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January 25, 2021

Roger Reid, MLA
Livingstone-Macleod
618 Centre Street SE
High River, AB
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Dear Mr. Reid,

Thank you for inviting us to participate in your initial consultations with stakeholders regarding possible changes to the Oldman Basin Water Allocation Order. We are pleased to provide this written feedback from a neutral, science based perspective that takes into account all perspectives, and tries to balance the economic, social, and environmental needs of our community. We have shared not only a scientific perspective, but also what we are hearing from our stakeholders.

We look forward to further discussions with you on this topic and are available to answer any questions that you have.

Economic Opportunity

We understand the need for economic opportunities and our goal is to ensure economic activities have maximum benefit for Albertans while having a minimal impact on the health of the natural assets that sustain us. We appreciate that you have tough decisions to make and that the Government of Alberta has many competing interests to consider.

Based on our years of working on watershed health, we know that water touches on all aspects of economic security and prosperity. Indeed, attending to the health of the watershed means attending to all the economic activities implicated in its allocation, from farming and ranching to tourism and recreation to questions of Indigenous resilience and health, and all the small business attendant on these various economic activities. Watershed health, after all, encourages us to see the full range of relations involved in its management and their economic impacts.

Public Consultation Needed

Changes to the Order have a strong potential to impact other water users, the health of our natural resources, and our communities, therefore we recommend broad public consultation is needed to explore these potential impacts as well as mitigation strategies. In our years of experience leading complex planning processes we have always found that stakeholders are willing to tackle tough issues with open minds and look for innovative solutions together when given the opportunity.

First Nations water rights require particular attention to ensure Alberta is doing its part to uphold Treaty Rights and support Indigenous communities. We understand that discussions about Indigenous water rights are ongoing between the federal and provincial governments and First Nations, and that those discussions and decisions will need to be respected. The long term implications will need to be addressed for the watershed and other users.

We recommend the Government of Alberta to undertake an open and transparent facilitated stakeholder consultation process before any changes are made.

Increased Monitoring, Evaluation and Reporting Needed

If the proposed changes are made, we recommend increased monitoring of the creeks/rivers where new withdrawals are being made, and downstream. Regular monitoring of stream flow and water quality will identify any new or elevated risks to the health of the aquatic ecosystem and downstream users.

If stream flow is reduced while simultaneously pollution is increased, this could have a synergistic and amplifying effect on the health of the aquatic and riparian ecosystem, and on water quality downstream. Frequent monitoring will be critical to provide early warning of problems so that mitigation strategies can be quickly employed as needed. For example, the release of clean water from settling ponds could be timed to increase stream flow during a low flow period.

Evaluation of the monitoring data, and timely reporting must be easily accessible by the public to increase public trust in the regulatory process.

In-Stream Flows

We understand that 11,000 acre feet of water seems proportionally small relative to stream flows in the entire Oldman watershed. However, the creeks and rivers upstream of the Oldman Reservoir are small and the impacts of even minor flow withdrawals could be significant. The impacts of withdrawals need to be understood at the creek level. We understand that this information will be provided in Environmental Impact Assessments and water license applications, and we will appreciate having the opportunity to provide feedback on those as they become available.

Our understanding is that the original intent of the Order was for withdrawals to be made from the Oldman Reservoir and primarily for irrigation. The proposed change in use away from seasonal irrigation to other year-round uses, and the likely change in withdrawal point creates vulnerability for any smaller creeks that will be dewatered, especially in dry years. In dry years our upstream creeks are already stressed and additional withdrawals will cause additional stress. It is a concerning trend that flow has decreased significantly along several rivers in the headwaters of the Oldman watershed, especially in mid to late summer. This decrease in water availability poses a serious risk to our communities and our stream environments that must be carefully considered.

We strongly support the proposal to set aside 2200 acre feet annually to maintain functional flows instream, however we are concerned that this volume alone may not be adequate given the high vulnerability of small headwaters creeks. The impacts of streamflow alterations will depend on flow magnitude, timing, duration and frequency as well as the water's quality. Without knowing details such as where and when withdrawals will be made, it is impossible to determine what the associated impacts will be.

Since detailed studies to determine instream flow needs are only available for the much larger mainstem rivers, we strongly recommend studying the instream flow needs of any affected small creeks before allocations are licensed that could jeopardize the health of our critical headwaters tributaries. In the meantime, enough water should be reserved to fully protect the environment. In situations such as this, where streamflow is not well documented, it would be prudent

to use the Alberta desktop method for determining environmental flows that recommends a maximum 15% reduction to natural flows and no reductions to naturally occurring extreme low flows (those with exceedances of 80 to 100%)¹.

In our 2010 Oldman River State of the Watershed Report² we found that some streams, like the Castle River, Willow Creek and Beaver Creek, are sometimes having trouble meeting minimum flows already. New allocations could further exacerbate low stream flows, especially in late summer and winter when flows are lowest.

Reduced flows can damage the functioning of riparian and aquatic ecosystems, and thus reduce the services they provide us. Healthy riparian vegetation intercepts and filters overland runoff, and stabilizes stream banks and thus prevents excessive sedimentation. To ensure these services, it is important to maintain riparian vegetation by protecting low flows. Similarly, a healthy aquatic ecosystem improves water quality through nutrient assimilation, which reduces the effort and cost of water processing for towns and cities.

We strongly recommend new water withdrawals be made from the Oldman reservoir as much as possible, followed by using the next largest stream possible, and minimizing withdrawals from small streams. Because of their small flows, small creeks are disproportionately impacted by withdrawals and we don't have a full understanding of those impacts. This strategy would also minimize the risk of water shortage for license holders. In addition, whenever possible withdrawals should be made during periods of high flow, like spring melt, and stored to minimize impacts on the environment and downstream users.

A key finding of the 2018 Review of the SSRB WMP completed by Watershed Planning and Advisory Councils states:

The Plan recommendations (water conservation objectives, holdbacks and allocation limit) were intended to reduce the risk of further degradation of the aquatic environment, and some gains in conservation have been made. More needs to be done, however, to restore and protect the long-term health of the aquatic and riparian environment, with particular attention to the implications of changing water pattern use through allocation transfers on the tributaries. As part of this, water supply for economic growth, municipal growth and other needs will need to be matched with aquatic environment requirements.

New Water License Applications

We would like the opportunity to provide feedback on all new water license applications and appreciate that there are plans underway to make this process easier. We look forward to learning more about the new process. Once we know the location, amounts and timing of new withdrawals we will be able to provide more site specific feedback to the Government of Alberta.

We are reassured that applicants will be required to provide a statistical analysis of impacts on stream flow, instream flow needs and other users, as well as a water shortage response plan. It will be critical for licensees to have their own storage capabilities so that withdrawals are not taking place during low flow periods.

We strongly support making all new water licenses under the Order subject to strict conditions, including water conservation objectives, instream objectives, and regular monitoring and reporting.

¹ Locke, A. & Paul, A., 2011. [Desk-Top Method for Establishing Environmental Flows in Alberta Rivers and Streams](#). Report prepared for Alberta Environment and Alberta Sustainable Resource Development. Edmonton, Alberta. 100 pgs.

² Oldman Watershed Council, 2010. [Oldman River State of the Watershed Report 2010](#). Oldman Watershed Council, Lethbridge, Alberta. 284 pgs.

Because of the importance and sensitivity of these headwater streams, we strongly advise the Government of Alberta to include a clause to prevent transfers of any new water licenses approved under the Order, so that once the water is no longer needed by the original licensee, it reverts back to the Crown and cannot be sold on the transfer market.

Challenges in Dry Years

Over the past thousand years the Oldman Watershed has experienced many multi year droughts, some lasting for a decade or more. If another multi year drought occurs many existing licence holders would not be able to withdraw their allocation, with junior license holders being hit the hardest. New licences permitted under the Order with a date of 2003 would likely be significantly impacted in a drought so their risk is higher. It is unclear how large industrial users like coal mines would operate in a drought, especially a multi year drought.

The most recent climate change analysis has shown that the prairies of Canada are warming 3 times faster than the rest of Canada, and are experiencing shifts in precipitation patterns. More precipitation is occurring in Spring and Autumn, and less in summer. Analysis of flow trends has shown a decrease in many of our upstream rivers which means there is less water available when we need it most because it is hotter and evaporation is higher.

We recommend all new licensees are required to develop climate change preparedness plans that include planning for multi year drought.

Impacts on the Water Transfer System

The proposed changes to the Order will likely have unintended consequences for economic development in the region. Developers will likely favour the region upstream of the Oldman Reservoir because they can access water for free, rather than paying for a costly license transfer downstream. This inadvertently gives a competitive advantage to one region, while possibly taking away opportunities for another region.

Because the Oldman River watershed is a closed basin and the water available under the Order is the only water available for new licenses, the proposed change in use of the water has unique implications. The water market transfer system allows transfers to move within the system and careful consideration of the impacts of these movements is necessary. For example, if withdrawals are transferred downstream to rivers that are already stressed from low flows, this could be an issue for watershed health. Consideration should be given to limit transfers that result from the change in use within the Order.

Agricultural Concerns

The proposed changes to the Order decrease the amount of water available exclusively for irrigation upstream of the Oldman Reservoir and so agricultural stakeholders are concerned and feel they are losing what was promised to them when the Oldman dam was negotiated. In particular, the landowners who lost their land to the reservoir are unhappy that agricultural interests upstream will no longer be the primary beneficiary of the Order. There is also concern that taking away unused allocation sets a precedent for the future where others who are not using their full allocation could lose the portion they are not using.

All unallocated and allocated but unused water that is left instream is of great benefit to the natural river system and all the fish and wildlife that depend on it; water is a stream's most valuable asset. It is also a valuable insurance policy for all downstream users. Water that is left unallocated provides a useful cushion during dry periods to ensure licensees do not get cut off from accessing water because there is not enough left for everyone.

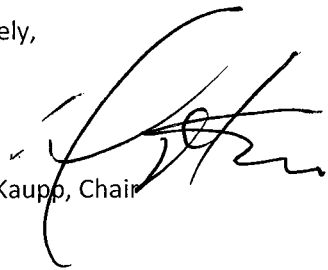
Impacts on Other Licensees

New licenses given under the Order will have a priority date of 2003. The Oldman watershed was closed to new licenses in 2007. So there are presumably licenses given out between 2004-2007 that will be impacted by these new licenses. These license holders should be made aware of the changes so that they can plan for the fact that they are being bumped further down the queue, and in times of shortage will need to be prepared as holders of the most junior licenses.

Thank you for your consideration. Please direct any questions to OWC's Executive Director, Shannon Frank, at 403-317-1328 or shannon@oldmanwatershed.ca. We look forward to your response and discussing the proposed changes with you again in future.

Sincerely,

Doug Kaupp, Chair

A handwritten signature in black ink, appearing to read 'Doug Kaupp', is written over the printed name. The signature is fluid and cursive, with a large initial 'D' and 'K'.

Appendix 1:

A 2010 assessment from OWC's State of the Watershed Report showing that there are declining flow trends on several rivers, and that some rivers are failing to meet minimum flows.

Location	Probability of Annual Trend ⁷ (%)	% of Median Natural Flow		% of Months of Instream Deficits (1992-2001)	
		Allocation	Actual Use	IO	WCO
Mountain Sub-basins					
Crowsnest River near Frank	31	0.1	0.1	1.3	2.5
Crowsnest River near Lundbreck	41	3.2	0.5	2.5	2.5
Castle River near Beaver Mines	25	0.4	0.4	49.3 ⁶	54.5 ⁶
Castle River near Cowley	7	0.9	0.6	39.2 ⁶	44.2 ⁶
Foothills Sub-basins					
Willow Creek near Claresholm	65	11.0	9.5	10.8	17.5
Willow Creek near Nolan	83	25.4	21.1	5.0	18.3
Beaver Creek near Brocket	98	11.9	9.6	38.3 ⁶	40.0 ⁶
Pincher Creek at Pincher Creek	80	7.0	5.4	4.4	42.3
Southern Tributaries Sub-basins					
Waterton River near Waterton Park	59	0.2	0.1	5.8	9.2 ⁶
Waterton River near Stand Off	55	NA ¹	NA ¹	1.7	37.5
Belly River near Mountain View	16	12.6	2.0	1.7	3.3
Belly River near Glenwood	33	NA ¹	NA ¹	0.8	35.0
Belly River near Mouth	6	NA ¹	NA ¹	NA ²	NA ²
Lee Creek at Cardston	21	5.8	2.8	52.8 ⁶	56.0 ⁶
St. Mary River at International Body	17	43.6 ³	27.1 ³	5.8	10.8
St. Mary River near Lethbridge	55	NA ¹	NA ¹	4.2	40.0
Waterton, Belly, St. Mary Rivers below Belly-St. Mary Headworks ⁴		74.7	37.9		
Prairie Sub-basins					
Little Bow River at Carmangay ⁵	97	66.8	58.2	NA	0.0
Little Bow River near the Mouth ⁵	97	68.7	60.1	NA	3.3
Mainstem Oldman River					
Oldman River near Waldren's Corner	5	0.1	0.1	1.3	2.5
Oldman River near Brocket	66	2.1	1.4	9.3	18.0
Oldman River near Fort Macleod	66	37.1	17.4	NA ²	NA ²
Oldman River near Lethbridge	30	56.7	31.8	2.6	20.4
Oldman River near the Mouth	36	59.6	39.0	1.6	16.4

Notes:

¹ Some allocations are to the combined flow of Waterton, Belly and St. Mary Rivers.

² Recorded flow unavailable.

³ Allocation and use is United States entitlement and actual use under Boundary Waters Treaty.

⁴ Combined flow and allocations to Waterton, Belly and St. Mary rivers.

⁵ Median annual flow includes diversions from the Highwood River.

⁶ Most deficits occur due to the Instream Objectives (IO) or Water Conservation Objectives (WCO) being higher than natural flow. In these cases, frequent deficits do not affect the ranking.

Most deficits occur due to the Instream Objectives (IO) or Water Conservation Objectives (WCO) being higher than natural flow. In these cases, frequent deficits do not affect the ranking.

⁷ The probability of an annual trend equals 1.0 minus the p-value determined in a Mann-Kendall analysis. It is an indication of the likelihood of declining flows.

Colour Index: Good; Fair; Poor