



**WAPITI RIVER**  
WATER MANAGEMENT PLAN

# Wapiti River Water Management Plan

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## **Summary**

Wapiti River Water Management Plan Steering Committee

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# Summary

The Wapiti River basin lies within the larger Smoky/Wapiti basin of the Peace River watershed. Of all basins in the Peace River watershed, the Wapiti basin has the highest concentration and diversity of human water withdrawals and municipal and industrial wastewater discharges. The Wapiti River Water Management Plan (the Plan) was developed to address concerns about water diversions from the Wapiti River, particularly during winter low-flow periods and the potential negative impacts to the aquatic environment.

In response, a steering committee of local stakeholders including municipalities, Sturgeon Lake Cree Nation, industry, agriculture, the Department of Fisheries and Oceans Canada, and the Mighty Peace Watershed Alliance (MPWA), supported by technical experts from Alberta Environment and Parks (AEP), was established. The steering committee initiated the development of a water management plan that includes a Water Conservation Objective (WCO) and management recommendations for the Wapiti River basin from the British Columbia border to its confluence with the Smoky River. A WCO is a limit to the volume of water that can be withdrawn from the Wapiti River, ensuring that water flow remains in the river system to meet ecological objectives.

The Plan provides guidance and recommendations on balancing the needs of municipal water supply, industry uses, agriculture and other uses, while maintaining a healthy aquatic ecosystem in the Alberta portion of the Wapiti River basin.



## Purpose and Objectives of the Plan

The Plan will be provided as a recommendation to AEP and if adopted, would form policy when making water allocation decisions under the *Water Act*, and where appropriate, under the *Environmental Protection and Enhancement Act* by establishing a WCO for the Wapiti River. The WCO will be the policy tool to manage water allocations in the Wapiti River mainstem and tributaries in a manner that balances environmental, cultural, social and economic values influenced by instream flows. The Plan addresses water licencing limits for the Wapiti River basin for the future health of the aquatic ecosystem.

The plan provides a recommendation for:

- The amount of water available for allocation for withdrawal for human needs; and,
- The amount of water required to protect the health and integrity of the Wapiti River aquatic ecosystem.

More specifically, the objectives of the plan are to:

- Recommend a WCO to AEP and the Alberta Energy Regulator (AER) that balances water consumption and protection of the aquatic environment, while taking into consideration environmental, social, cultural, and economic interests by:
  - determining the current water allocation, demand and supply for the Wapiti River;
  - estimating potential future water demand and supply within the Wapiti River basin;
  - considering Indigenous perspectives on rights and traditional land uses in the area; and
  - developing a science-based environmental flow needs assessment that includes water quantity, water quality, and habitat and aquatic species requirements necessary for protection of the aquatic environment.
- Create a foundation for future watershed management planning by:
  - providing a comprehensive account of the major issues, challenges, priorities and objectives within the watershed; and
  - prioritizing key watershed issues and challenges that should be considered in a future watershed management plan.

The Plan is based on a 25-year time horizon of predicted water demands in the region. It was developed with the best available scientific information at the time and considerations of social, cultural, and economic interest of stakeholders and Indigenous communities and people. The Plan will be amended or updated, if circumstances change, or if there is a need to address significant adverse effects on the aquatic environment not reasonably foreseeable at the time of plan development.

## Regulatory and Policy Context

The Plan provides allocation guidance through recommendations as a WCO, outlined in the *Water Act* as:

*“...the amount and the quality of water, established by the Director...based on information available to the Director, to be necessary for the*

- i. protection of a natural water body or its aquatic environment, or any part of them,*
- ii. protection of tourism, recreational, transportation or water assimilation uses of water, or*
- iii. management of fish and wildlife,*

*and may include water necessary for the rate of flow of water or water level requirements.”*

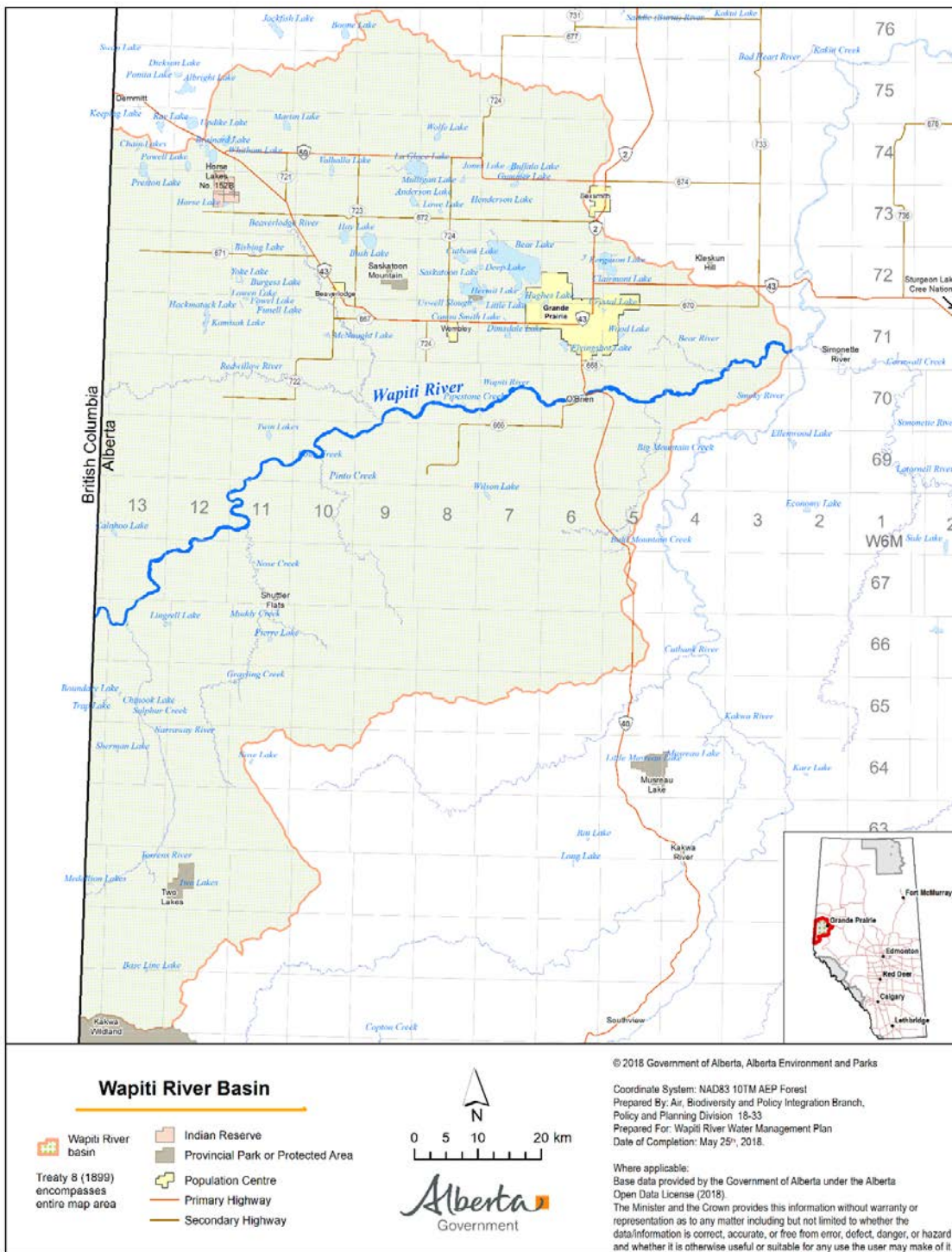
A water management plan must be considered by AEP and the AER when making decisions regarding water allocations within the physical area covered by the Plan (Alberta Environment, 2001). The WCO is incorporated into the terms and conditions of the approvals and licences under the *Water Act*. The approval holders are required to comply with the WCO conditions and report to AEP.

## Geographic Area

The geographic scope for the Plan is the Alberta portion of the Wapiti River basin, from the British Columbia border to where the Wapiti River joins with the Smoky River, including all tributaries (see Figure 1).

While the water management planning process pertains to the entire Wapiti River basin, assessments focused on areas of highest impact or projected development, in particular the Wapiti River mainstem downstream of the Redwillow River to where it joins with the Smoky River.

All new water allocation authorizations in the Alberta portion of the Wapiti River basin are subject to meeting the WCO. New water allocation authorizations in the Alberta portion of the Wapiti River basin may also be subject to their own reach or water body specific objectives, WCOs, or other regulatory requirements, in addition to this Wapiti River WCO.



**Figure 1.** The Wapiti River Water Management Plan encompasses the Alberta portion of the Wapiti River basin from the British Columbia border to the confluence with the Smoky River.

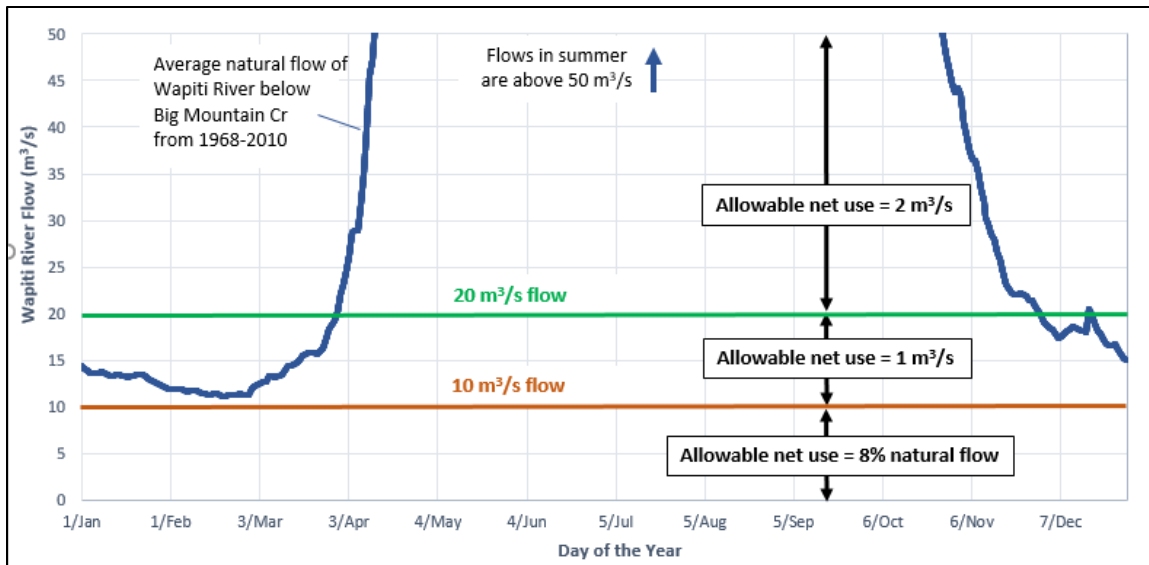
## The recommended Water Conservation Objective (WCO)

- When natural flow in the Wapiti River below Big Mountain Creek is above 20 m<sup>3</sup>/s: net water use up to 2 m<sup>3</sup>/s is allowed in Wapiti River Basin;
- When natural flow in the Wapiti River below Big Mountain Creek is between 10 m<sup>3</sup>/s and 20 m<sup>3</sup>/s: net water use of up to 1 m<sup>3</sup>/s is allowed in Wapiti River Basin; and
- When natural flow in the Wapiti River below Big Mountain Creek is less than 10 m<sup>3</sup>/s: net water use of up to 8% of natural flows is allowed in Wapiti River Basin.

To ensure that water flows safeguard ecological integrity in the Wapiti River system, the WCO limits the volume of water that can be withdrawn from the river depending on the amount of flow occurring in the river. During lower flow periods, the amount of water allowed for diversion is reduced to minimize impacts to the river system. The WCO is presented in table form (Table 1) and in graphic form (Figure 2) to illustrate how maximum water usage is managed on the Wapiti River.

**Table 1.** Wapiti River Water Management Plan Water Conservation Objective table.

Wapiti River Water Management Plan WCO			
When natural flows at Wapiti River below Big Mountain Creek are:	<10 m <sup>3</sup> /s	10 – 20 m <sup>3</sup> /s	>20 m <sup>3</sup> /s
Net water use allowed in the Wapiti River basin is limited to:	8% of natural flow	1 m <sup>3</sup> /s	2 m <sup>3</sup> /s



**Figure 2** The Wapiti River Water Management Plan water allocation limits relative to flow conditions.

The WCO will be applied to:

- all new surface water allocation authorizations in the Alberta portion of the Wapiti River basin under the *Water Act*;
- the junior licence (2013) of Aquatera Utilities; and,
- where a provision exists and the Director finds cause, may be applied to other licences subject to renewal under the *Water Act*.

All other existing water allocation authorizations shall retain their original conditions, including any instream objectives specified. This includes any existing water allocations issued to First Nations and Metis Settlements.



## Actions for Implementation of the WCO

The Plan contains the following supportive actions to implement the WCO:

- Continue advancing a coordinated aquatic ecosystem health monitoring approach among water licence holders.
- Implement a reliable method for determining reference natural flows.
- Report cumulative water use in the Wapiti River basin.
- Review the Plan's implementation progress with the communities within the Wapiti River Basin at least every five years.
- Review the WCO every 10 years.
- Review of the Plan may be triggered if:
  - a) significant new allocations are approved in the British Columbia portion of the basin;  
or
  - b) net water use for existing water licence holders is greater than what was assumed in the future water use scenario.

## Recommendation for Future Watershed Planning

Cumulative effects of a large and growing population, a range of growing industries and the need to manage water for several purposes, including ecological, are difficult to quantify and even more difficult to predict. Thus, it is prudent to pursue additional management approaches that will maintain and conserve the ecological function of this system. To this end, the Plan includes a recommendation to complete a watershed management plan or source water protection plan for the Wapiti River watershed that considers cumulative watershed impacts and solutions. A watershed management plan should address and incorporate the following issues:

- Flow
- Water quality
- Riparian and wetland areas
- Aquatic habitat uses

A WCO could result in being ineffective if activities such as clearing, development, agricultural runoff, loss of wetlands or increased angler harvest are not effectively addressed. A watershed management plan or source water protection plan will help identify risks to a resource that may be under stress in the future and allow for proactive management and mitigation to occur.