COLUMBIA River Treaty

Columbia River Treaty Socio-Economic Integration Introduction

Columbia Basin Regional Advisory Committee
March 8, 2021

CRT SC Project Team – Cindy Pearce, Avery Deboer-Smith, Ryan MacDonald

AKBLG CSRD Central Kootenay East Kootenay Regional District of Kootenay Boundary

AGENDA

- Overview
- Introduction to scenario modelling and performance measures
- Developing SE Performance Measures
- Engagement Design Input
- Next Steps

Overview

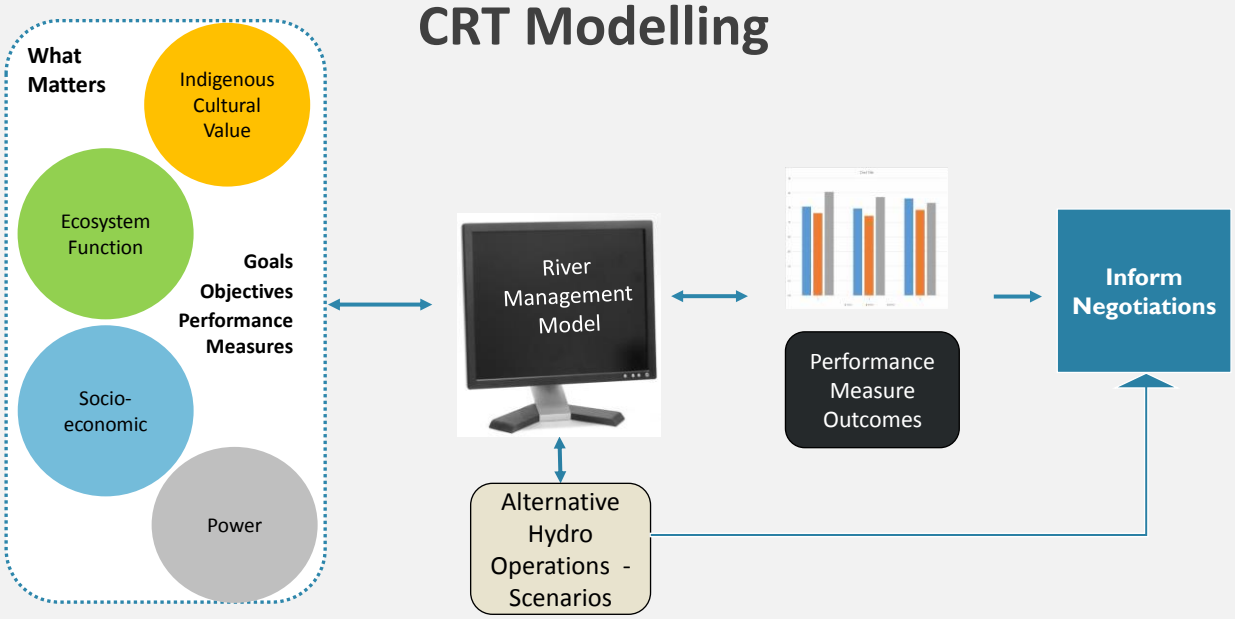
Why?

CRT Negotiations Advisory Team (NAT) needs to understand:

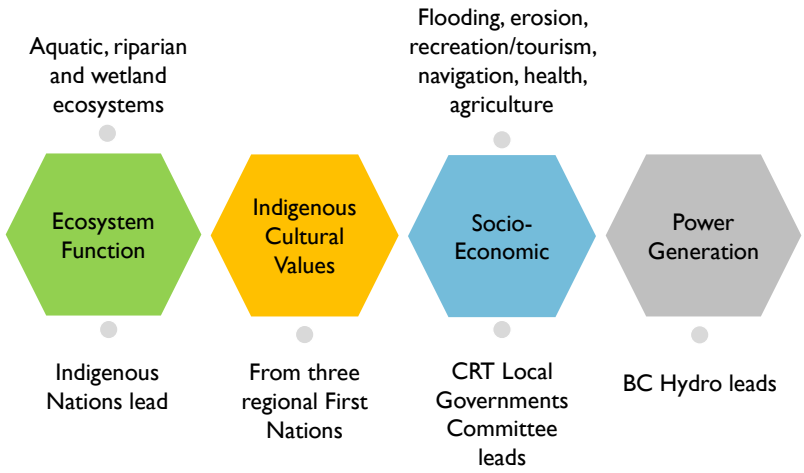
How U.S. proposals for Treaty changes will impact Basin interests

How the Treaty can be modernized to increase the flexibility in BC Hydro operations to improve conditions for Basin interests

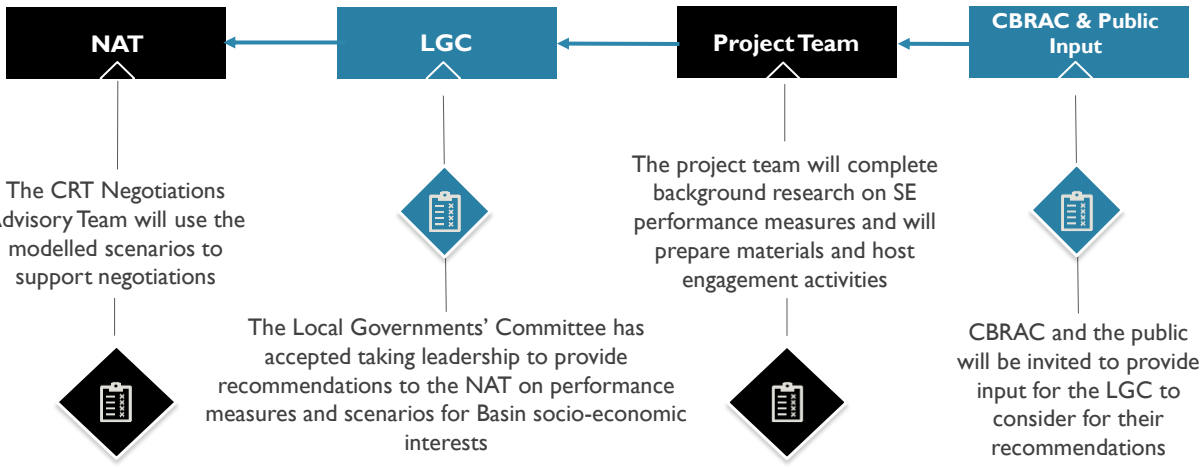
CRT Modelling



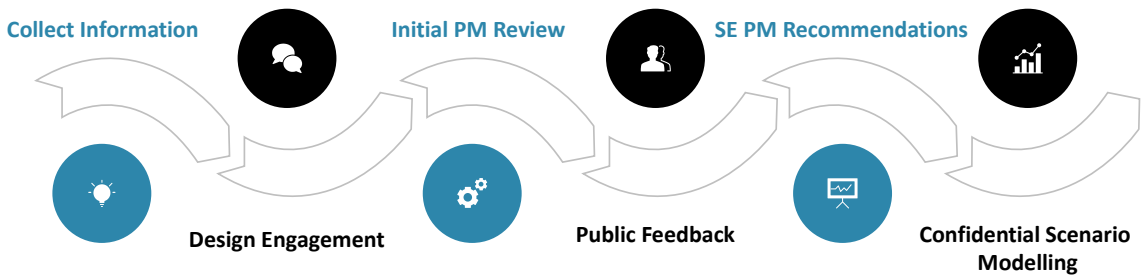
Basin Interests



Who?



General Socio-Economic Integration Process



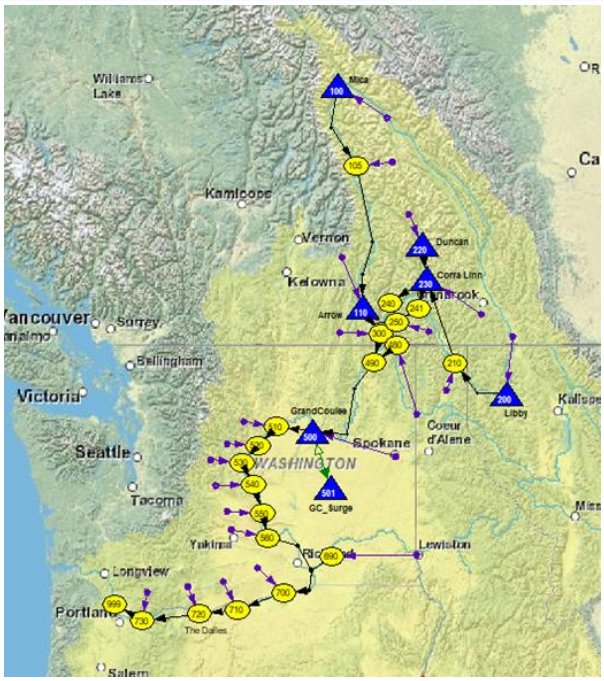
Introduction to Scenario Modelling

What is a River Management Model?

Mathematical representation of a river system

A collection of assumptions about how the system works

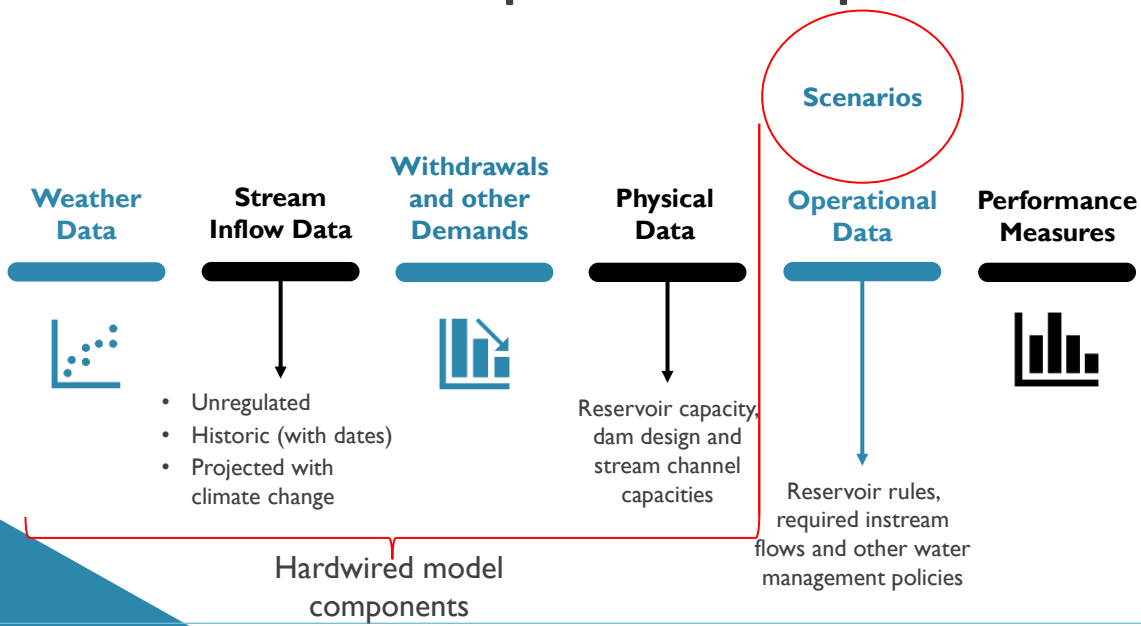
A means of experimenting with the system to look at changes in assumptions



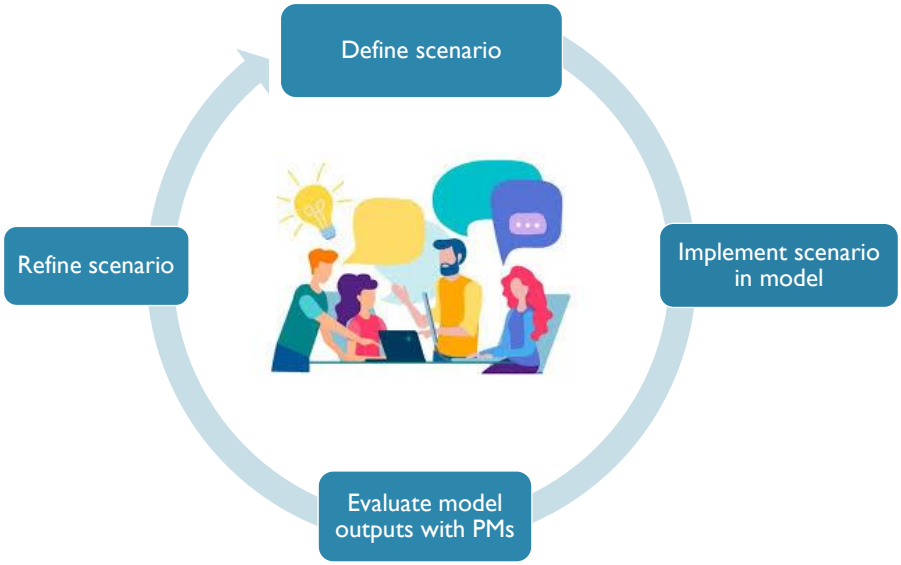
CRT Planning Model
(CRTPM)

This model represents the Columbia River Basin from the headwaters to the mouth, including the major structures along the way

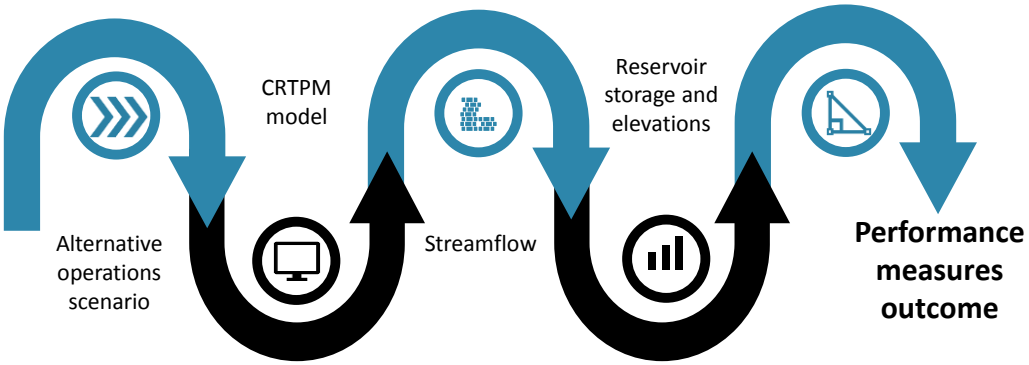
Model Inputs and Setup



Confidential CRT Scenario Modelling



Model Outputs Relating to Performance Measures



Developing Performance Measures

Arrow Reservoir Dust Control Example

Why?

Minimize dust generation

Where?

Arrow reservoir

When?

March 1 to April 30

What?

No. of days reservoir elevation is below 1410 feet

CRT Review Technical Studies (2013) Example

ARROW LAKES RESERVOIR: DUST

Objective / Location	Performance Measure	Units	Description
Dust Control/ Arrow Reservoir	Dust potential days	# days elevation is below 1410 ft between 1 March and 30 April	Sum of # days per year that the reservoir water level is below 1410 ft when dust generation potential is highest in the lower elevations.

Source: CRT Review Technical Studies, 2013 Appendix G – Columbia Performance Measures Infosheet No. 18

Scenario Evaluation – Reservoir Levels

Dust control PM

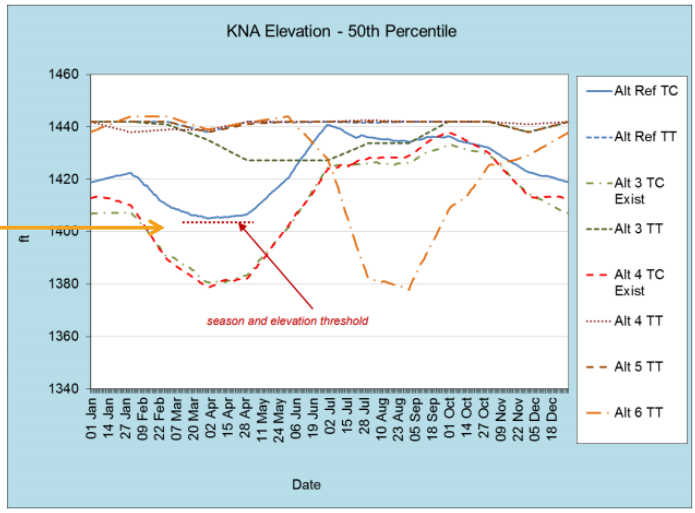
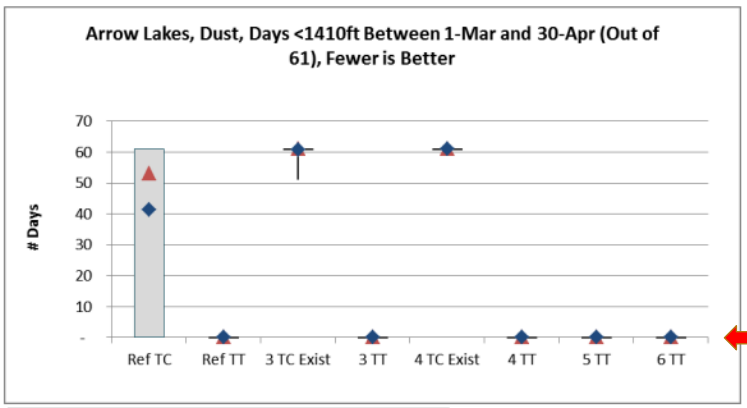


Figure 1. HYSIM Simulated Mid Columbia River (Arrow Lakes) elevations. Median over 60 years showing the elevation threshold for dust control.

Scenarios
TC = Treaty continues
TT= Treaty terminated

Source: CRT Review Technical Studies, 2013 Appendix G – Columbia Performance Measures Infosheet No. 18

Scenario Evaluation – PM Outcomes



Source: CRT Review Technical Studies, 2013 Appendix G – Columbia Performance Measures Infosheet No. 18

Less is better

Ref TC	Ref TT	3TC Exist	3 TT	4 TC Exist	4 TT	5 TT	6 TT
61	-	61	-	61	-	-	-
61	-	61	-	61	-	-	-
53	-	61	-	61	-	-	-
41	-	61	-	61	-	-	-
-	-	61	-	61	-	-	-
-	-	51	-	61	-	-	-

Max
90th
Med
Mean
10th
Min

Scenario Evaluation – Comparing PMs

Table 9: Performance of Alternatives in Arrow Lakes Reservoir

Objective	Performance Measure	Units	Dir	Ref TC	3TC	4 TC	Ref TT	3 TT	4 TT	5 TT	6 TT	PM
Arrow Lakes												
Aquatic - Kok Trib. Access	Days > 1430'	Days	H	60	37	50	82	82	82	82	22	(#20)
Aquatic Productivity	Epilimnetic residence time	Days	H	107	101	98	95	93	84	94	70	(#7)
Heritage	Site erosion	Weighted Days	L	227	135	151	365	332	357	363	233	(#17)
Heritage	Site inundation	Weighted Days	H	190	56	95	763	524	750	735	430	(#17)
Recreation - General	1435 < days < 1440	Days	H	97	75	72	197	197	197	197	41	(#16)
Dust	days < 1410	Days	L	41	61	61	-	-	-	-	-	(#18)
Navigation	Weighted-Days	Days	H	219	226	219	211	248	211	226	248	(#15)

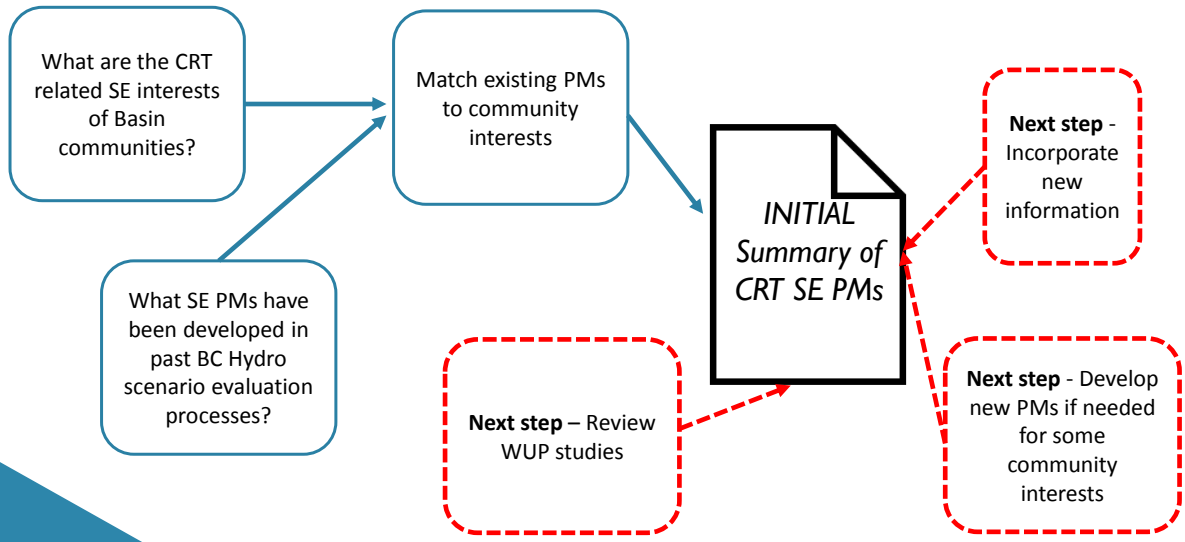
Legend

Better than highlighted alt
Worse than highlighted alt
Highlighted alt

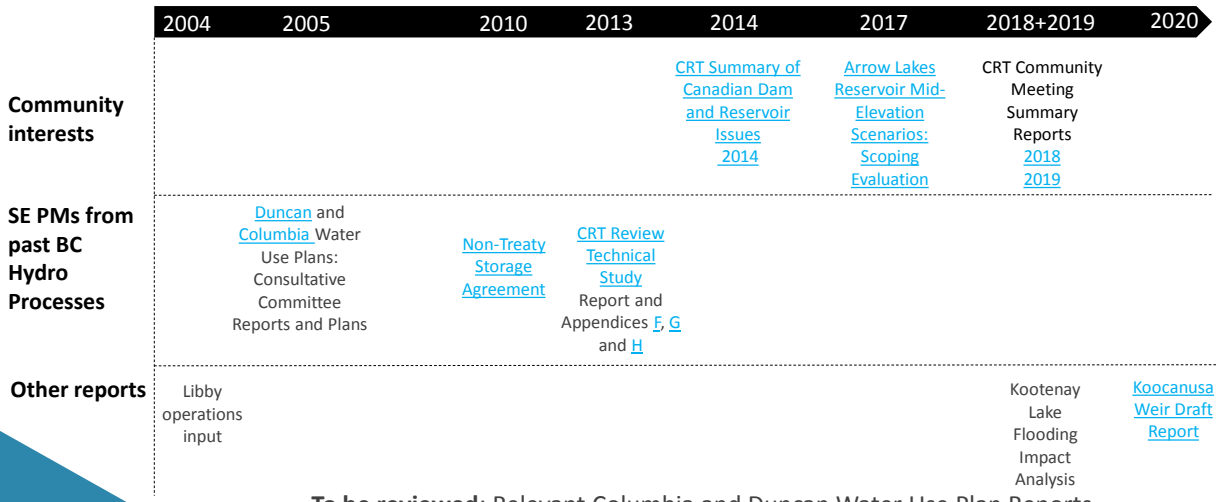
Source: CRT Review Technical Studies, 2013, page 48

Developing Socio-Economic PMs

Initial Summary of CRT SE PMs

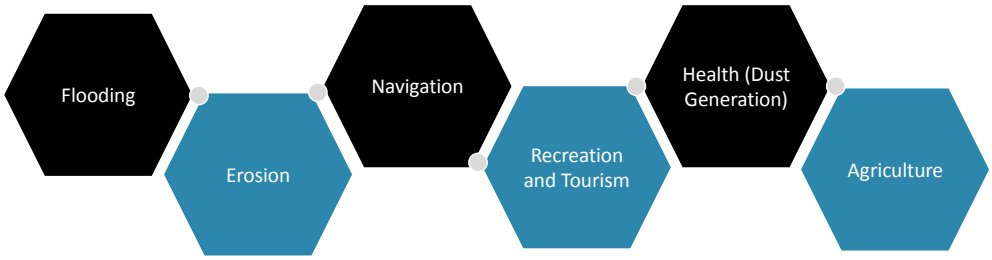


Document Review



To be reviewed: Relevant Columbia and Duncan Water Use Plan Reports

Columbia River Treaty Related Socio-Economic Performance Measures



Timeline

Nov 2020-Sept 2021
Collect Information
Community interest and SE PM data collected from a wide range of sources

Feb-Mar 2021
Design Engagement
Methods for engaging CRBRAC local governments and the public

Apr-Aug 2021
Initial PM Review
Review SE PM Summary with LGC and CBRAC – research and revise as needed

Sep-Oct 2021
Public Feedback
Feedback from local government and public collected

Nov-Dec 2021
SE PM Recommendations
Feedback review ed with CBRAC and LGC recommends SE PMs to NAT

Begins Sep 2021
Confidential Scenario Modelling
PMs finalized and used to model scenarios

INITIAL Socio-Economic PM List

CBRAC members are asked to
review the list and fill out survey
with any concerns.
Target date – March 19??

Please remember:

- Interests must be related to **river flows or reservoir levels** to be assessed in the modelling
- **CRT** is the focus of this process - improved SE PMs will be available for future processes
- This is a **long-term endeavor** – we won't get it all right in this project

Engagement Advice

Thoughts Related to Engagement Design

- Complex topic that will be challenging to explain
- Critical to manage expectations - scenario modelling is an evaluation process - not a decision process
- Opportunity to promote Basin-wide thinking and/or focus on local interests
- Unclear whether WUP constraint that CRT operations would continue resulted in constraints on PMs
- Some existing PMs will be OK as is, some will require minor revisions, and some may require substantial development that is outside the terms of the existing project

Target Audiences

- Local governments
- CBRAC
- Indigenous Nations to decide
- Public
- Industry (Forestry, Agriculture, Marinas)
- Youth

Any others?

Team will connect with representatives

Selkirk College, College of the Rockies, Wildsight Field School alumni

CBRAC

Purposes	Engagement materials and activities
1. Input on existing and new PMs (June)	• PM Summary Table with links to background documents • Webinar • Online survey • Team compiles/reviews with LGC *Any others?*
2. Input on public feedback (Sept)	• Updated Summary Table • Webinar • Team compiles for LGC consideration to make recommendation to NAT *Any others?*

Public Feedback

Purposes	Engagement materials and activities
1. Input on draft PMs (September)	• PM Summary Table with links to background documents • Webinars– regional, sub-regional and/or reservoir level • Online survey • Team compiles for CBRAC and LGC review *Any others?*

Publicly available Summary of Input will be prepared

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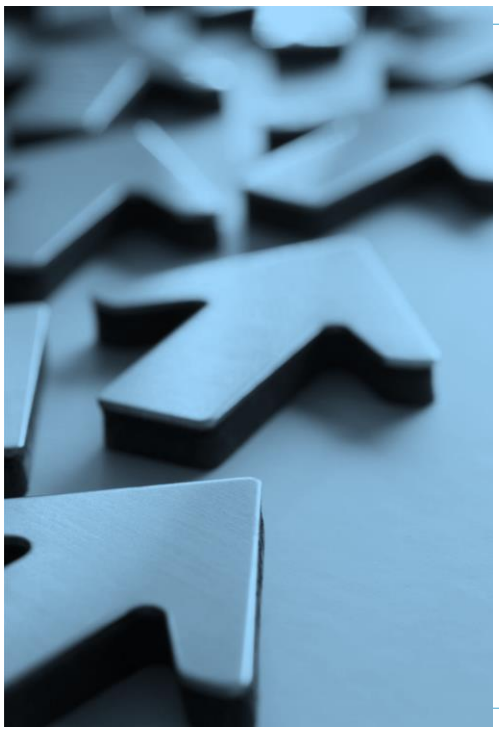

Actions

March 19 - Feedback on INITIAL PM Summary from CBRAC at online survey

March – Project Team updates budget and workplan

April – May - Project Team drafts refinements to PMs from past processes and drafts new PMs

June - Local Governments Committee and CBRAC review