Rio Tinto
Water Engagement Initiative
Table Meeting

Meeting 7
Vanderhoof
Wednesday, February 12, 2020

Draft agenda

- Agenda review
- Process roadmap
- Action item and Technical Working Group (TWG) update
- Information presentation: flooding
- Introduction to Performance Measure development as part of Structured Decision-making
- Overview of group breakout sessions (discussion of topic-reporting form)

Agenda review (2)

- Group breakout session 1:
  - Group 1: Property flooding- reservoir, property flooding Murray Cheslatta
  - Group 2: Property flooding- river
- Group breakout session 2:
  - Group 1: Reservoir travel and activities
  - Group 2: River travel and activities
- Selection of topics for next meeting
- Next meeting dates
- Adjourn

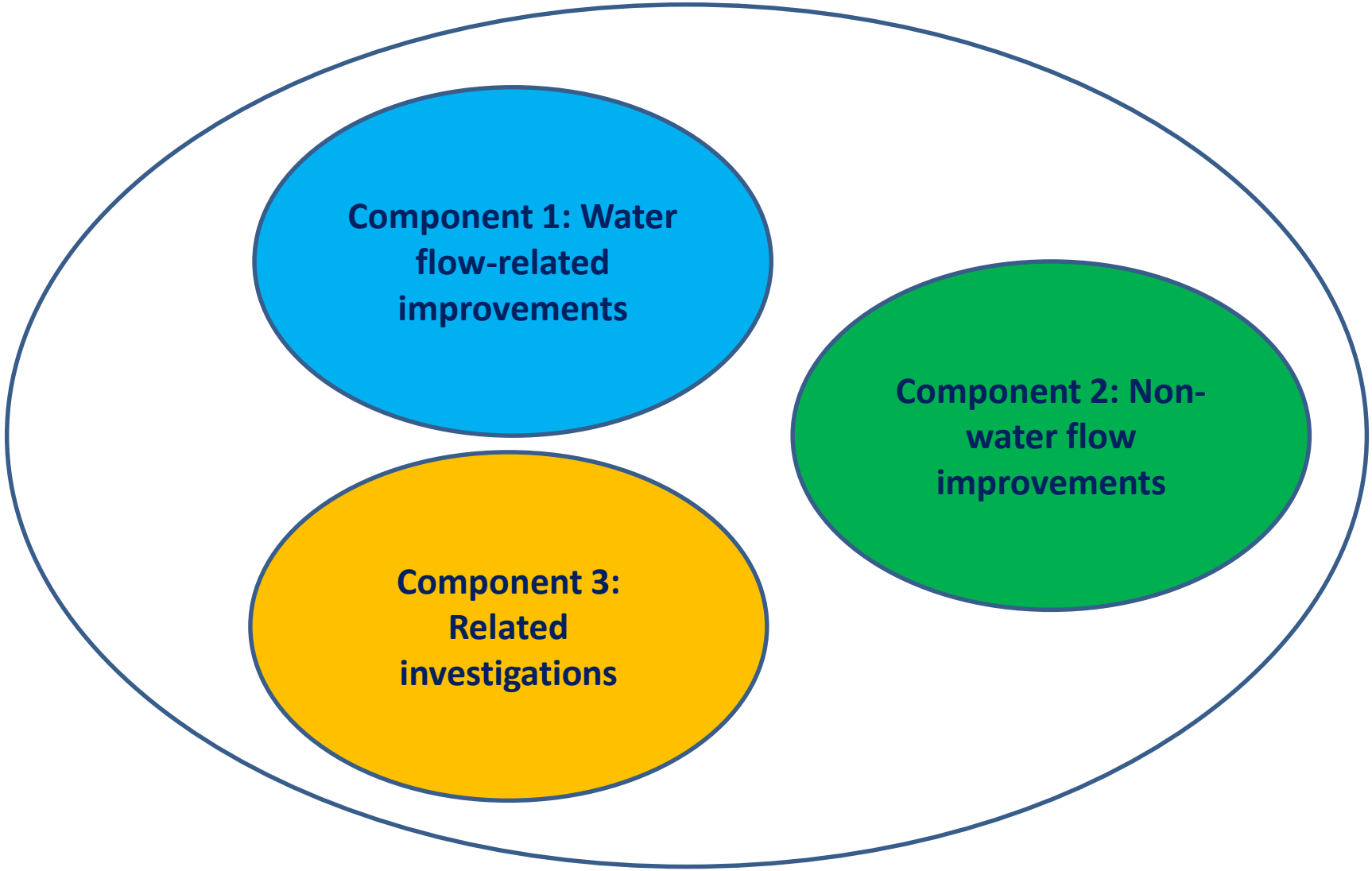
Process roadmap

- Since June we have been forming the WEI process, discussing issues at a high level, and identifying/ understanding each other's interests
- We have achieved some milestones:
  - Forming the Main Table
  - Approving the Guiding Principles
  - Holding six well-attended Main Table meeting with engaged participants
  - Base mapping with a process to add information
  - Initiating the Communication Working Group
  - Formation of the Technical Working Group
  - WEI booth at Natural Resource Forum
  - Learning the WEI process
- **We are ready to roll!**

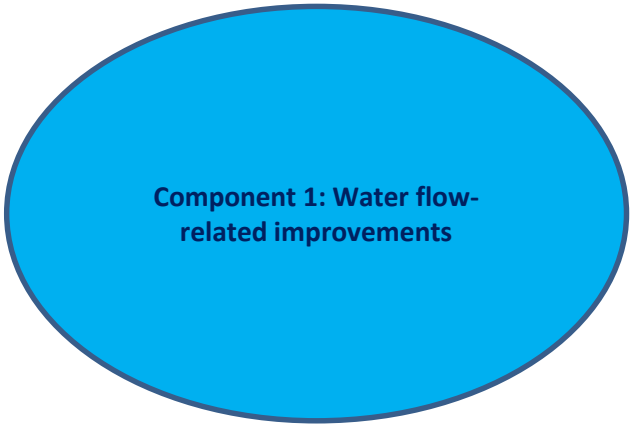
Process roadmap

- The effort we are undertaking is a **catalyst**
- Supports discussion, relationship-building, and action on current issues
- But it is also building a foundation for communication and adaptation well into the future

Water Engagement Initiative: Three main components to improve

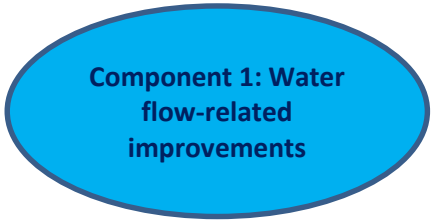


- **Component 1: Water Flow improvements**
    a. Spillway discharge schedules
    b. Flood management
    c. Reservoir levels
    d. Downstream flow targets
    e. Water temperature targets
    f. Monitoring
    g. Other interests identified by the Main Table



Component 1: Water Flow improvements

- For water flow improvements, we are using a Structured Decision Making approach
- The knowledge and experience of the Main Table is a critical input to the discussion
- Information to support Main Table discussions is being generated by the Technical Working Group, coordinated by Jayson Kurtz
- Includes discussions about the reservoir and the river
- We will be discussing flooding and travel today
- You will identify the next topics to address

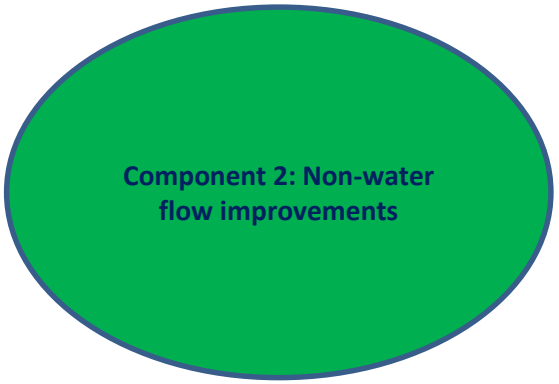


Component 1: Structured Decision Making

Component 1: Water flow-related improvements

Component 2: Non-water flow improvements

- Efforts include:
  - Communication improvements (e.g. ongoing operations, emergency, plan coordination)
  - Mapping
  - Woody/log management
  - Research needs
  - Infrastructure improvements
  - Others
- Non-flow-related improvements coordinated by Rahul



Component 3: Related investigations/processes

- These studies are occurring or will be occurring
  - Feasibility studies on Kenney Dam water release facility
  - Information compilation on Tahtsa Narrow and viability assessment
  - Tributary assessment
  - Recommendation on revising Nechako Fisheries Conservation Program (NFCP) board composition
  - Recommendations on land use planning
- Assess and adjust accordingly when the information is available

Anticipated WEI Outcome

- Package of actions to improve Rio Tinto operations:
  - Water Flow improvements
  - Non-water flow improvements
  - Related investigations/processes
- Structure for ongoing communication and refinement

Communication Working Group Update

- Representatives from City of Prince George and Regional District of Bulkley Nechako held a teleconference
- Key discussion points:
  - In extraordinary cases, where atypical events are occurring or expected to occur, Rio Tinto should issue a special bulletin and use all communication channels
  - Ideally Rio Tinto would produce a calendar outlining typical seasonal flow changes, as well as forecasted flow based on planned events

Communication Working Group Update (2)

- A clear understanding is needed of who to contact within Rio Tinto for different scenarios
- Need for better coordination with Rio Tinto when emergency operations occur. Rio Tinto should identify a point-person who can be contacted (and make them known) when emergencies arise. This person should be available to participate in EOC processes.

Communication Working Group Update (3)

- Greater collaboration is needed on emergency planning. Rio Tinto has their plans and the RDBN theirs. However, it would be useful for RDBN to learn about the scenarios being modelled so they can develop corresponding planning
- Discussed the importance of face-to-face meetings, even on an annual basis. It would be good for City of PG staff such as planners, engineering and public works team members to get to know Rio Tinto staff and vice-versa to support better communication

Communication Working Group Update (4)

- Comment: Flow Facts are great, but the implications of the flows are not always clear and so we would like more explanation of what those flows actually mean
- In the case of an emergency, like engagement to mean being part of the decision-making process rather than being told of the decisions after the fact
- **Planning follow-up Communication Working Group meeting to advance improvements**

November 20, 2019 Meeting summary

- Distributed to meeting partcipants on November 27, 2019
- No suggested content revisions
- Participant comments related to permission to include their email addresses
- Final version posted on: https://www.getinvolvednechako.ca/wei

January 15, 2020 Main Table teleconference

- Meeting held via teleconference due to the weather
- Meeting summary sent on January 26
- No comments received

Teleconference meeting action items

- **Action item:** TWG to investigate if models are available to assess changes in water temperature targets and associated flows requirement.

Teleconference meeting action items (2)

- **Action item:** TWG to provide a pre-read information package to participants before Main Table meetings.
- **Update:**
  - Communication Working Group summary, TWG summary, flooding backgrounder, and UNBC newsletter provided http://web.unbc.ca/~sdery/datafiles/IRCnewsletter_Dec2019.pdf

Teleconference meeting action items (3)

- **Action item:** Rahul to add communication protocol for ice jams to the WEI agenda.
- **Update:**
  - Rahul to work with interested parties confirm details of this.
  - Is this a logical Communication Working Group task?

Teleconference meeting action items (4)

- **Action item:** Rahul to compile a list of the topics identified by the WEI Table to date. From that, the Table will identify the sequence of topics to discuss at WEI Main Table meetings.
- **Update:**
  - Draft list to be discussed today
  - WEI Table to select topics for future meetings

Teleconference meeting action items (5)

- **Action item:** TWG to investigate impacts to Fraser Lake from the Nechako River. Jayson to touch base with Deborah Jones-Middleton (RDBN Director of Protective Services) for information.

Teleconference meeting action items (6)

- **Action item:** Rahul, Danielle, and Mike Robertson to discuss approach and renew the focus on engaging with residents to gather and compile local information.
- **Update:** Discussions are continuing

Teleconference meeting action items (7)

- **Action item:** Jayson to make overflight photos available to participants.

Teleconference meeting action items (8)

- **Action item:** Rahul to send out agenda/details prior to upcoming meetings.
- **Update:**
  - Agenda distributed for this meeting on February 3
  - Next meeting dates and locations will be confirmed at the end of today

Technical Working Group Update

- Jayson

Small Group Discussions

- Focused discussion
- Intent is to gather further detail on specific topics
- Today, there will be two small group sessions, with two groups in each

Session 1: 11:00 to 12:45 pm

Group 1 discussion topics	Group 2 discussion topics
Property Flooding: Reservoir • Reservoir high water/low water • Reservoir ice flooding Property Flooding Murray Cheslatta • Murray-Cheslatta shoreline high water • Cheslatta gravesites	Property Flooding River • Vanderhoof ice jam • Vanderhoof high water • Fraser Lake backwatering • PG ice jams • PG high water

Session 2: 1:15 to 2:45 pm

Group 1 discussion topics	Group 2 discussion topics
Reservoir travel and activities • Navigation (influence of floating woody debris, flooded trees, rocks, shallow areas) • Boat launches/access • Canoeing • Fishing • Float planes • Tourism	River travel and activities • Canoeing/kayaking • Float planes • Hiking trails • Waterfowl hunting • Fishing • Swimming • Tubing

Performance Measures

- One of the elements we will need to think about is developing Performance Measures (also called evaluation criteria)
- Performance Measures will enable us to compare the alternatives using common criteria

Performance measures

- Performance measure is a measure that can be used to estimate and report the consequences of a management alternative with respect to an objective
- Based on both technical and value-based judgements
- Predicted, not monitored

Alternative No. of Interest: 1

Colour key: Better / Equal / Worse

PM#	PM	Alternative name:	1 WL	2 E	3 B	4 C	5 F	6 D	7 G2	8 H	9 I1	10 I2	11 I3	12 J	13 K
1	Flood Free (days <650 m^3/s at Somass)		12,017	12,017	12,017	12,017	12,017	12,017	12,017	12,017	12,008	12,017	12,017	12,016	11,995
2	Reservoir Rec. days >329.5 m 24 May-15 Oct		82	58	56	57	53	79	63	56	0	0	0	35	0
4	Reservoir Fishing days > 329.5 Apr-Jun		91	79	69	71	66	31	91	69	0	5	5	21	0
5	Arch No Unauthorized Collection days >328 m		302	234	217	221	217	262	264	217	0	79	84	146	45
6	Arch Erosion, days avoid 327 m - 328.5 m		347	336	325	325	325	267	337	339	365	347	346	325	353
7	FN Traditional Use & Study - Reservoir Days		0	0	0	0	0	0	0	0	5	4	4	0	6
8	River naturalized hydrograph 1=Yes 0=No		0	0	0	0	0	0	0	0	0	0	0	1	1
11	Reservoir Trout Spawning m^2		0.0	0.0	0.0	0.0	0.0	50.8	0.0	0	12,934	25	25	10	266
12	Reservoir Trout Rearing m		0.0	0.0	4.4	4.4	4.4	8.8	0.0	4	5,348	5,220	4,002	874	5,630
13	Wildlife habitat Drawdown Zone ha		22	48	52	52	50	39	36	52	216	193	167	73	219
15	Elsie. Steelhead Parr Rearing m		0.8	11.9	11.9	11.9	17.0	2.9	0.8	11.9	11.9	11.9	11.9	11.9	11.9
22	Moran. Steelhead Parr Rearing m		6.1	16.7	17.6	16.7	20.2	6.2	6.1	17.7	17.2	17.2	17.0	17.2	16.7
23	Moran. Steelhead Spawning m		16.2	23.9	26.9	26.9	26.9	16.2	16.2	26.9	23.0	26.5	26.5	28.4	27.9
24	Moran. Coho Fry rearing WUW m		2.3	5.6	5.7	5.6	5.9	2.4	2.3	5.7	5.7	5.7	5.7	5.6	5.6
25	Moran. Coho Spawning m		3.2	4.4	5.1	5.0	5.1	2.8	2.8	5.1	14.5	5.1	5.1	7.1	7.2
29	GCL Shoreline incubation M m^3		29.2	32.8	32.8	32.8	32.8	32.8	32.8	32.8	18.1	32.8	32.8	32.8	32.8
30	GCL Stamp R. migration M m^3		65.4	64.4	64.1	64.4	58.2	33.8	65.5	64.1	15.3	15.3	19.8	59.3	13.9
33	$ Value of energy (millions)		9.6	10.3	10.2	10.2	9.9	9.8	10.9	9.6	6.0	8.1	9.1	9.1	7.1

Figure 6-1: Interactive Colour Coded Excel Spreadsheet to Assist In Comparing Ash River Water Use Plan Operating Alternatives

Alternative No. of Interest: 1

PM#	PM	Alternative name:	1 WL	2 E	3 B	4 C
1	Flood Free (days <650 m^3/s at Somass)		12,017	12,017	12,017	12,017
2	Reservoir Rec. days >329.5 m 24 May-15 Oct		82	58	56	57
4	Reservoir Fishing days > 329.5 Apr-Jun		91	79	69	71
5	Arch No Unauthorized Collection days >328 m		302	234	217	221
6	Arch Erosion, days avoid 327 m - 328.5 m		347	336	325	325
7	FN Traditional Use & Study - Reservoir Days		0	0	0	0
8	River naturalized hydrograph 1=Yes 0=No		0	0	0	0
11	Reservoir Trout Spawning m^2		0.0	0.0	0.0	0.0
12	Reservoir Trout Rearing m		0.0	0.0	4.4	4.4
13	Wildlife habitat Drawdown Zone ha		22	48	52	52
15	Elsie. Steelhead Parr Rearing m		0.8	11.9	11.9	11.9
22	Moran. Steelhead Parr Rearing m		6.1	16.7	17.6	16.7
23	Moran. Steelhead Spawning m		16.2	23.9	26.9	26.9
24	Moran. Coho Fry rearing WUW m		2.3	5.6	5.7	5.6
25	Moran. Coho Spawning m		3.2	4.4	5.1	5.0
29	GCL Shoreline incubation M m^3		29.2	32.8	32.8	32.8
30	GCL Stamp R. migration M m^3		65.4	64.4	64.1	64.4
33	$ Value of energy (millions)		9.6	10.3	10.2	10.2

Examples

'able 4-24: Flood Performance Measure

Performance Measure	Unit of Measure	Description	Measured Where?	Measured When?
Flood Risk[1]	Annual average number of days that flows in the lower Duncan River exceed threshold levels	Three threshold levels have been identified as follows: • 400 m^3/s • *450 m^3/s* • *500 m^3/s* These flows include tributary inflows from the Lardeau River.	Lower Duncan River	Year-round

Performance measure characteristics

- **Complete and concise:** cover the range of relevant consequences under all scenarios
- **Unambiguous:** clear, accurate and widely recognized relationship between the measures and the consequences
- **Understandable:** the performance measures, and the consequences and value-tradeoffs they describe can be communicated

Performance measure characteristics (2)

- **Direct:** measure can report directly on the consequences of interest and provide enough information that informed value trade-offs can be made
- **Operational:** measure can be readily put into practice within the constraints of the planning process

Small group reporting categories

Issue/interest	
Sub-issue	
Locations: General area or Site-specific	
Timeline/season	
Duration	
Consequence	
Conditions	
Link to Rio Tinto operations	
Objective	
Performance Measure	

Topic sequence discussion

- Salmon
- Sturgeon
- Resident fish species
- Wildlife
- Archaeological sites
- Erosion
- Power production
- Cattle
- Ice jams
- Waterfowl
- Health of the river
- Flooding (today)
- Travel (today)

WEI Future Meeting Dates

- Next meeting dates (to be confirmed by the WEI Main Table))
  - WEI Meeting, Wednesday, March 18
  - WEI Meeting, Wednesday, April 15
- Possibility of 2-day meetings?
- Spring field trip?
- Summer field trip, Cheslatta

Communication

- Recent articles
- WEI Process Guiding Principles
- “Media can be used to share information about the process. The form of media used could include radio, television, print, or social media. The information content and form of media will be approved by participants prior to release. Rahul Ray will be the media spokesperson for the Table.”

Thank you!