

AEP Transboundary Waters Update



Presentation to MPWA

Carmen de la Chevrotière, TW Team Lead

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Outline

1. Transboundary Agreements
2. BC Hydro Site C Project
3. Wood Buffalo National Park Action Plan
4. Water Planning and Transboundary Links

Transboundary Agreements

Status

MRB Transboundary Waters Master Agreement

- Mackenzie River Basin Board
 - Meets four times per year
 - Shares detailed [agency reports](#) once per year
 - Prepares [annual reports](#)
 - Oversees sub-committees, currently active:
 - Traditional Knowledge and Strengthening Partnerships Steering Committee (TKSPSC)
 - State of the Aquatic Ecosystem Report (SOAER) Steering Committee
 - Water Quality Task Team
 - Recently updated the [SOAER](#) (Aug 2021)
 - Work continues to improve its capture of Traditional Knowledge

AB-NWT Agreement

- Signed in 2015
- Work cooperatively to implement commitments
- Three annual reports published
 - [2015-16](#)
 - [2016-17](#)
 - [2017-18](#)
- 2018-2020 annual report will be published in 2021

AB-NWT Agreement

- Water quality
 - analyze interim triggers and trends for a variety of parameters
- Water quantity
 - analyze interim water quantity triggers for aquatic ecosystem health

AB-NWT Agreement

- Biology: learning for developing biological objectives
 - Slave River: large- and small-bodied fish monitoring program
 - Hay and Slave: sampling for benthic macroinvertebrates
- Groundwater: learning
 - Mapping buried channels
 - Mapping permafrost, based on remote sensing methods

AB-NWT Agreement

- Traditional Knowledge (TK) Working Group established
 - developing framework to braid TK and science
- Climate change
 - Started gathering information on climate change implications transboundary waters

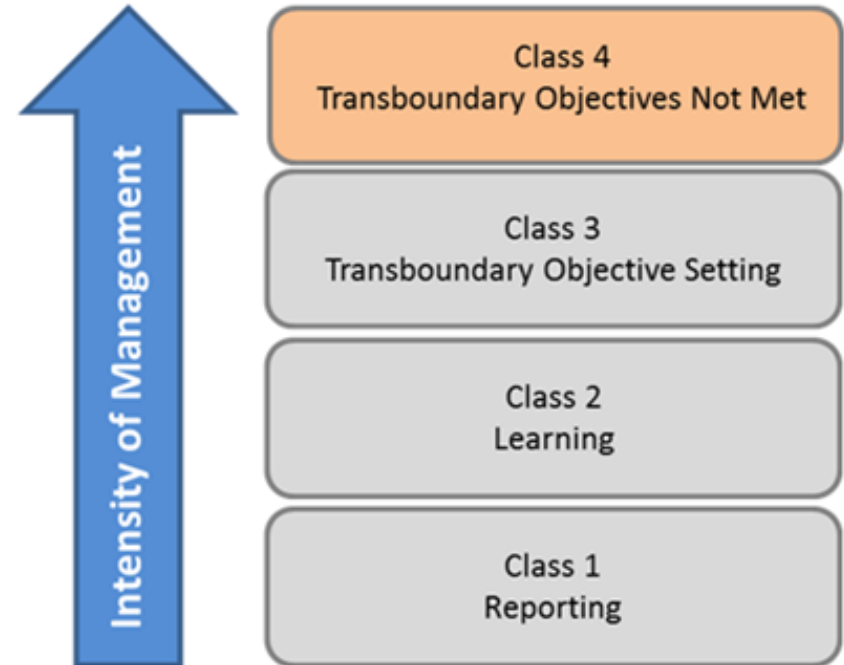
SK-AB Bilateral Water Management Agreement

- BC-AB-SK-NWT Multi-lateral work (2010-14)
 - Agreement categories
 - Risk Informed Management approach
 - Bilateral Management Committee
 - Approve annual budget and appropriate funds for bilateral work
 - Establish priorities
 - Forum for sharing, notification and consultation
- In progress but moving slowly

Risk Informed Management Approach

The nature and intensity of Bilateral Management and Jurisdictional Water Management increase from Class 1 to Class 3 (varying levels of learning, Transboundary Objective-setting, monitoring, etc.).

Class 4 occurs when Transboundary Objectives are not met, indicating that the Ecological Integrity of the Aquatic Ecosystem may not be being maintained.



BC-AB draft Agreement

- Same basis from multi-lateral work (2010-14)
- Peace River Special Provisions
 - Flow regulation will remain
 - Work together to identify and implement measures to enhance the condition of the aquatic ecosystem
 - Continue the AB-BC Joint Task Force on Peace River Ice
 - To influence freeze-up and break-up of Peace River at Town of Peace River
- In progress but moving slowly

BC Hydro's Site C Project

Status

General Conditions and Low Flows

- Approval conditions
 - Compliance monitoring by regulators (ECCC and BC Gov.)
- Connections: BC Hydro ➡ AEP Feb 2020
 - info. on construction of Peace River diversion tunnel
 - flow changes anticipated in summer 2020
- AEP actions:
 - Regulatory Assurance updated list of *Water Act* licence holders
 - During construction: BC Hydro ➡ AEP Forecast Centre ➡ Alberta Transportation and AEP Regulatory Assurance ➡ licensees

Emergency Management Concerns

- Minister Nixon ➡ AEP Staff
 - letters and concerns from municipal leaders
- Transboundary Team ➡ Gov. of BC and BC Hydro
- Responsibilities:
 - BC: emergency/cascade dam failure flows at BC-AB border
 - BC: emergency management plan to BC-AB border
 - AB: emergency management plan BC-AB to AB-NWT border
 - Updated as required (about every 15-20 years)
- Run-of-river dams' reservoirs (Site C, Dinosaur): much less storage than Williston

Next Steps

- Adaptive Management Plan, reservoir filling low flows
 - BC Hydro will be working with Alberta
 - AEP will use learnings from low flows during tunnel construction
- Emergency Management Plan, update in progress
 - Inundation study recently updated for current dams (2020-21)
 - AEP will engage affected communities, emergency managers
 - BC: will provide updated emergency flows after Site C completed
 - Affected communities not likely to change

Emerg. Management Plan Communities

- Dunvegan Settlement
- Verte Island - Township 800A
- Shaftesbury Settlement
- Town of Peace River
- County Of Northern Lights
- Paddle Prairie
- La Crete
- Town of Fort Vermilion
- North Vermilion Settlement
- Fox Lake
- Garden Creek
- Wood Buffalo National Park
- Peace Point
- Fitzgerald (Smith Landing) Settlement

Wood Buffalo National Park (WBNP) Action Plan

Status

WBNP Action Plan

- Environment and Climate Change Canada (ECCC) leads Environmental Flows and Hydrology (EFH) actions
ec.efh-hde.ec@canada.ca
- Parks Canada leads Monitoring and Science actions and Cooperative Management Committee for WBNP
- [Newsletter updates](#)
 - <https://www.pc.gc.ca/en/pn-np/nt/woodbuffalo/info/action>
 - https://www.pc.gc.ca/en/pn-np/nt/woodbuffalo/info/action/SEA_EES/bulletin
- Implementation guided by coordinating committee, with task teams driving project specific work collaboratively with government and Indigenous partners

WBNP Action Plan Task Teams

with AEP membership

- Environmental Flows and Hydrology (EFH) Working Group Task Teams
 - Water Control Structures Task Team
 - Strategic Flow Release Protocol Task Team
 - Terms of Reference Task Team (not currently active)
 - Information Sharing Task Team
 - Indigenous Task Team
- Monitoring and Science Task Teams
 - PAD Monitoring, Science and Indigenous Knowledge Task Team
 - Non-PAD Monitoring, Science and Indigenous Knowledge Task Team

EFH Current Status

- Water Control Structures—preliminary design for two new structures in the PAD
- Strategic Flow Release Protocol—focused on gathering data from ice break-up 2020
- Environmental Flows Framework Development—ECCC is working towards the development of a Level 1 EFH framework leveraging existing knowledge, data and key indicators, as well as initiating work on necessary hydrological/hydraulic models
- Planned Structured Decision Making (SDM) work to inform strategic flow release protocol development & control structures operation

Transboundary Linkages to Water and Watershed Management Planning

Drivers for Water and Watershed Management Planning

- Need for decision making guidance, AEP authorities:
 - *Environmental Protection and Enhancement Act* approvals
 - *Water Act*: licences and approvals for activities
 - *Public Lands Act* approvals
- Consideration of cumulative effects in decision making
 - Environmental Management Frameworks

Pressures on Water

- Some pressures:
 - Water licences—water diversions: taking, storage, redirecting
 - Activities in and near water bodies
 - Treated discharge
 - Land use in basin
- Both inside and outside of Alberta
- Cumulative effects of above

Transboundary Agreements

- Border outcomes—bilateral agreements
- Peace River basin, Alberta is mostly downstream
- Bilaterals have Risk Informed Management approach
 - Bilateral Management Committees—classification/prioritization
 - Learning (Class 2), monitoring near border important
 - Objective setting at Class 3
- MRBB Water Quality Task Team (YK, BC, AB, SK, NWT)
 - Common approaches to assessing changes to water quality

Questions



Transboundary Mailbox: AEP.TWS@gov.ab.ca

Information Resources

Information Resources

- MRBB
 - [Agency reports](#)
 - [Annual reports](#)
 - [SOAER](#)
 - AB-NWT annual reports ([2015-16](#), [2016-17](#), [2017-18](#))
- WBNP
 - [Newsletter updates](#)
 - EFH Questions: ec.efh-hde.ec@canada.ca

Resources—Monitoring

Environmental Monitoring

- AEP: [Water Quality Data Portal](#); [GOWN](#)
- ECCC: [Freshwater Quality Monitoring](#)
- Joint programs (e.g. [Hydrometric Agreements](#), [OSM](#))
- Community, municipal

Regulatory Monitoring

- [AEP](#), [AER](#), ECCC approvals
- ECCC, BC Energy Regulator and Gov. approvals
 - [Site C: Construction Newsletters, Permits, Reports](#)