they have reached a common understanding of hydro operations, the Columbia River Treaty and Basin interests, and finds themselves now confidently acting as an advisory body, able to provide valued feedback to dam owners/operators, and the provincial and federal governments. CBRAC is seen as a valuable advisory body as the Province and Canada prepare for Treaty negotiations with the US.

The following summary is drawn from notes taken during the meeting, as well as written comments from participants. Though not everything was captured verbatim, these notes are meant to reflect the spirit of the discussion. Materials and presentations can be found [here](#) or by clicking on each link below.

1. [BC Hydro – Climate Change and Basin Hydro Operations](#)
2. [BC Hydro – Fiscal Year 2017 Operational Highlights](#)
3. [BC Hydro – Operations Update](#)
4. [CRT Ecosystem-based Function Objectives](#)
5. [Responses to Mid-Elevation Arrow Lakes Scenarios Report \(Presentation\)](#)
6. [Responses to Mid-Elevation Arrow Lakes Scenarios Report \(Table\)](#)
7. [Mid-Elevation Arrow Lakes Scenarios Full Report](#) (with references to response table)
8. [Addendum to Mid-Elevation Arrow Lakes Scenarios Report – Scenario 3](#)

## **SESSIONS**

***June 20, 2017***

### **Opening Remarks**

At the last CBRAC meeting, members voted on what topics they felt they should focus on over the next year. These topics were reviewed at the beginning of this meeting.

Priorities as voted on at the October 2016 meeting:

1. Climate Change projections and what this means
2. Water use plans
3. Alternative renewable energy sources
4. 1-2 page summary per reservoir with key information
5. Bringing salmon back to Columbia River
6. Comprehensive list of environmental issues related to management of reservoirs and dams
7. Continued engagement of First Nations

Objectives for June 2017 Meeting:

1. Address and review CBRAC priorities as voted on at the October 2016 meeting
2. Understand the current state of potential Columbia River Treaty negotiations with the US
3. Understand the potential effect of Climate Change on Basin hydro operations
4. Gain a better understanding of indigenous culture in the Columbia Basin in honour of National Aboriginal Day
5. Receive an update from the Local Governments' Committee
6. Receive an update from BC Hydro on Columbia Basin operations
7. Provide advice to the Province on responses to Mid-Arrow Study feedback
8. Provide input into a resource outlining key information for each Basin Reservoir and Dam
9. Provide advice to Columbia Power Corporation on opportunities to educate Basin citizens on hydroelectric operations

### **CRT Update**

*Greg Lemermeyer and Stephen Gluck, Global Affairs Canada*

Global Affairs Canada is the federal agency responsible for Columbia River Treaty negotiations. The Global Affairs team has been working with the Province since the Treaty Review started in 2011. It has expanded its scope of work over the past two years in preparation for potential negotiations with the US, collaborating with the provincial CRT Review Team, consulting with regional First Nations, communicating with the CRT Local Governments Committee and communicating with the US negotiating team. This includes co-chairing the Collaborative Modelling Workgroup, a transboundary committee of key Canadian and US Columbia Basin parties to explore potential alternative CRT operation scenarios, specifically around ecosystem function in relation to flood control. Formal discussions between Canada and the US have not yet been scheduled.

## **Local Governments' Committee Update**

*Karen Hamling, Committee Vice Chair, Mayor Village of Nakusp, Chair Regional District of Central Kootenay*

### [A brief history of the LGC](#)

The Columbia River Treaty [Local Governments' Committee](#) began in 2011. Members are appointed by Regional Districts. The Committee worked with the Columbia Basin Trust and the Provincial Columbia River Treaty Review Team to host public consultation meetings around the Columbia Basin to understand what people want to happen with the Treaty as there was no consultation before the Treaty was originally signed. The Committee gave Minister Bill Bennett a list of what the Basin and its community members wants, which was accepted and continues to be what the Committee is working on.

The Local Government's Committee realized there were issues with public understanding of how different power companies operated, and discussions with BC Hydro and the Provincial Treaty Review Team led to CBRAC being created.

### [What is coming up for the Local Government's Committee?](#)

Every year the Local Government's Committee sets priorities; this year the top priority is to improve communication amongst levels of government. Since the BC election in May 2017, the Local Government's Committee has worked on building new relationships with the new government; this has slowed down due to provincial government uncertainty. Once new provincial ministers have been appointed, discussions will continue. The Local Government's Committee has been meeting with Global Affairs Canada to move things forward and keep regional MPs informed.

## **Climate Change and Basin Hydro Operations**

*Stephanie Smith, Manager Hydrology, BC Hydro*

→See [presentation](#)

### [Highlights:](#)

- Predicted by 2050
  - Increase of 1.4 – 3.7°C in mean temperature in the Basin
  - Increase in precipitation in Fall, Winter, Spring; decrease in Summer
  - Modest increase in annual water supply
  - Significant change in timing of runoff
  - Glaciers in Basin expected to shrink by 44-100% [by 2100](#) – glaciers provide 30% of the Columbia water flow
- What does this mean for the Treaty Review?
  - Snow pack storage decreasing at low elevations, particularly in the U.S., and maybe increasing at high elevations in the northern part of the Canadian Basin
  - Same of more total water available, particularly in the Canadian Columbia
  - Timing of runoff is changing – potential impacts for flood control, lesser impacts to generation, potential impacts to fish flows,
- Four new [monitoring stations](#) recently added to Columbia Basin by BC Hydro

- Columbia Basin has more water coming into the system than there is storage
- Study used Provincial climate change data from [Pacific Climate Impacts Consortium](#)
- There is a range of partnerships (including cross-border partners) working on this research – See slide 10

#### Discussion Topics:

- Change in power needs as the climate changes and land use changes have not been incorporated
- More consideration needed of impacts to fish from proportional draft in dry years
- US flood control standards need to be adjusted to account for climate change
- Weather monitoring by BC Hydro, Environment Canada
- Process for Canada and US to work together on joint forecasting
- Monitoring micro-climate information is important.
- Moisture retention scenarios with glacier blanketing
- Importance of fall precipitation in water supply forecasts
- More First Nations perspective and knowledge needs to be brought into decision making, research, reports such as this, and implementation.

#### Reports:

- BC Hydro Report: [Potential Impacts of Climate Change on BC Hydro's Water Resources, 2012](#)
- Pacific Climate Impacts Consortium Report: [Climate Extremes in the Columbia Basin Summary Report, 2013](#)
- Columbia Basin Trust Report: [Water Monitoring and Climate Change in the Upper Columbia Basin, 2017](#)

## **BC Hydro Operations Update**

*Darren Sherbot, Manager Operations Planning Generation Resource Management, BC Hydro*

→See presentations:

1. [Fiscal Year 2017 Operational Highlights](#)
2. [Operations Update](#)

#### Highlights:

- This past winter had the longest cold snap in approximately 30 years
- Records were broken during the past cold winter for energy usage
  - January set a [record energy production](#)
- March had record precipitation in the region
- Early freshet (swell of water in the river due to snow melt and rainfall. Usually occurs in June/July.)
- Forecast reservoir levels for 2017
- Reservoir level phone link: 1-877-924-2444
- Reservoir levels [online](#)
- Sign up to receive regular reservoir email updates and bi-annual summary of BC Hydro's Columbia Operations by emailing Mary Anne Coules at [maryanne.coules@bchydro.com](mailto:maryanne.coules@bchydro.com)

#### Discussion topics:

- Flood protection, operating and critical rule curve requirements under the Treaty
- Source of precipitation info for annual forecasting
- Maximum power output last winter
- Comptroller role in reviewing/approving applications to surcharge reservoirs
- Funding for debris management following surcharging
- 7 Mile/Pend Oreille dam influences on reservoir levels and power production

### **CRT Ecosystem-based Function**

*Bill Green, Canadian Columbia River Inter-Tribal Fisheries Commission*

→ See [presentation](#)

#### Highlights:

- Ecosystem-based improvements to the Columbia River Treaty are being explored by the Province
- Ecosystem-based Function Workshop Steering Committee has been set up, including federal and provincial government agencies, First Nations, BC Hydro, and environmental non-governmental organizations (ENGOs).
- Workshop to identify objectives for Ecosystem-based Function will occur in Nelson June 22 -23, and include above agencies plus local government representatives and specialized consultants.
- Product will be a draft set of proposed Ecosystem-based Function goals, objectives and performance measures for an improved Columbia River Treaty
- CBRAC will review this draft.

#### Discussion Topics:

- How does the Columbia River Water Use Plan fit into ecosystem functions in the CRT?
- Who is on the Steering Committee and attending the workshop? CBRAC will be sent this information.
- How are the goals and objectives of the ecosystem-based function going to link in with other organization action plans?
- Looking forward to this being applied to Koocanusa reservoir

### **Mid-Arrow Study Responses to Feedback**

*Alan Thomson, Mountain Station Consultants Inc. and Greg Utzig, Kutenai Nature Investigations*

→ See [presentation](#), [table of responses to feedback](#) and [Addendum to the report describing a new third scenario](#). The [original report](#) now includes references to the table of responses.

#### Highlights:

- Past information about this study can be found [here](#)
- None of the scenarios in the [report](#) are Treaty compliant. This report is based on communities asking for more information and alternatives to reduce impacts on ecosystems.
- This is NOT a chosen model. This is a preliminary look at what an ecosystem function for the Treaty could look like.
- Next steps involve collaborating with the US to model their version of an ecosystem function with the mid-Arrow scenario to see if they meet both parties' objectives.
- The thresholds in the report would need to be met or none of the potential benefits would occur.

## Discussion Topics:

- How does this study (Mid-Arrow) fit into the broader scale of concerns in the entire Basin?

## **Mid Arrow Feedback Responses**



## Summary of Discussion:

- Fish and wildlife concerns were a top priority relating to how their habitat and connectivity would be affected.
- Ecosystem function on a macro and micro scale and the effects implementation would have to be discussed.
- Economic impacts (positive and negative) were a major question raised. How would this effect local economy and Basin wide economy?
- What are the options for implementing this into the CRT?
- What are the shifts that will occur in flood control management, agricultural benefits and recreational uses?
- How will Canada work with US in all the various scenarios?
- How will climate change related issues be dealt with?

## Next Steps:

*Kathy Eichenberger, Executive Director, BC Columbia River Treaty Review Team*

Unanswered questions will be prioritized and action will be taken accordingly. This will be a slow and incremental process. Collaborative modeling framework processes will be used to move forward to help figure out what models will work the best.

*June 21, 2017*

## **Reservoir Summary Document**

CBRAC members worked in small groups to review a 'straw dog' preliminary Reservoir Summary that was designed to provide the information CBRAC members had previously requested.



### Summary of Feedback:

- The consensus was to have a more simplified document that was legible to all audiences.
- The document contains incorrect information and needs to be reviewed by external parties (including all groups mentioned in document) before going to the public.
- Adding more detailed information about dam and reservoir functions would be beneficial.

### Summary of Missing Information:

- Links to extra information would be beneficial for a variety of components.
- More detailed information could be included on the schematic including, water use summaries, reservoir operations, generation, watersheds, etc.
- Historical information about the dam, including; before and after information, why, when it was built etc.
- Discussion about the benefits of the dams.

### Summary of Audience:

- CBRAC
- First Nations chiefs and community members
- General population
  - All Basin residents
  - School population - target grade 6-7 and above
  - Community members
- New residents and tourists/ visitors
- All river users
- Major stakeholders
  - Institutions
  - Organizations
  - Government

## **Columbia River Treaty Related Education Opportunities**

Meeting attendees were invited to give feedback on four education opportunities, which had been generated from previous CRT public consultation, and to suggest other opportunities. The following three questions were asked.

1. Are there other key opportunities to add?
2. Are there any additional pros / cons for each opportunity?
3. Any advice on this approach?

After the discussion, CBRAC voted to prioritize the initiatives.

Here, the opportunities are ordered from top priority to lowest according to CBRAC votes at the meeting.

### **Priority 1: Video of CRT impacts/ Benefits**

The educational opportunity most supported to be developed includes many ideas to integrate historical, cultural and environmental information into videos produced for the benefit of all Canadians.

### **Priority 2: Classroom CRT and Hydro-operations program**

The second most supported educational opportunity is implementing the classroom CRT and hydro-operations program that was piloted with grade 6 students in 2014, by collaborating with other organizations with strong educational programs to provide education in the classroom. The option of educating beyond K-12 was also suggested. Focusing on historical, cultural and environmental information is key.

### **Priority 3: Reservoir water level measures and time lapse photography**

This educational opportunity would be a great opportunity to work with local groups already doing this and / or interested in water levels in their reservoirs. To successfully engage people, it is important to ensure that the reference points in the images are memorable and each time lapse is tailored to its specific area.

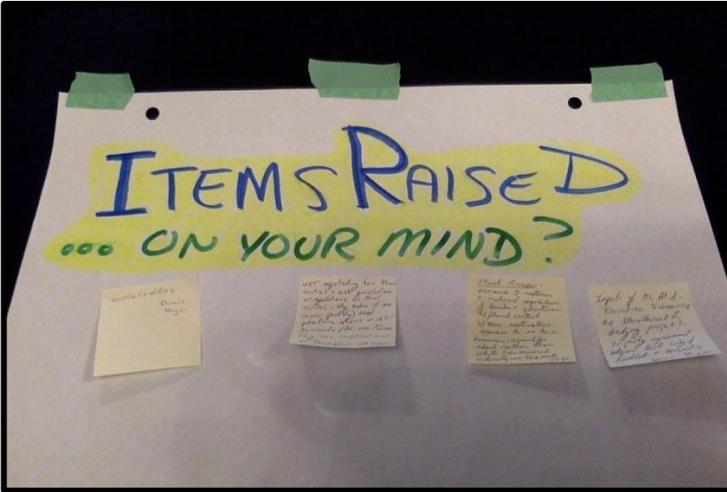
### **Priority 4: Info panel for Galena and Shelter Bay ferry**

This educational opportunity has the potential to expand beyond just one ferry route. Ensuring there could be people on site to collect feedback and measure success of such a program would be integral.

### **Other ideas**

The most discussed and supported opportunity in the “other” category is the creation of an interactive app. The app could be a multi-functional tool that connects people to the history and function of dams and the Columbia Basin.

## Additional Items Raised



Meeting attendees had the option to record additional comments or thoughts throughout the conference that were out of scope of the agenda or could not be voiced during the time allocated. The following is a summary of the “Items Raised”.

1. More control of dikes
2. With respect to negotiating for flood control: set guidelines or regulations on flood control. Why subsidize lower (possible) flood protection standards in the US? In Canada/ BC use Q200. This has implications on flood plain development
3. Mid Arrow: Scenario 3
  - Restore a natural regulation of levels.
  - The human/ scientific ideal rather than what occurred naturally over the past 40 years.Questions:
  - a) Flood control
  - b) Environmental restoration
4. Impacts of all mid-elevation scenarios on Illecillewaet River dredging project? Tri-party agreement between City of Revelstoke and Ministry of Forests, Lands and Natural Resource Operations needed

## Wrap Up

*Meeting reflections: Greg Lemermeyer, Global Affairs Canada*

It is great to be able to come in and learn with community members about the importance of the Columbia Basin. Global Affairs spends much time working on the Columbia River Treaty, but does not often get to connect to the place and people very often. This opportunity has really helped Global Affairs feel more engaged.

## Next Steps

1. Update CBRAC on ecosystem-based function activities, including the outcomes of the June workshop
2. Incorporate feedback into the Reservoir Summary document. Distribute 2<sup>nd</sup> draft to CBRAC
3. Hydro-operators will consider feedback on educational opportunities and decide on what to move ahead with and how.
4. Continue working on the priorities of CBRAC
5. Shape CBRAC’s fall meeting as a continuation these conversations. Be sure to include as much discussion time as was in this meeting.

## Closing comments

- Having been involved from the beginning I always hoped it would be the group it is now. The group feels productive and comfortable and the knowledge that the new additions are bringing to the group are very beneficial.
- This is the most productive meeting CBRAC has had so far.
- BC Hydro is always happy to stay in touch and hear from everyone.
- Learned a lot from this meeting.
- It was a very fun meeting and new connections were made. The number of meetings needed in the past to reach a common end result was much greater. More commonalities are showing now.
- The presenters were great. It was important to have federal representatives to connect with.
- Appreciation for the federal government employees who came all the way from Ottawa.
- Great balance of info sharing and gathering. It was great to be able to give and share ideas. The diverse network is very welcoming and putting everyone on the same level is beneficial.
- The tours were great for putting everything into context. It was great to be able to engage with everyone one on one.
- Enjoyed the meeting. Appreciate first rate presentations. Looking forward to another meeting soon.
- New interests in recognizing pre-dam history came out of this meeting.
- It was great to have young people in the room; it would be great to have more of them engaged in this process.
- Let's get the app done!
- This is a network for smaller and bigger communities. It is a great conduit for educating community members.
- The energy and positive attitude in this event was amazing.
- Hopefully people can bring their families next time so they can enjoy the area.
- Everyone was very nice to the people from Ottawa. It was important to be able to put faces to names and to paper documents being made on the Federal level. It was rewarding, educational and fun for the Global Affairs team.
- There were great discussions on the Columbia Basin that were educational and informative during the conference and at the after-hour gathering. It is important for First Nations to build relationships and collaborate with groups. It would be great for a larger portion of the youth demographic to be engaged.
- This was the best CBRAC meeting so far because there was so much opportunity to provide and receive input. The format of the meetings with the dam tours was very beneficial.
- This was the most comfortable and productive meeting attended so far. The subject matter is all long-term and it is important to recognize how to keep the momentum going and create succession plans.
- It is important to recognize how needed it is to have detailed and shared knowledge on ecological data. Youth are standing up and are interested in being involved in our future, it is important to recognize this.
- It is great to have an atmosphere where you feel comfortable sharing your views.
- Hopefully everyone can get out and enjoy the water in the Basin this summer.
- As a new member, it was a very beneficial meeting to learn about operations and how advocacy can be done.
- It was very valuable to get the meeting information so far in advance. It was great to be able to recognize National Aboriginal Day at the meeting.
- On behalf of BC Hydro, thank you to everyone for support in processes moving forward.
- It was great to learn more about the area. Traditional views around the Basin are a top priority and it is important to recognize that historically reserves did not exist and that dams have had a major effect on changing First Nations territory. It was great to have the Aboriginal Day celebration.
- It was a very smooth conference. A highlight was the important information in Stephanie's climate change presentation. It was important to look at glacier retention in the Canada side of the Basin and the importance this will have on the US and agreements etc.
- This meeting was very well organized and informative with a kind and open attitude.

## **Resources**

### **Columbia River Treaty**

- BC Columbia River Treaty website: <http://engage.gov.bc.ca/columbiarivertreaty/>
- Columbia Basin Trust Columbia River Treaty page: <https://thebasin.ourtrust.org/columbia-river-treaty/tutorial/>
- Paper: *A Review of the Range of Impacts and Benefits of the Columbia River Treaty on Basin Communities, the Region and the Province*, by George Penfold. <https://engage.gov.bc.ca/app/uploads/sites/6/2012/07/A-Review-of-the-Range-of-Impacts-and-Benefits-of-the-Columbia-River-Treaty6.pdf>
- US Columbia River Treaty website: <http://www.crt2014-2024review.gov>
- Further Resources: <http://engage.gov.bc.ca/columbiarivertreaty/resources/>

### **Hydroelectric Operations**

- About BC Hydro's Generation System as a whole: [https://www.bchydro.com/energy-in-bc/our\\_system/generation.html](https://www.bchydro.com/energy-in-bc/our_system/generation.html)
- Water and Power in the Columbia Basin: <https://thebasin.ourtrust.org/?s=water+and+power>
- Reservoir level information
  - BC Hydro Reservoir Elevations - [http://www.bchydro.com/energy-in-bc/our\\_system/transmission\\_reservoir\\_data/previous\\_reservoir\\_elevations.html](http://www.bchydro.com/energy-in-bc/our_system/transmission_reservoir_data/previous_reservoir_elevations.html)
  - Columbia Hydrometeorologic Data - [https://www.bchydro.com/energy-in-bc/our\\_system/transmission\\_reservoir\\_data/hydrometric\\_data/columbia.html](https://www.bchydro.com/energy-in-bc/our_system/transmission_reservoir_data/hydrometric_data/columbia.html)

### **Other**

- Columbia River Treaty Local Governments' Committee: <http://akblg.ca/content/columbia-river-treaty>
- Columbia Basin Trust: <https://ourtrust.org/>
- BC Hydro Integrated Resource Plan Mailing List: [www.bchydro.com/irp](http://www.bchydro.com/irp) (click "Join the IRP mailing list" in bottom right corner)
- List of Acronyms: <http://engage.gov.bc.ca/app/uploads/sites/6/2017/01/2015-07-21-Columbia-Basin-hydro-operations-acronyms.pdf>
- Web Resources for Columbia River Treaty and Columbia Basin Hydro Operations: <http://engage.gov.bc.ca/app/uploads/sites/6/2017/01/CBRAC-Resource-List-Columbia-Basin-Hydro-Nov2015.pdf>