

WEI Main Table meeting #21

TWG Update

Wednesday, June 16, 2021



Summary

- *Meetings and participation*
- *Update on ongoing tasks*
- *Forward-looking to support next phases:
(alternatives, modeling, trade-off analysis)*

TWG meetings and participants

- *Continue with bi-weekly meetings*
 - *Except for May 26 – conflict with Nechako Watershed Roundtable spring technical meeting*
- *Great participation from members:*
 - *Duncan, Nikolaus, Dan*
 - *Wayne*
 - *Stephan*
 - *Non TWG-members: Kevin, Gary*

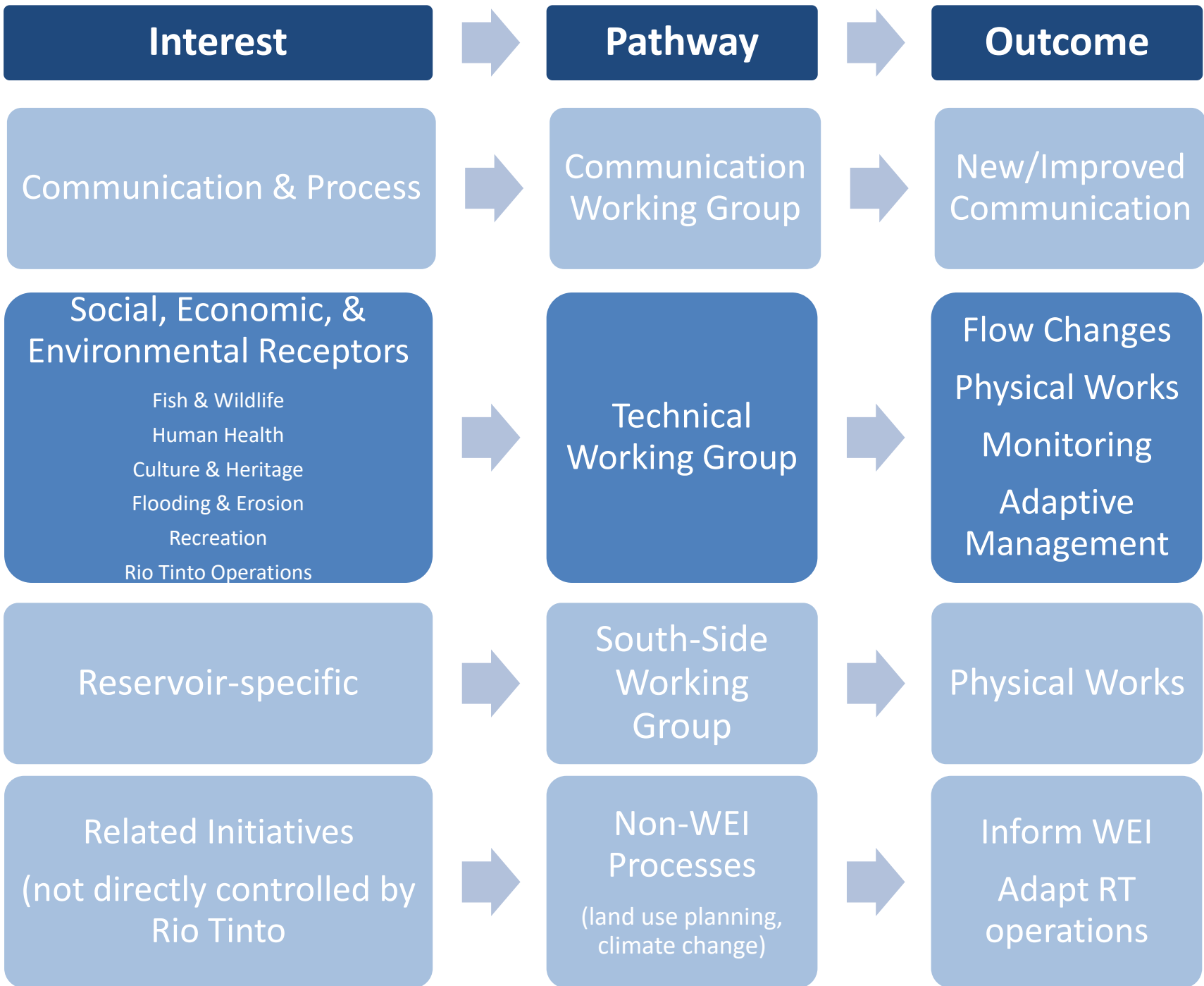
NWR spring technical meeting

- Great participation from WEI participants
- Connecting water and land use planning
- WSA presentation from BC
 - Water Sustainability Plan – ordered by Gov't unlike WUP which are proponent-led
- Lakes Monitoring program – Wayne
 - Deep water capable water quality equipment
 - WQ assessments
 - Monitoring will begin on Takla and Trembleur Lakes looking at WQ and productivity.
- Integrated Watershed Research group – same info Stephan has been providing to us.
- Breakouts:
 - Strategic Goals and Actions
 - Stewardship portal partnership
- Discussion on how NWR can support technical and on the ground projects.

TWG ongoing tasks

– 4 main tasks:

- *Brainstorm/scope remaining interests*
 - *Very close to “complete”*
- *Technical work and data summaries*
- *Develop PMs*
- *Prepare modeling*



Fish and Wildlife

Interests

- Healthy river/natural hydrograph
- Chinook, sockeye salmon
- Trout, kokanee
- Sturgeon
- Habitat restoration
- Productivity
- **Mussels**

TWG Studies

- Naturalized hydrograph (complete)
- Salmon temperature tolerance review (**final review**)
- **Non-salmon temperature review (in progress)**
- Ramping assessment River (**final review**)
- Entrainment assessment (**final review**)
- **Reservoir spawning tributary mapping (pending)**
- Productivity, water quality, temperature assessment (in progress)
- Habitat suitability assessment (in progress)
- Temperature/flow analysis (in progress)
- Bathymetric/topographic mapping (**in progress**)
- Habitat/side channel confirmation (**in progress**)
- **Mussel species backgrounder (in progress)**
- **Fish/aquatics information matrix (in progress)**

Fish and Wildlife

Interests

- Caribou, moose
- Beaver, muskrat, river otter
- Waterfowl, shoreline-nesting birds
- Osprey, cormorant
- Habitat restoration
- Cottonwood/Riparian

TWG Studies

- Reservoir standing trees summary (final review)
- Wetland assessment (final review)
- Review of wildlife species & habitat use (final review)
- Cottonwood review (in progress)

Human Health

Interests

- Water Quality
- Methyl Mercury

TWG Studies

- WQ site summary (complete)
- Water Intake BMPs (complete)
- *100% complete*

Culture & Heritage

Interests

- Inundation and erosion of gravesites

TWG Studies

- None

Flooding and Erosion

Interests

- Flood risk
- Vanderhoof flooding and ice jams
- Prince George ice jam
- Fraser Lake backwatering
- Miworth erosion
- Murray-Cheslatta erosion
- Reservoir erosion
- Riverbank erosion
- Water level & fences

TWG Studies

- Naturalized hydrograph (complete)
- Vanderhoof ice jam study (**complete**)
- Detailed bathymetric/topographic mapping study (**in progress**)
- RDBN flood mapping (in progress)
- Canvass landowners (pending)
- *50% complete*

Recreation & Navigation

Interests

- Boat launches & docks
- Dead standing trees
- Beaches
- Canoeing
- Float plane
- Hiking trails

TWG Studies

- Float plane bathymetry (complete)
- Reservoir navigation assessment (pending)
- *50% complete*

Rio Tinto Operations

Interests

- Aluminum production
- Power sales
- Operational flexibility/
hard constraints
- Drought management
- Flood management
- Safety

TWG Studies

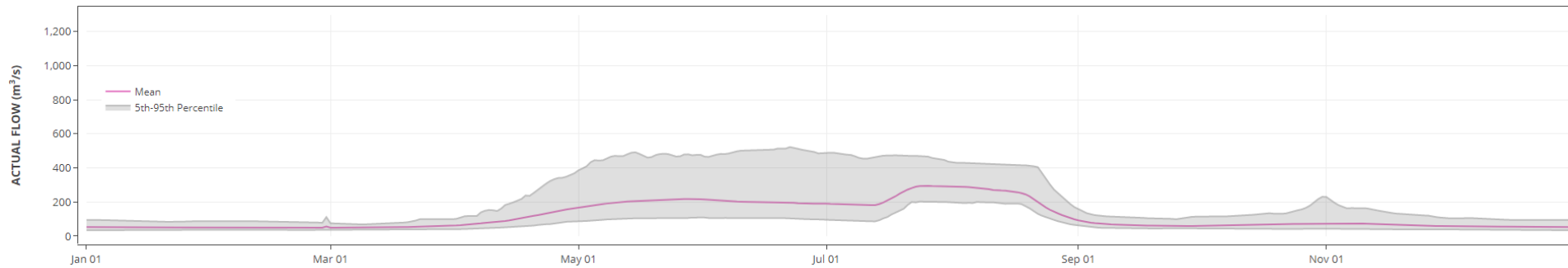
- tbd

Modeling

- Predict how well different flow alternatives meet each interest (calculate consequence table)
- Scientific approach calibrated with existing data
- Allows us to manipulate variables (water volume, discharge timing, hard and soft constraints)
- main models:
 - Reservoir optimization model
 - Reservoir Digital Elevation Model
 - River hydrodynamic model
 - Temperature model
 - PM-specific models
 - fish habitat suitability
 - reservoir productivity

Study Summary – Naturalized Hydrograph

Actual Flows



Naturalized Flows

