

# Water Act Licencing

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Friends of the Blindman River  
August 8, 2024

**Todd Aasen**

Red Deer Approvals/ Drought Basin Lead  
Alberta Environment and Protected Areas  
403-340-7052



# Agenda

1. Water Act Licencing - General
2. Blindman Hydrology
3. Blindman Licence Conditions

# Water Act Licencing - General

# Water Act - History

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- North West Irrigation Act – 1894
- Water Resources Act – 1931
- Water Act – 1999

# Water Act - Purpose

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- To support and promote the conservation and management of water including the wise allocation and use of water while recognizing:
  - Need to manage and conserve water resources to sustain our environment and to ensure a healthy environment and high quality of life in the present and the future
  - Need for Alberta's economic growth and prosperity

# Activities requiring a Water Act Licence

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To divert water and use it from a river, creek, lake, wetland or groundwater source you need a *Water Act* licence (unless exempted).

- Licences can be issued for temporary diversions or longer-term periods
- A licence identifies the water source, location of the diversion site, volume, rate and timing of water to be diverted, priority of the 'water right' established by the licence and any conditions the diversion must adhere to.

# Water Act Licences: Statutory Rights and Exemptions

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- Household purpose
  - statutory right that supersedes all licences
- Tradition Agriculture Registration
  - Priority set on date of first use
- Exempted Agriculture User
  - Can not call Priority
- Schedule 3 of the Water Ministerial Regulation
  - Can not call Priority

# Water Act – Policy examples

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**Environment and Protected Areas (EPA) develops policy. EPA and AER implement the policy.** Examples:

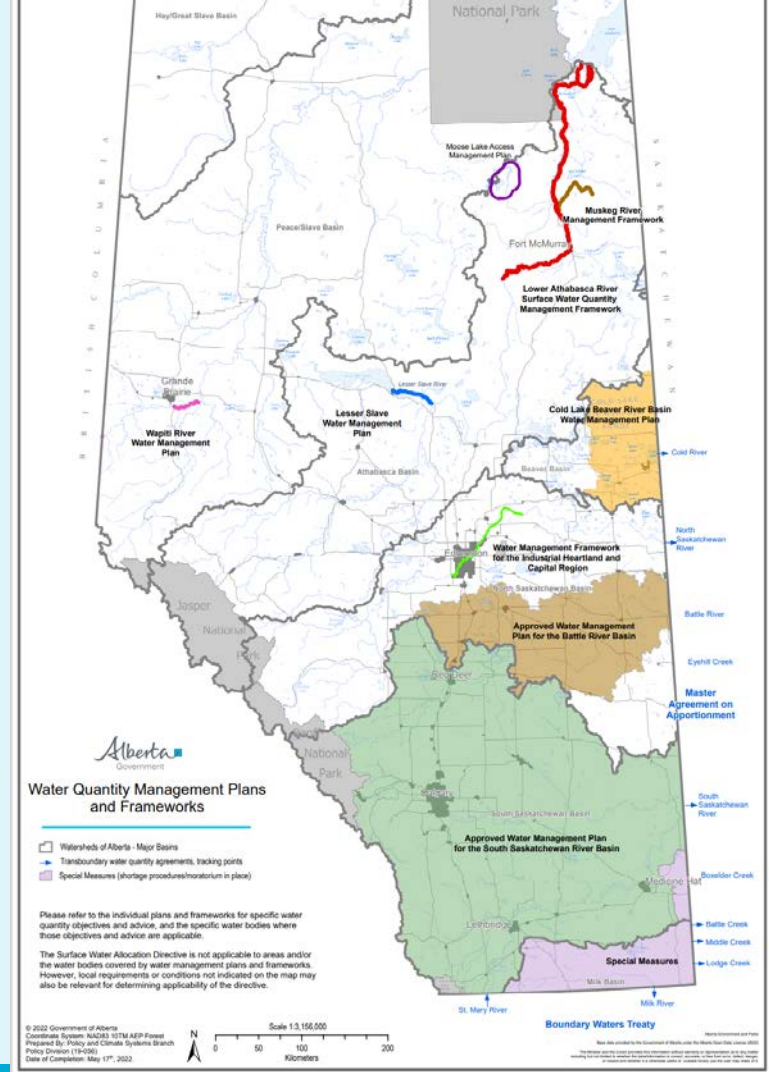
- Approved Water Management Plans
- Water Conservation Objectives and Instream Objectives for specific water bodies
- Surface Water Allocation Directive
- The Water Conservation Policy for Upstream Oil and Gas Operations
- Wetland policy
- Dugouts Borrows and other excavations

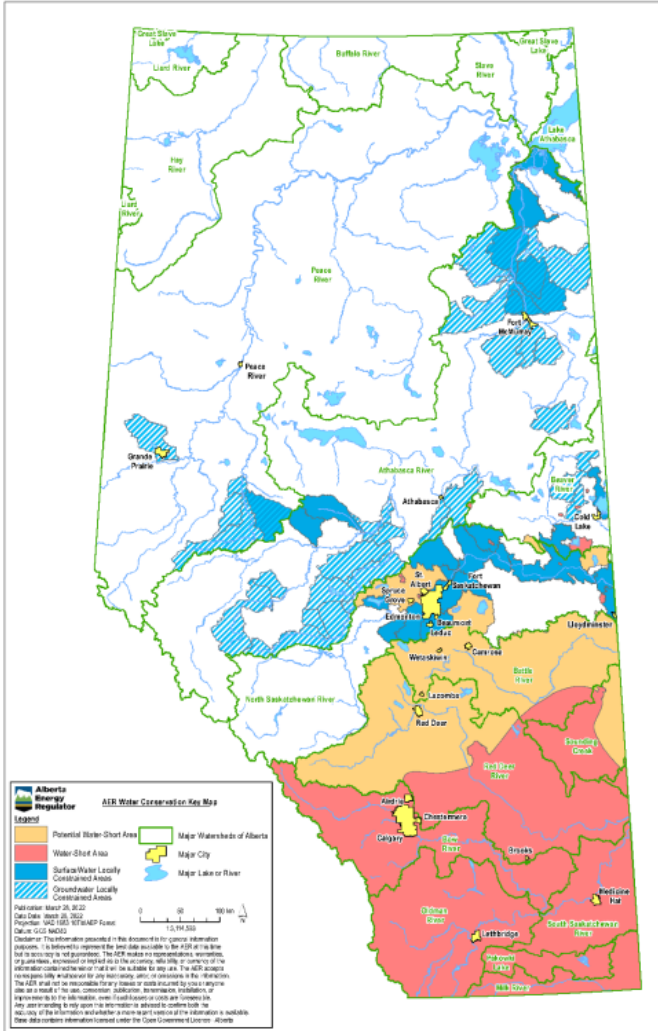


# Water Management Plans and Frameworks

- Wapiti River
- Lesser Slave
- Cold Lake Beaver River
- Battle River
- South Saskatchewan River Basin

Find more information at:  
[www.alberta.ca/water-management-plans](http://www.alberta.ca/water-management-plans)





3	<ul style="list-style-type: none"> <li>High-quality nonsaline water use requested</li> </ul> <p>One of the following:</p> <ul style="list-style-type: none"> <li>Potentially water-short areas (yellow areas depicted in figure 2), or</li> <li>Large-scale project in any location other than a water short area (red areas depicted in figure 2)</li> </ul>	<ul style="list-style-type: none"> <li>Screening-level alternative source assessment with a 10 km radius</li> <li>Screening-level environmental net effects assessment</li> <li>Screening-level economic evaluation</li> <li>Cumulative effects evaluation for large-scale projects</li> <li>A plan to address winter flows in locally constrained areas for surface water diversion</li> <li>A plan to monitor and address impacts to overlying aquifers in locally constrained areas for groundwater diversion</li> </ul>	<ul style="list-style-type: none"> <li>5-year term on new licences</li> <li>10-year term on renewals</li> <li>Drawdown in the production aquifer is limited to 50 per cent of the available head at a distance of 150 m from the production well over the life of the project for groundwater licences</li> <li>Plan for combined use (for large-scale projects)</li> <li>Monitoring and reporting determined on a case-by-case basis</li> </ul>
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Tier	Criteria	Application content recommendations	Typical licence conditions
4	<ul style="list-style-type: none"> <li>High-quality nonsaline water use requested</li> <li>Water-short area (red areas depicted in figure 2)</li> </ul>	<ul style="list-style-type: none"> <li>Detailed-level alternative source assessment with 20 km radius</li> <li>Detailed-level environmental net effects assessment</li> <li>Detailed-level economic evaluation</li> <li>Cumulative effects evaluation</li> <li>Assess potential for combined use of alternatives</li> <li>A plan for water conservation and efficiency improvement</li> </ul>	<ul style="list-style-type: none"> <li>5-year term on new licences</li> <li>5-year term on renewals</li> <li>Drawdown in the production aquifer is limited to 50 per cent of the available head at a distance of 150 m from the production well over the life of the project for groundwater licences</li> <li>Monitoring and reporting determined on a case-by-case basis</li> <li>Conservation and efficiency conditions</li> </ul>

# Termed Licences

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- Have conditions including flow restrictions to protect the aquatic environmental
- Can only be suspended or cancelled if section 55 of the water act is satisfied
- Determination of water availability based on Median year
- Has a priority and can call priority
- *Water Act* requires public notice

# Temporary Diversion Licences

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- Have conditions including flow restrictions to protect the aquatic environmental
- The Director can cancel or suspend TDLs for any reason deemed appropriate
- Determination of water availability based on current flows, flow trends and cumulative withdrawal rates
- Can not call priority
- WA does not require public notice but REDA does

# Decision Factors

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- Ability to access water
- Potential impacts to other users
- Potential effect on aquatic environment
- Hydraulic flow effect on river or users
- Efficiency of use
- Effects on reservoirs
- Matters and factors of Approved Water Management Plans
- Treaty rights considerations

# Considerations for TDLs during drought

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- Status of termed licences in the reach
- Aquatic environment sensitivities in low flow conditions
- How much water has been allocated
  - cumulative withdrawal rate versus current and predicted water course flows
- What mitigation is possible
  - Minimum passing flows
  - Limiting diversion rate to 10% of passing
  - Water temperature restrictions
- Public safety

# Resources for Flows and Licence Data

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- **Authorization Viewer**

<https://avw.alberta.ca/ApprovalViewer.aspx>

- **Alberta Flow Estimation Tool for Ungauged Watersheds**

<https://afetuw.alberta.ca>

User's Manual available. Search: [Alberta Flow Estimation Tool for ungauged Watersheds User Guide](#).

- **Alberta Rivers**

<https://rivers.alberta.ca>



Government of Alberta Home | Contact Government | Ministries | Using This Site

Alberta Energy Regulator | Alberta Environment and Protected Areas

Authorization Viewer | Traditional Agriculture Registration Viewer | Public Notices Viewer | Help

Authorization Viewer - Search

▲ For Water Act approvals, amendments and Code of Practice notifications issued by the Alberta Energy Regulator during or after 2018, please refer to the following link [OneStop Application Query Tool](#) (see ca).

**Search Criteria**

Authorization / Approval Number  
- - -  
- or -

Authorization / Approval Holder or Company  
- - -  
- or -

Water Body Source  
- - - Find Water Body

Tributary  
- - -  
- or -

Legal Land Description  
Legal Subdivision: Plan: Block: Quarter Section: Section: Township: Range: Meridian:

Area Parcel  
Plan: Block: Lot:

- and -

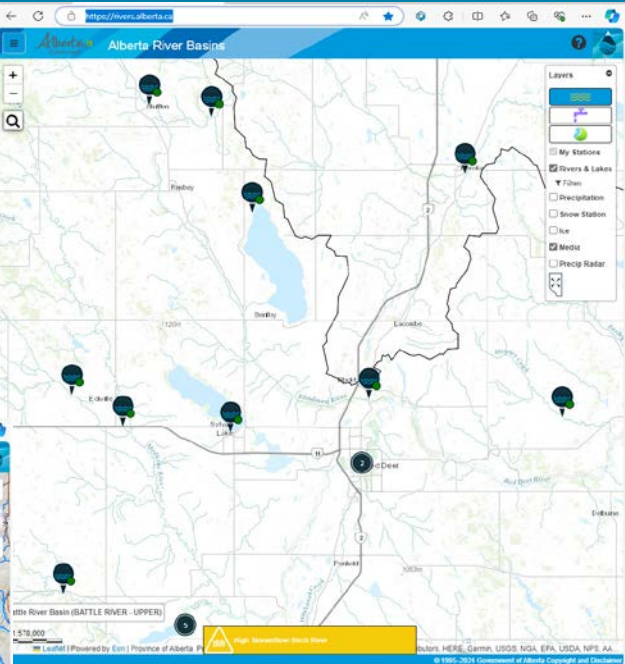
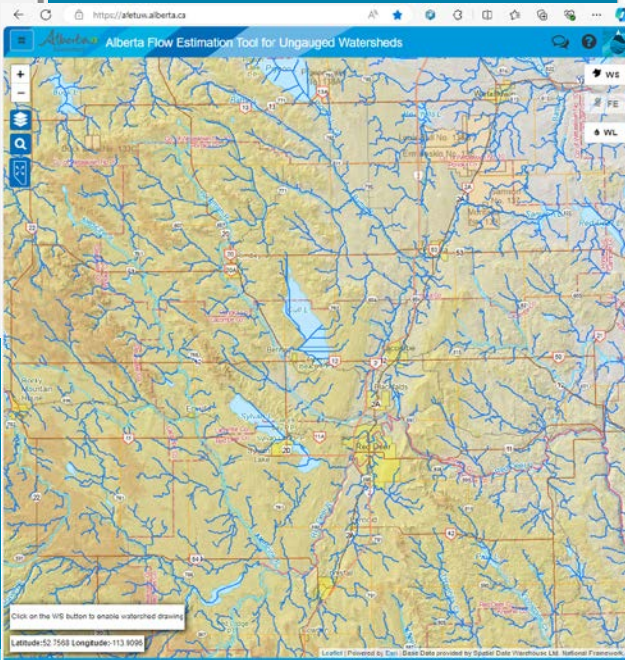
**Act / Document Types**

Select an ACT:  
☒ Water Act  
☒ EPEA  
- or -  
Select Doc. Type

☐ Show Inactive Authorizations

Search Authorizations Issued During Past 30 Days Clear

Comments regarding the Authorization Viewer page may be directed to the Regulatory Programs Branch  
RAC.Environment@gov.ab.ca



# Alberta's Drought Response Plan

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- Will help guide the province through drought conditions of any severity. Indicates possible actions that could be taken depending on the stage and severity of drought.
- Objectives are to:
  - Protect the health and safety of Albertans from impacts of drought
  - Minimize impacts of drought on our communities, economy and environment.
  - Implement a proactive, risk-based approach to prepare.
  - Having an agile and adjusted in real-time; and
  - Enable all Albertans to take appropriate action to conserve water and work together.



# Monitoring Drought Conditions

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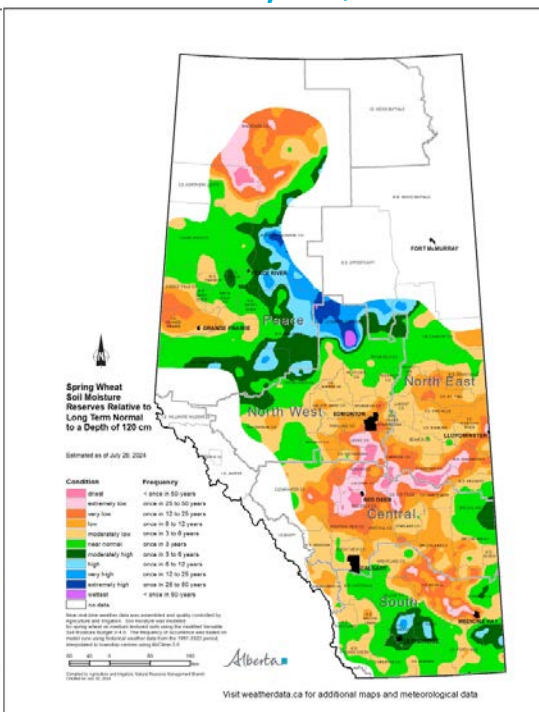
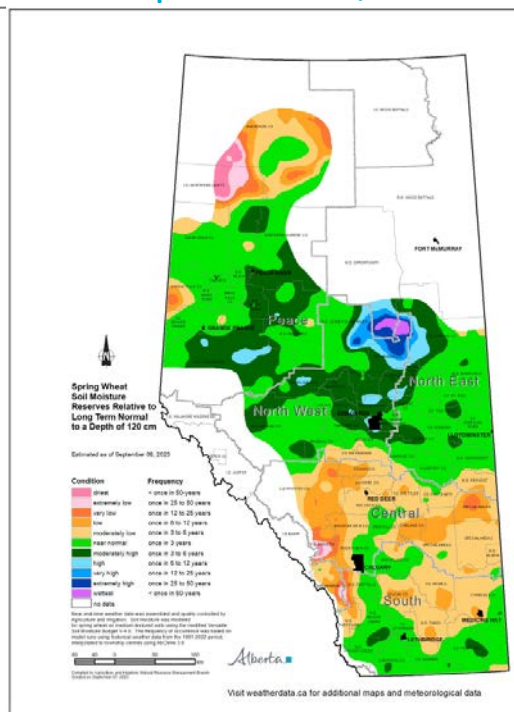
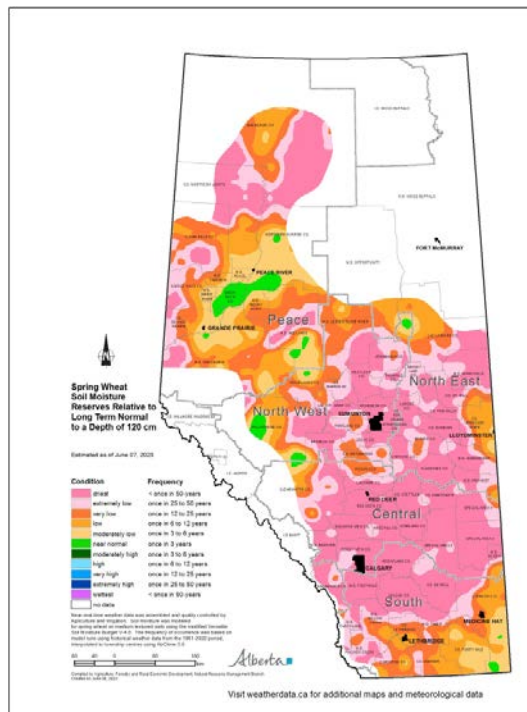
- Daily review of the near real time flow network
- Weekly trend analysis including metrological
- Weekly basin meetings with AER, hydrologist, fish biologist, Water Infrastructure and Operations Branch (AGI)
- Identified Risks and Strategies
  - Ensure Gleniffer Lake is full in September and maintain level as long as possible
  - Contact licences and ensure they understand the flow conditions and their licences
  - Monitor the middle Tributaries flow closely (Little Red Deer, Medicine and Blindman Rivers)

# Soil Moisture Reserves

June 6, 2023

September 6, 2023

July 29, 2024



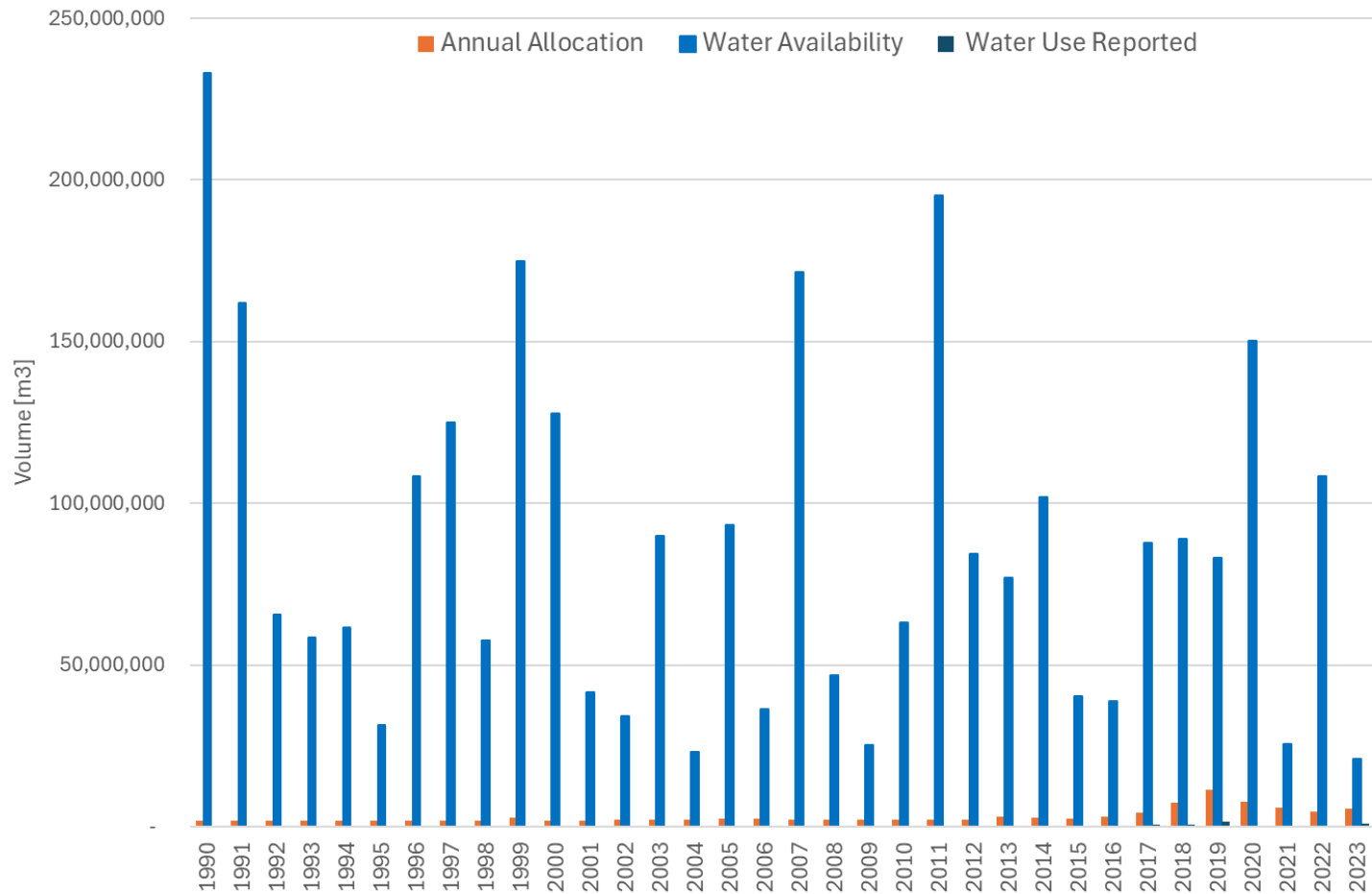
# Drought Resources

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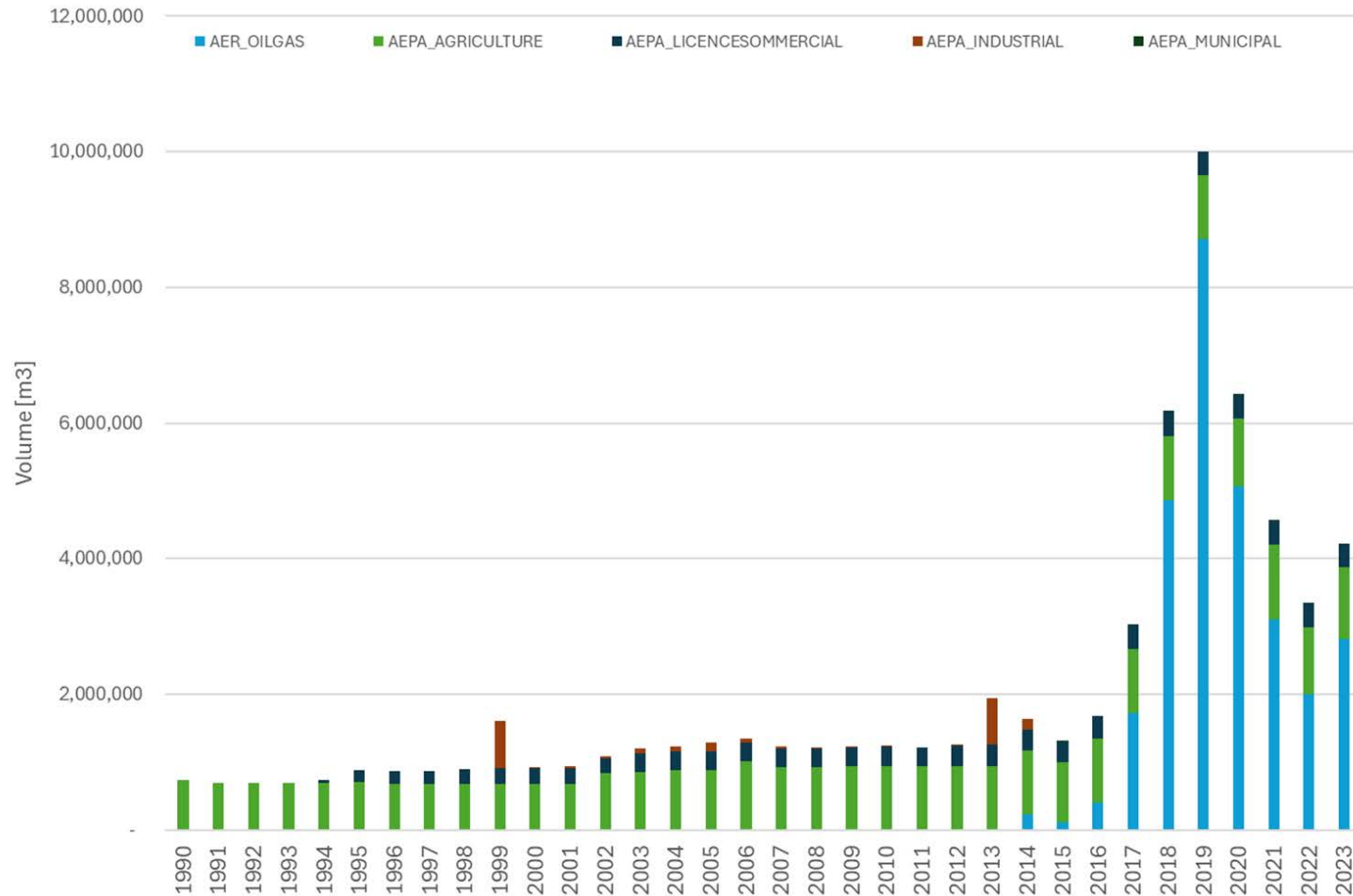
- Drought webpage: [www.alberta.ca/drought](http://www.alberta.ca/drought)
- Fact sheets
  - Get to know your water flow: helping water users predict and prepare for water shortages:  
[open.alberta.ca/publications/get-to-know-your-water-flow](http://open.alberta.ca/publications/get-to-know-your-water-flow)
  - Water Shortage Management Stages:  
[open.alberta.ca/publications/water-shortage-management-stages](http://open.alberta.ca/publications/water-shortage-management-stages)
  - Drought support: temporary livestock water assistance:  
[open.alberta.ca/publications/drought-support-temporary-livestock-water-assistance](http://open.alberta.ca/publications/drought-support-temporary-livestock-water-assistance)
  - Water management thresholds : water conservation objectives and instream objectives  
[open.alberta.ca/publications/water-management-thresholds](http://open.alberta.ca/publications/water-management-thresholds)
  - Alberta's Water Priority System:  
[open.alberta.ca/publications/albertas-water-priority-system-tools-for-water-licence-holders](http://open.alberta.ca/publications/albertas-water-priority-system-tools-for-water-licence-holders)
- Videos
  - [Learn to use Rivers.Alberta](#) on @ABEnvironment Youtube
- Contact us at: [epa.drought@gov.ab.ca](mailto:epa.drought@gov.ab.ca)

# Blindman Hydrology

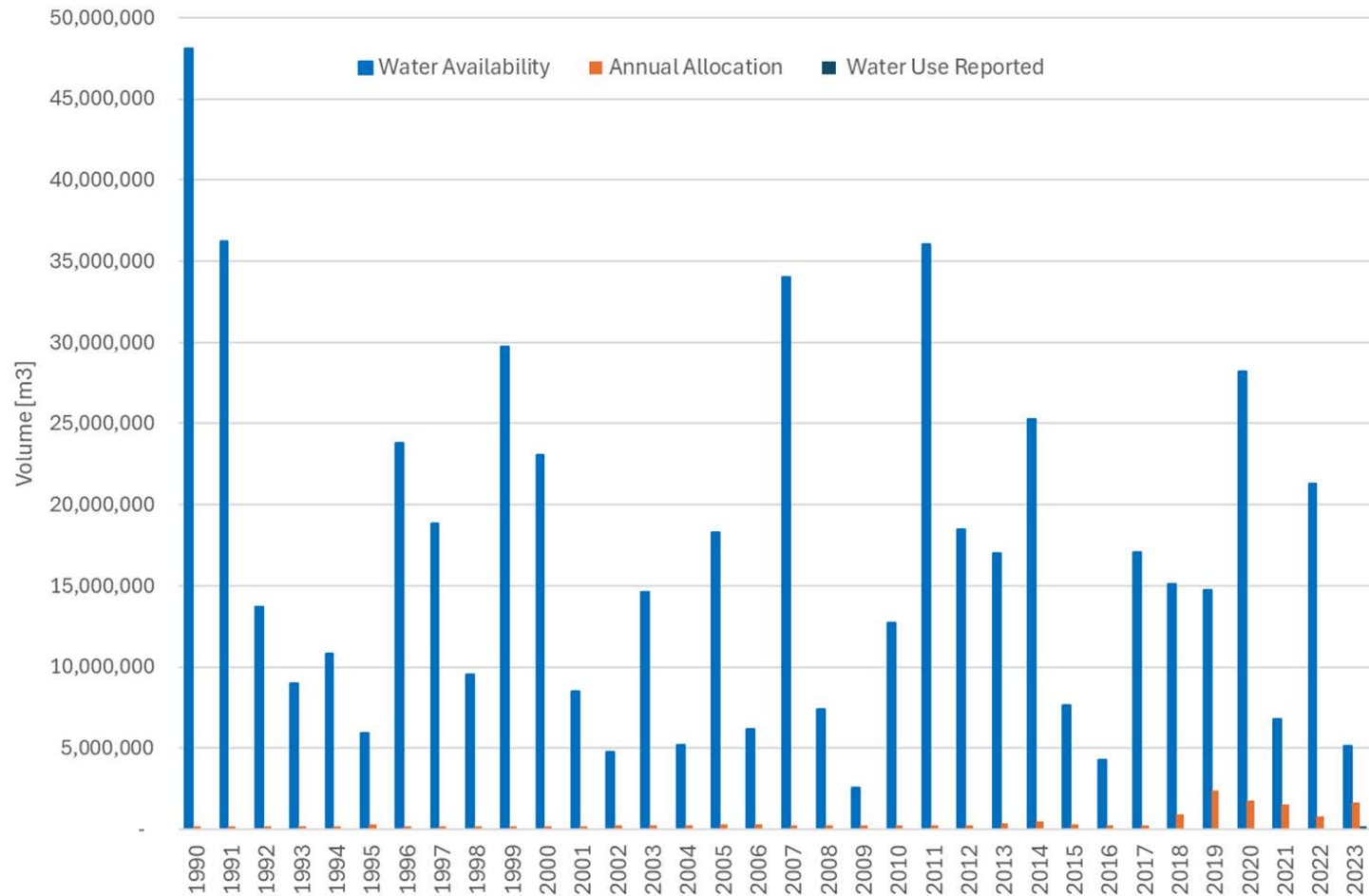
Comparison of Water Availability to Allocation and Water Use for Blindman River Basin

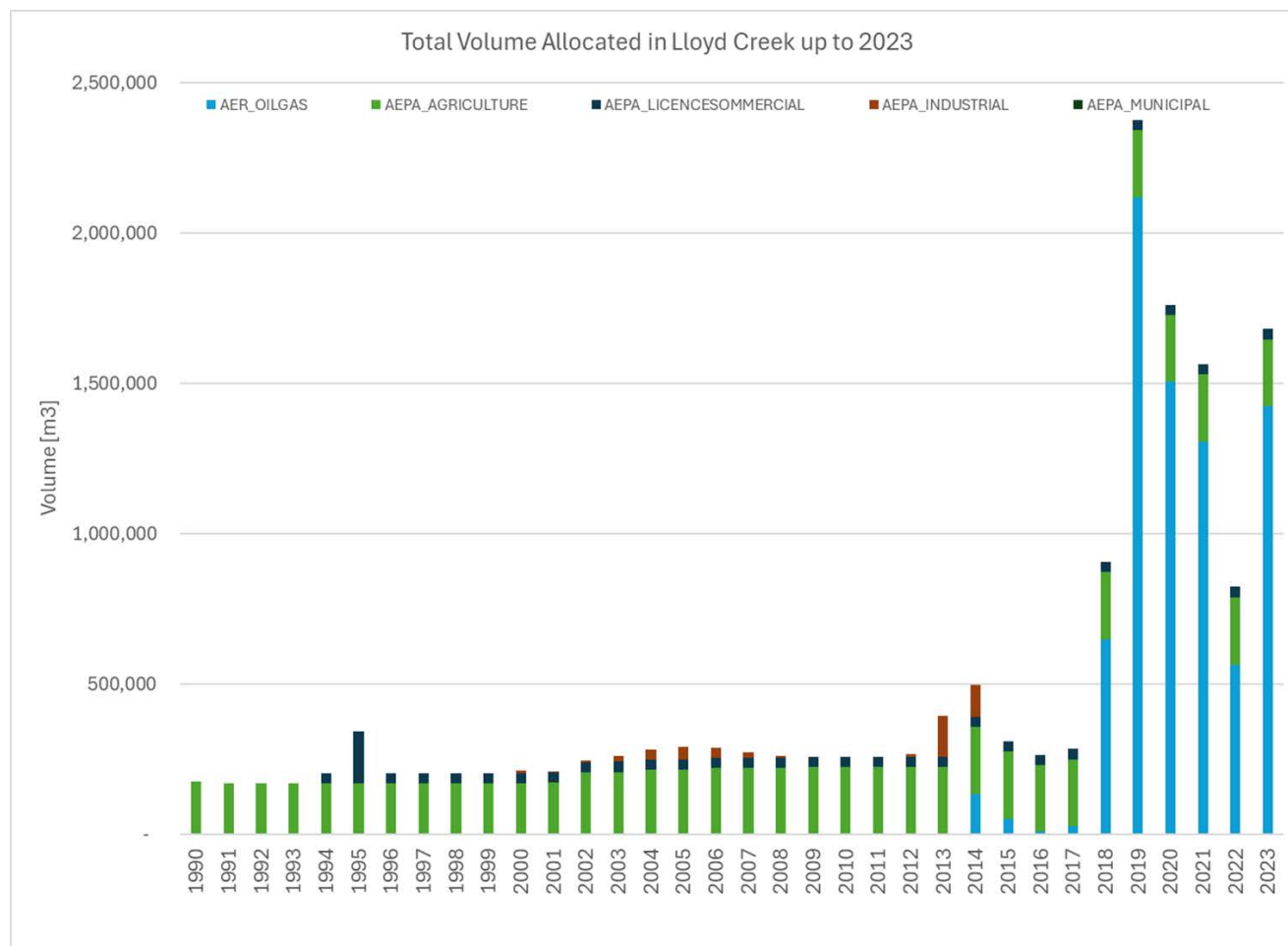


Total Volume Allocated in Blindman River Basin up to 2023



Comparison of Water Availability to Allocation and Water Use in Lloyd Creek







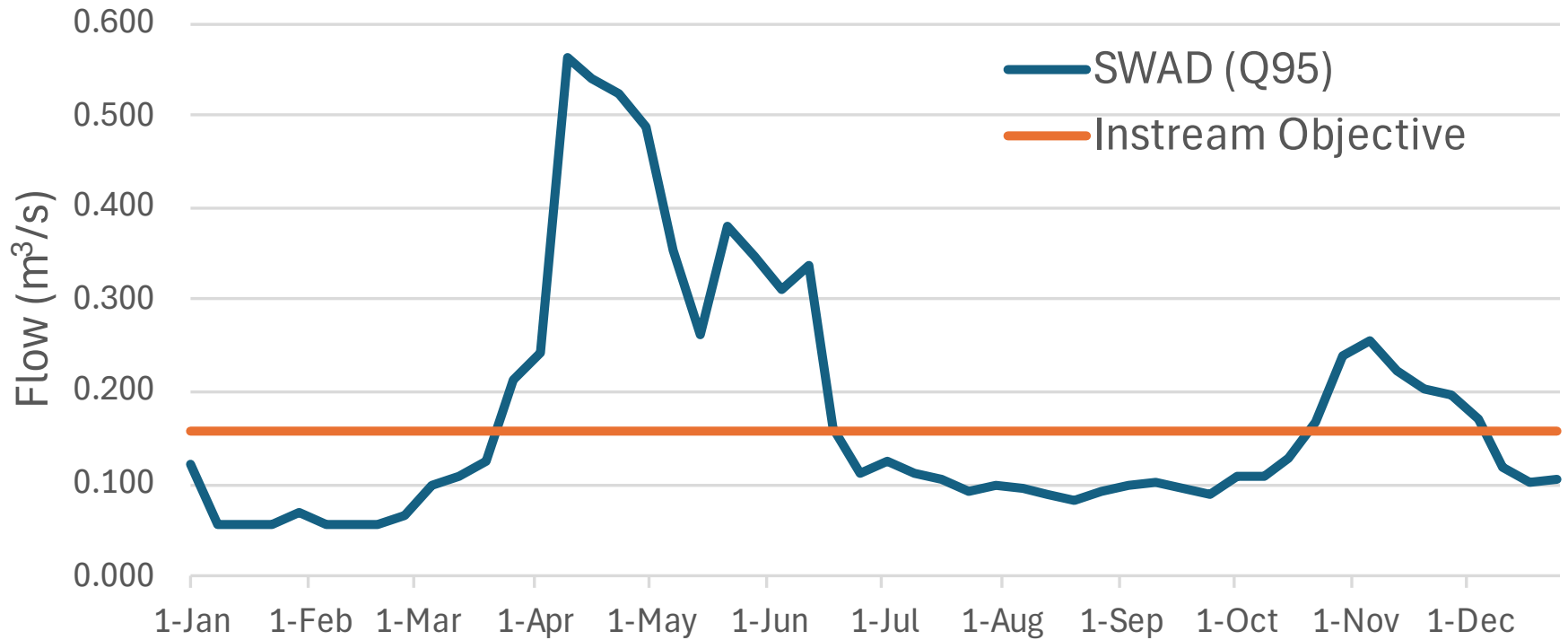
# SWAD Excerpt

**Table 3.** River and stream cumulative percent allocation limits based on natural instantaneous discharge for weekly exceedance data as determined by mean annual discharge and/or stream order. Mean annual discharge is the primary criteria; stream order is to be used only as a secondary option.

Mean Annual Discharge <sup>4</sup> (m <sup>3</sup> /s)	Stream Order <sup>5</sup>	Natural/Naturalized Weekly Flow (% exceedance)*		
primary criteria	secondary	>Q <sub>80</sub>	≤Q <sub>80</sub> - >Q <sub>95</sub>	≤Q <sub>95</sub>
≥10	≥7	15%	5%	5%
≥2 - <10	5 or 6	15%	5%	0%
< 2	≤4	10%	0%	0%

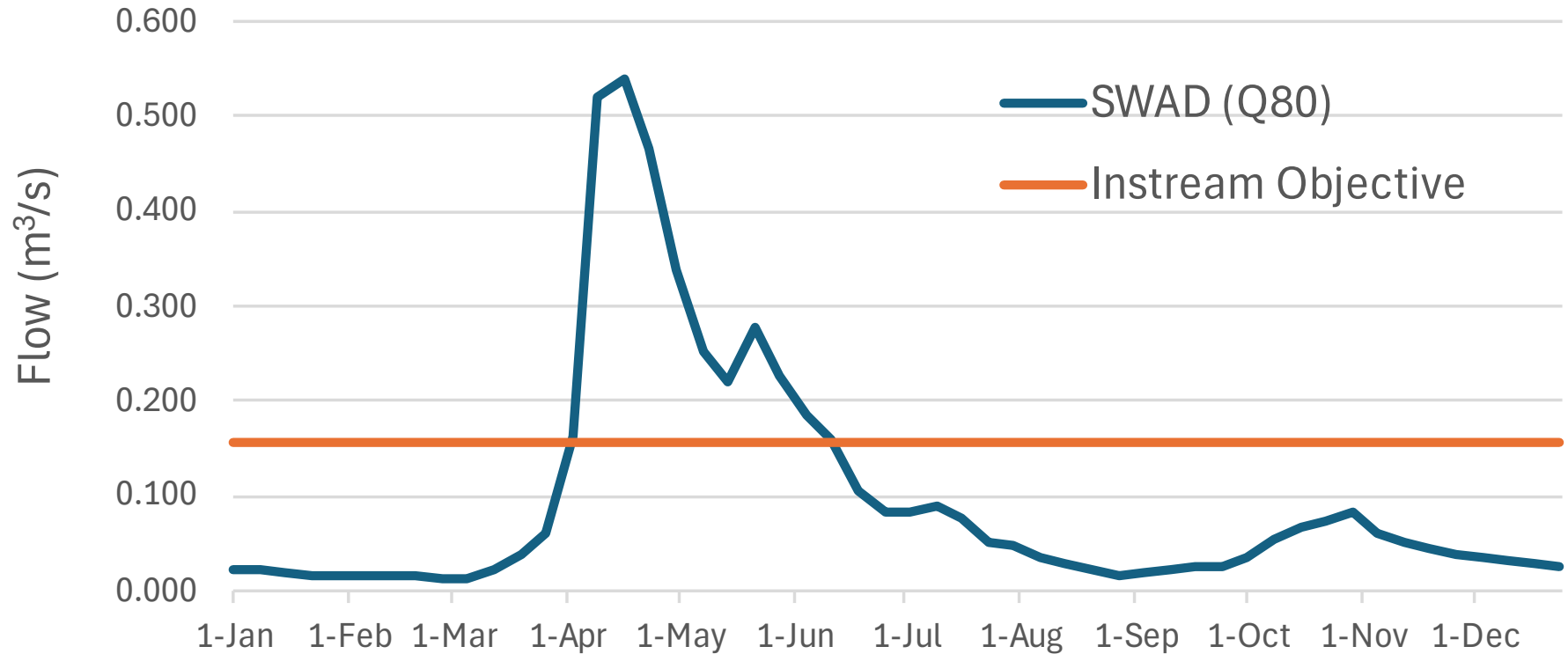
\* Measured (recorded) flows may not provide the natural flow of a river or stream and further analysis is done to naturalize the flow data by removing significant human impacts on observed flow.

## Weekly Flow at Blindman River Near Blackfalds

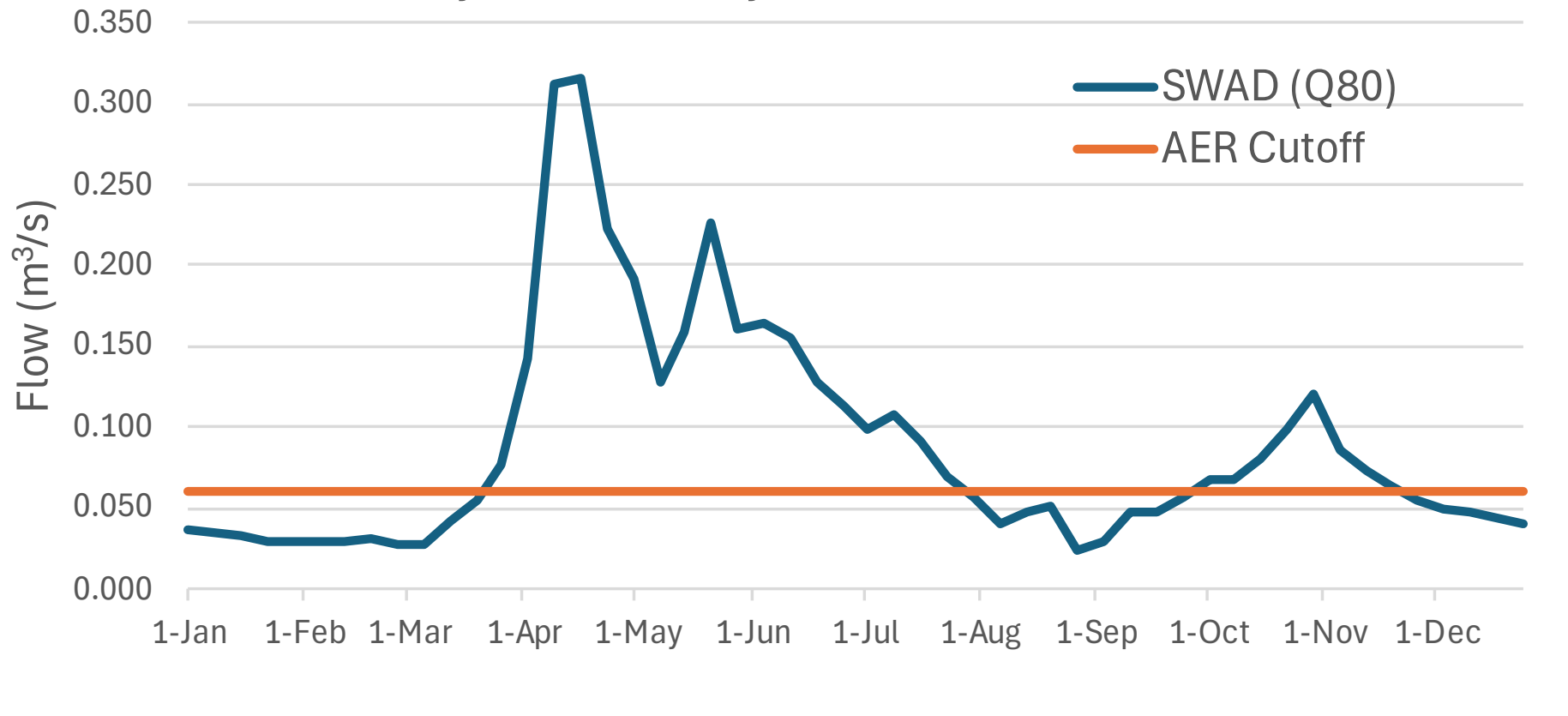


Alberta

# Weekly Flows at Blindman River Near Bluffton



# Weekly Flows at Loyd Creek Near Bluffton



# Blindman Licence Conditions

# Gravel Pit on Lloyd Creek, Diversion Conditions

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- Term Licence 498767
- Diversion only between March 1 to October 31
- Meet water conservation objective for the mainstem of the Red Deer River
- Meet instream objective for the Blindman River
- Rate of diversion limited to 10% of the recorded (05CC009) or measured flow at Lloyd Creek (at point of diversion).

# Diversion Conditions

- 3.9 The Licensee shall not divert water at a cumulative rate of diversion, from all points of diversion, greater than 10% of:
- (a) the monitored flow from the Water Survey of Canada Station #05CC009 (Lloyd Creek near Bluffton); or
  - (b) the measured flow from Lloyd Creek near the gravel pit the water diversion will be occurring from.
- 3.13 The Licensee shall only divert water under this Licence between March 1 and October 1.
- 3.14 The Licensee shall divert water authorized by this Licence only when there is sufficient water flow in the Red Deer River to meet or exceed the Red Deer River Water Conservation Objective which is the greater of:
- (a) 45% of the natural rate of flow; or
  - (b) 16 cubic metres per second (m<sup>3</sup>/s).
- 3.15 Unless otherwise authorized in writing by the Director, the Water Conservation Objective in Condition 3.14 is to be met at the Red Deer River Water Survey of Canada Station #05CC002 (Red Deer River at Red Deer) as flow information is available at the [rivers.alberta.ca](http://rivers.alberta.ca) website.



# Diversion Conditions

- 3.16 When flows are not available at the [rivers.alberta.ca](http://rivers.alberta.ca) website for Water Survey of Canada Station #05CC002 (Red Deer River at Red Deer), then the Licensee shall only divert water when the Water Survey of Canada Station #05CB007 (Dickson Dam tunnel outlet) flows exceed:
- (a) 16 cubic metres per second (m<sup>3</sup>/s).
- 3.17 The Licensee shall divert from the source of water only when there is sufficient water flow in the Blindman River to meet or exceed the Blindman River Instream Objective of 0.156 cubic metres per second (m<sup>3</sup>/s) as monitored at the Water Survey of Canada Station #05CC001 (Blindman River near Blackfalds).
- 3.18 Unless otherwise authorized in writing by the Director, the Blindman River Instream Objective is to be met at Water Survey of Canada Station #05CC001 (Blindman River near Blackfalds).
- 3.19 If rate of flow is not available, or it is unsafe to undertake a measurement, the Licensee may divert water when authorized in writing by the Director, based on video evidence of sufficient flow availability, as recorded within the previous four (4) days of the Blindman River at the Water Survey of Canada station near Bluffton and Lloyd Creek adjacent to the point of diversion.



# Diversion Conditions

**SCHEDULE 1: Diversion Table**

Criteria		Minimum Monitoring/Measuring Frequency	
Flow in Blindman River* (m <sup>3</sup> /s)	Maximum Rate of Diversion (m <sup>3</sup> /s)	When using Station 05CC001	When measuring flows at POD
$0.16 \geq \text{Flow}$	0 (No Diversion allowed)	Daily	Weekly
$0.16 < \text{Flow} \leq 0.5$	Up to 10% of the flow, provided the diversion does not decrease the Blindman River flow* to 0.16 m <sup>3</sup> /s or lower		
$\text{Flow} > 0.5$	15% of the flow up to a maximum of 0.5 m <sup>3</sup> /s		14 days

*\*Based on monitored flow at WSC Station 05CC001 (Blindman River at Blackfalds) when operational and measured flow at POD when WSC Station 05CC001 is not operational.*

# Diversion Conditions

Criteria		Minimum Monitoring/Measuring Frequency	
Flow in Blindman River* (m <sup>3</sup> /s)	Maximum Rate of Diversion (m <sup>3</sup> /s)	Use WSC Station 05CC001	When Measuring flows at PoD
0.35 >= Flow	0 (No Diversion Allowed)	Daily	Weekly
0.35 < Flow <= 0.5	Up to 5% of the flow, provided the diversion does not decrease the Blindman River Flow at WSC Station 05CC001 below 0.35 m <sup>3</sup> /s		
0.5 < Flow <= 0.8	Up to 10% of the flow, provided the diversion does not decrease the Blindman River Flow at WSC Station 05CC001 below 0.35 m <sup>3</sup> /s		
Flow > 0.8	15% of the flow up to the maximum diversion rate of 0.121 m <sup>3</sup> /s		14 days

\*Based on monitored flow at WSC Station 05CC001 (Blindman River at Blackfalds) when operational and measured flow at POD when WSC Station 05CC001 is not operational.

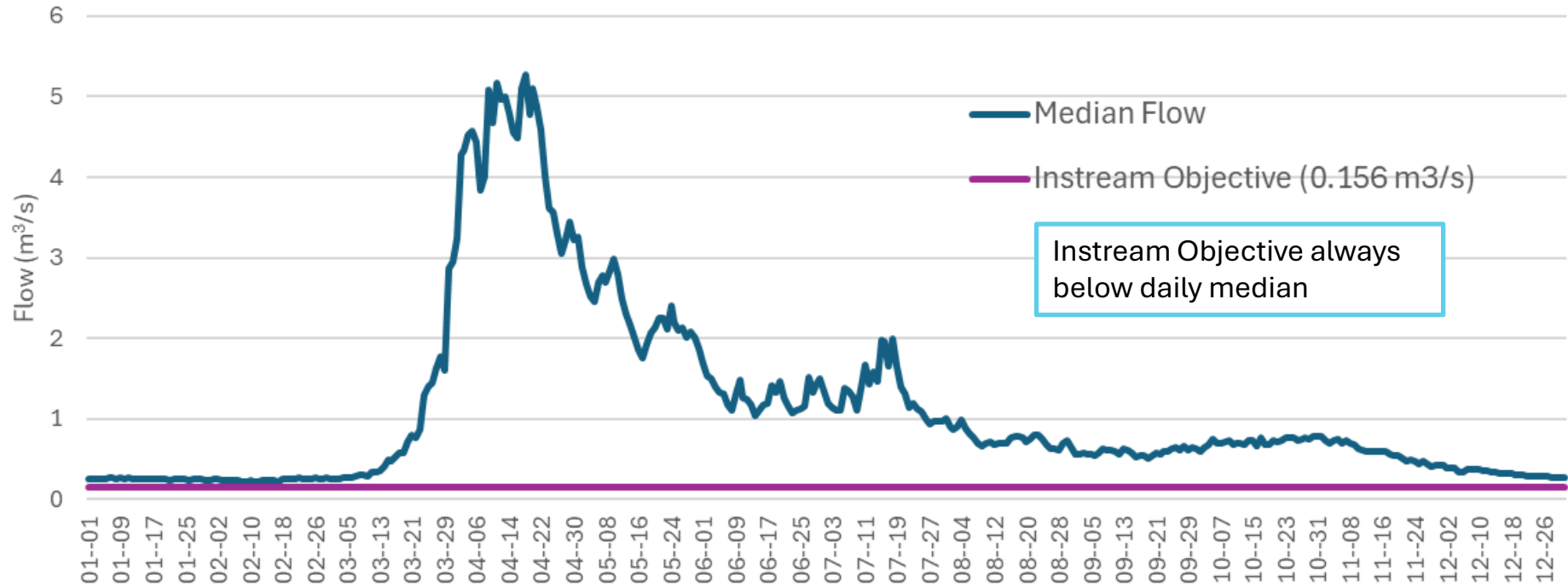


# Sample Diversion Conditions for TDLs out Blindman River TDL 500126

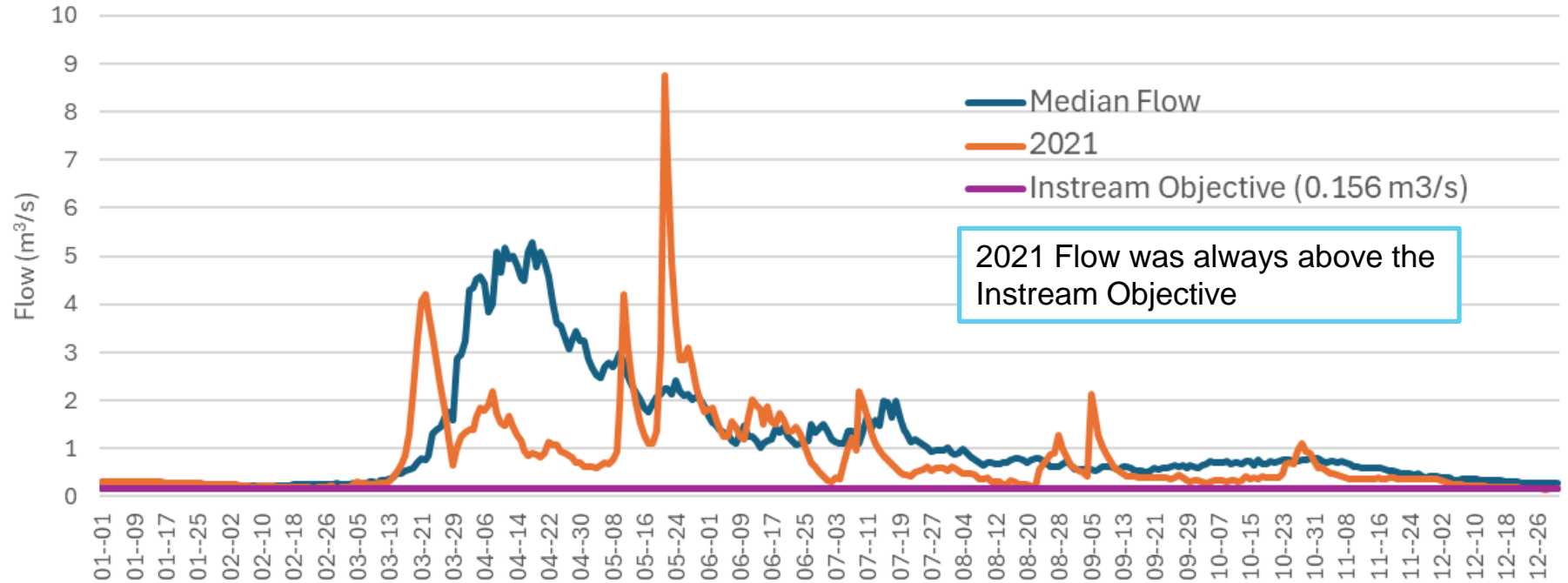
- 1) Meet Water Conservation Objective for the main stem of the Red Deer River
- 2) Meet instream objective for the Blindman River
- 3) Cumulative rate of diversion limited to 10% or 5% of flow
  18. The Licensee shall ensure that the cumulative diversion rate, including the diversion rate for this temporary diversion licence,:
    - (a) does not exceed 10% of the rate of flow in the watercourse as obtained at the point of diversion, up to a maximum of 0.121 m<sup>3</sup>/s.; or
    - (b) does not exceed 5% the recorded flow at the WSC station 05CC001 (Blindman River near Blackfalds) up to the maximum diversion rate of 0.121 m<sup>3</sup>/s.

Future Consideration is to build something Similar to the Vesta and Baytex licence that can be used for all AER TDLs

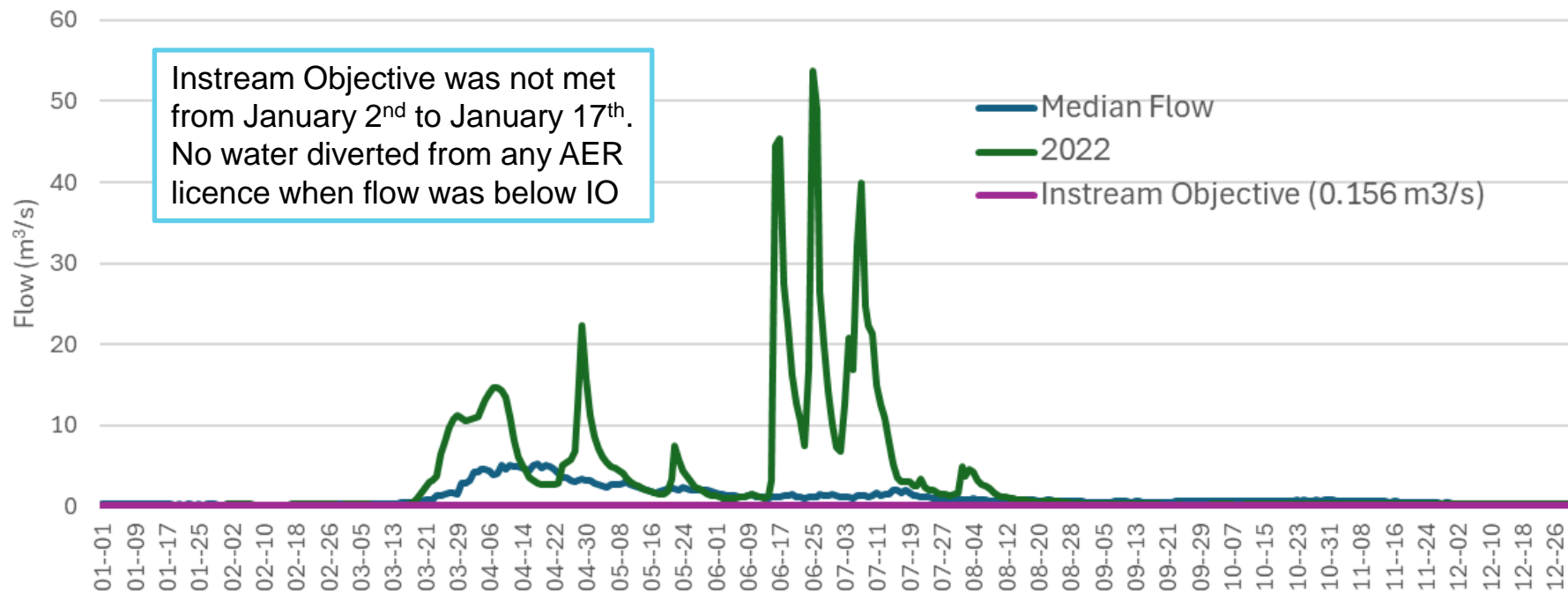
# Daily Flow, Water Survey of Canada Station 05CC001 Blindman River near Blackfalds



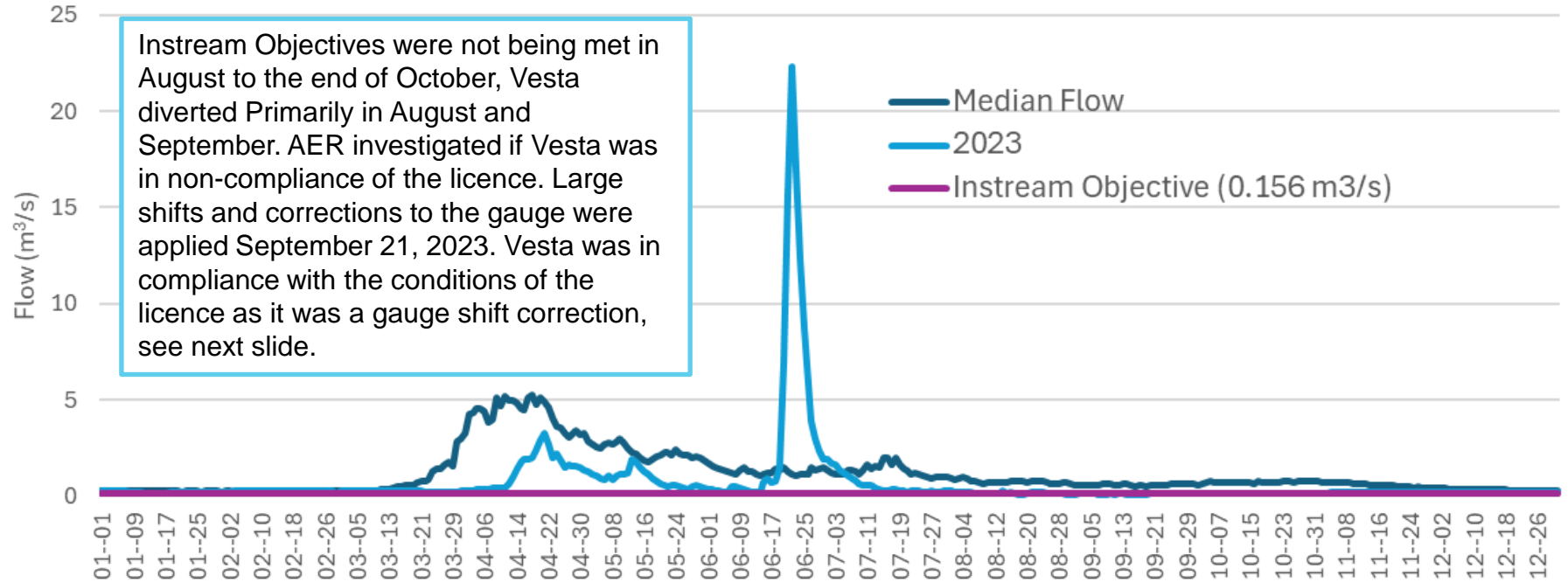
# Daily Flow, Water Survey of Canada Station 05CC001 Blindman River near Blackfalds



# Daily Flow, Water Survey of Canada Station 05CC001 Blindman River near Blackfalds

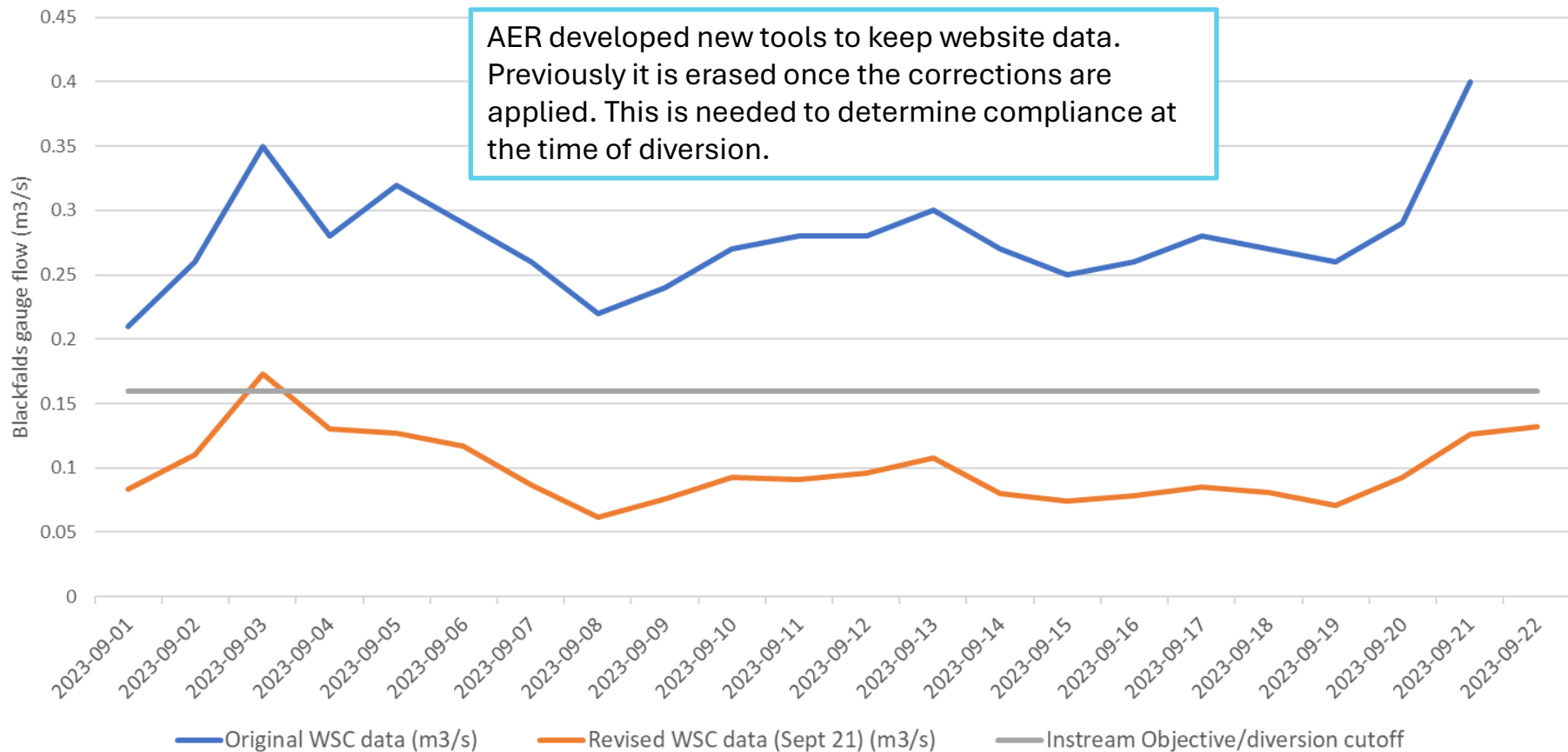


# Daily Flow, Water Survey of Canada Station 05CC001 Blindman River near Blackfalds

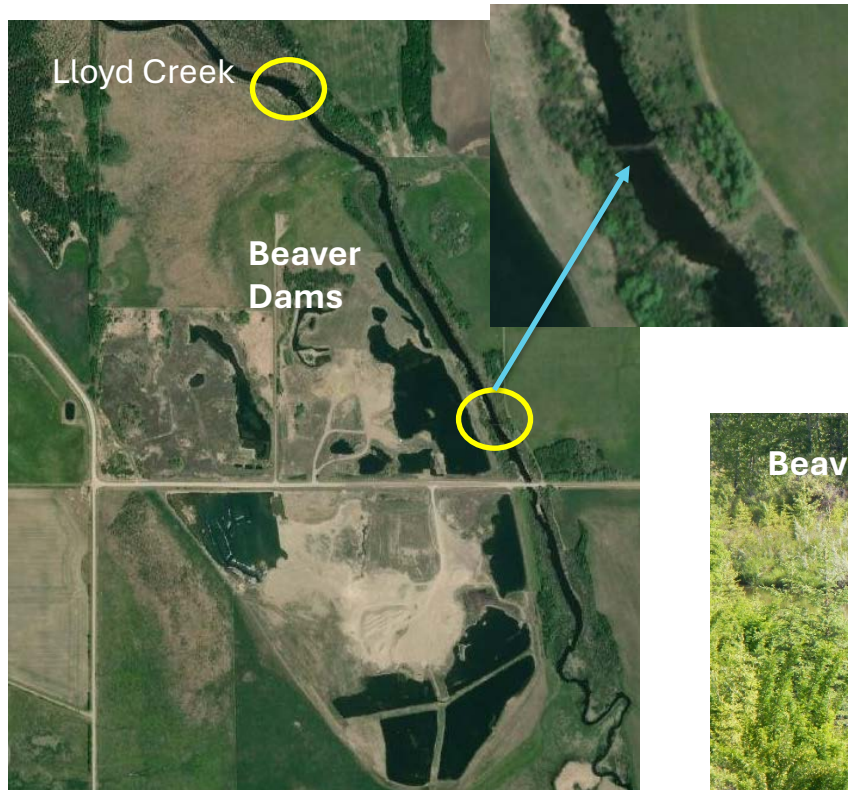


## Comparison: Original WSC data vs WSC dataset revised on September 21 for Blackfalds Gauge 05CC001

AER developed new tools to keep website data. Previously it is erased once the corrections are applied. This is needed to determine compliance at the time of diversion.

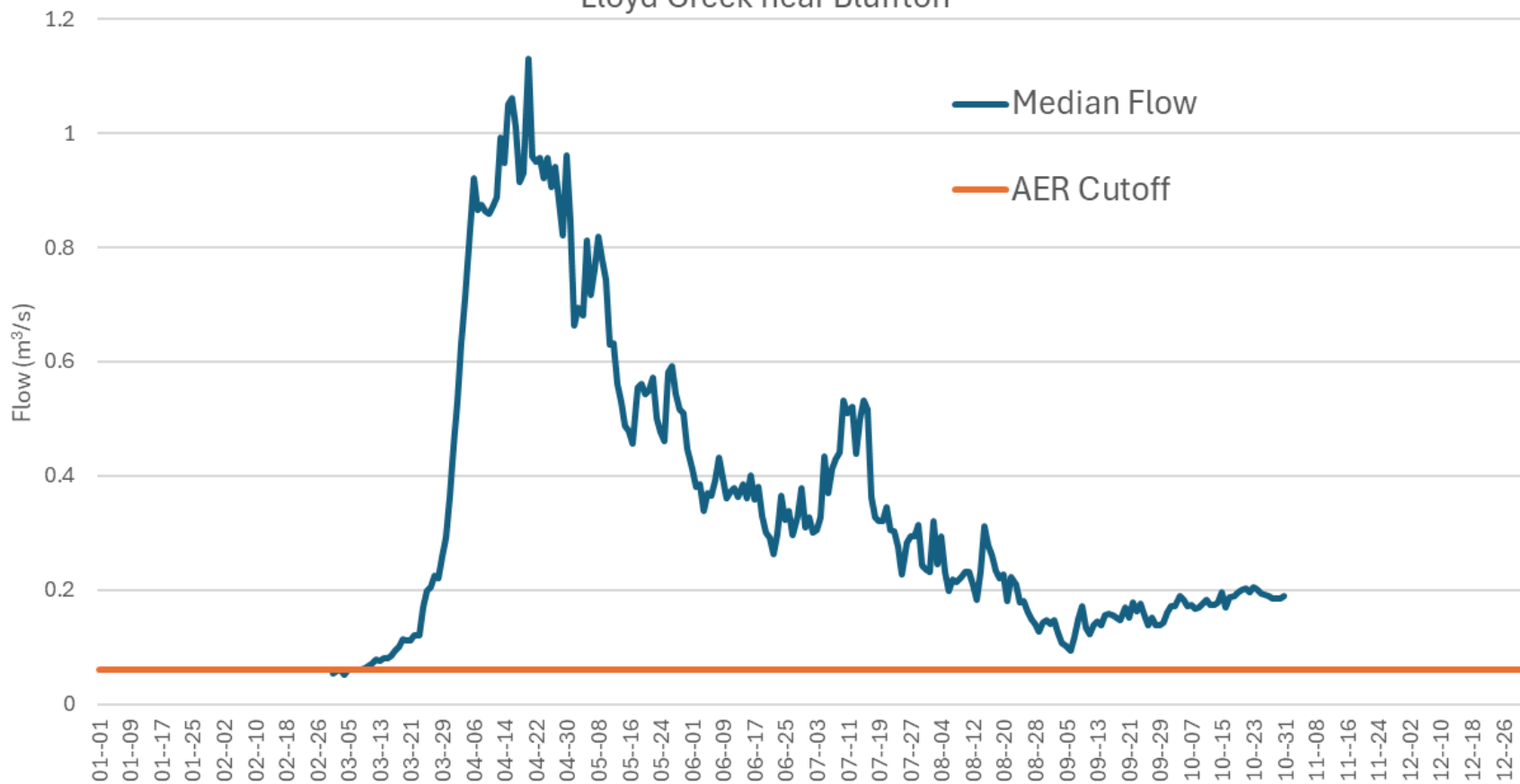




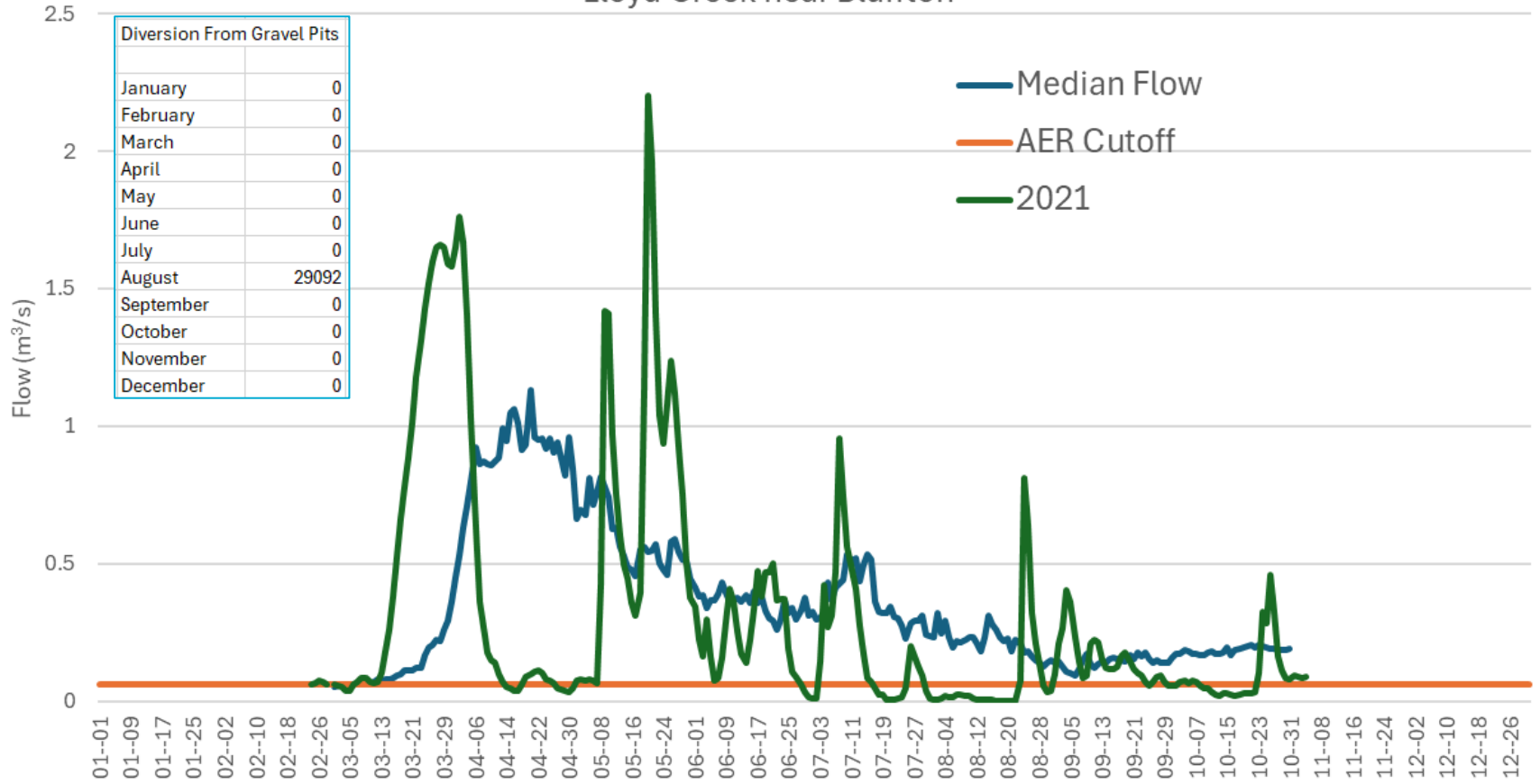


Hydrometric Stations affected by beaver dam will create an artificial flow from the increase water level. Hence the use of Blackfalds station for licences on the Blindman below Lloyd Creek.

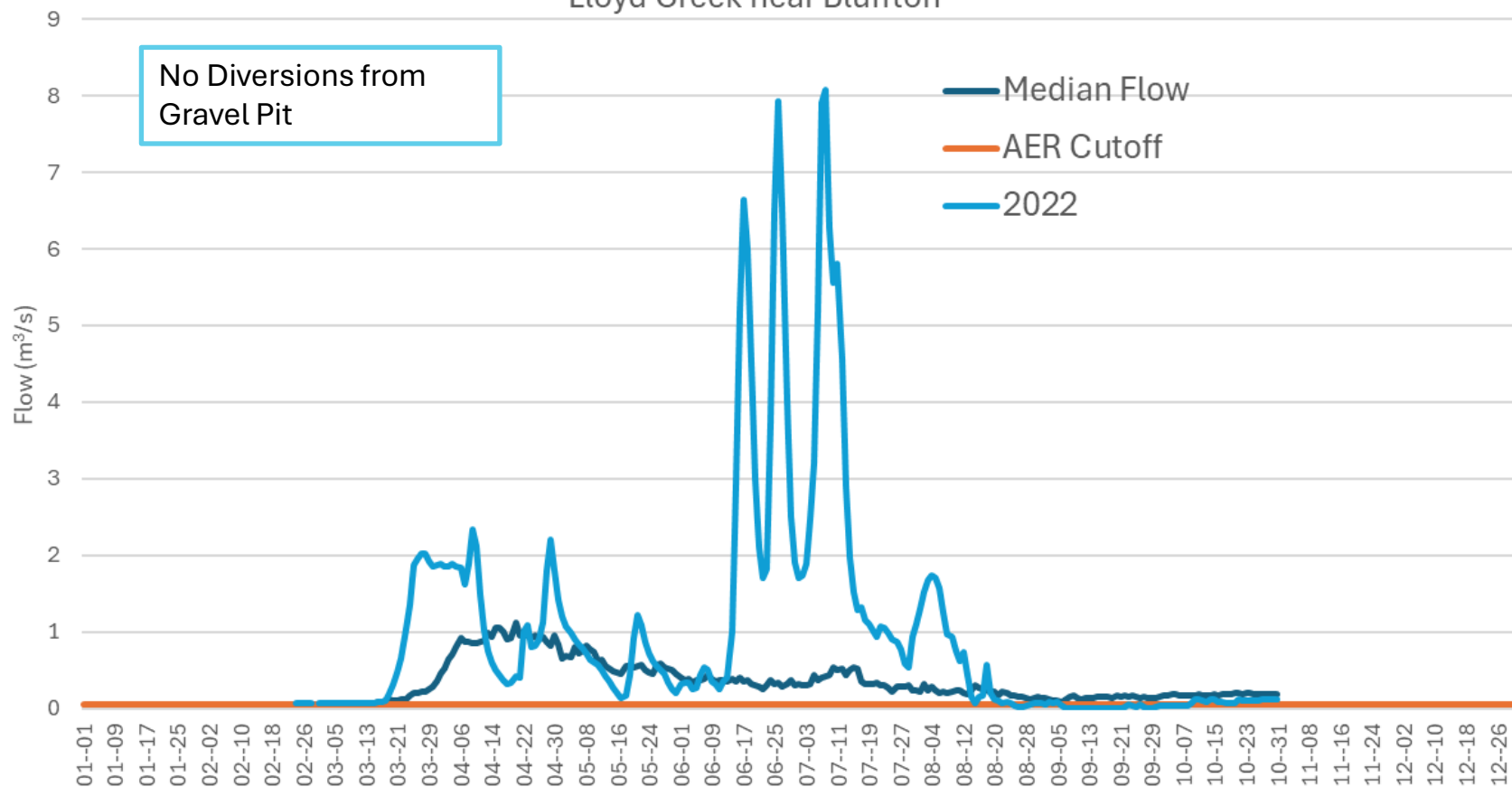
# Daily Flow, Water Survey of Canada Station 05CC009 Lloyd Creek near Bluffton



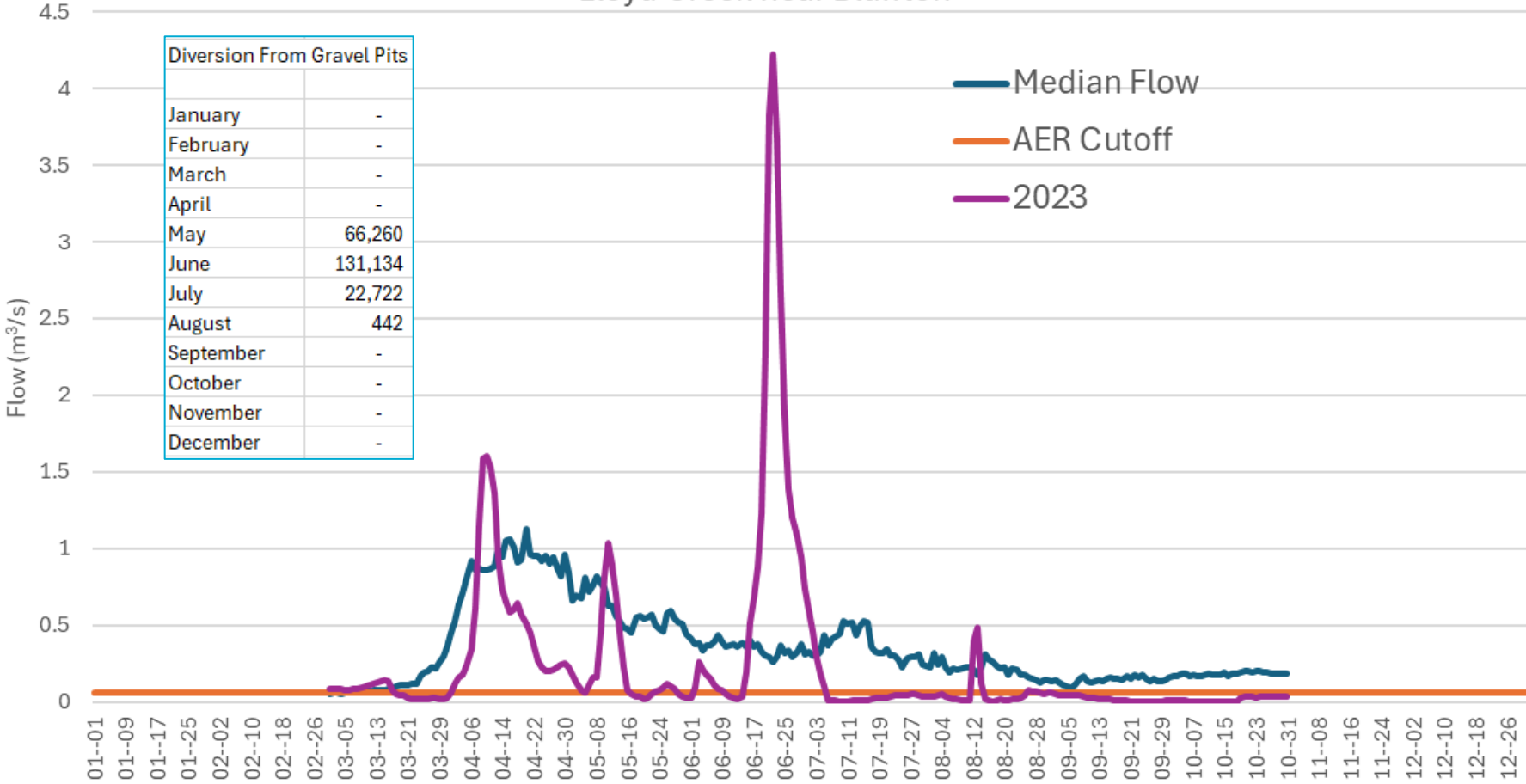
# Daily Flow, Water Survey of Canada Station 05CC009 Lloyd Creek near Bluffton



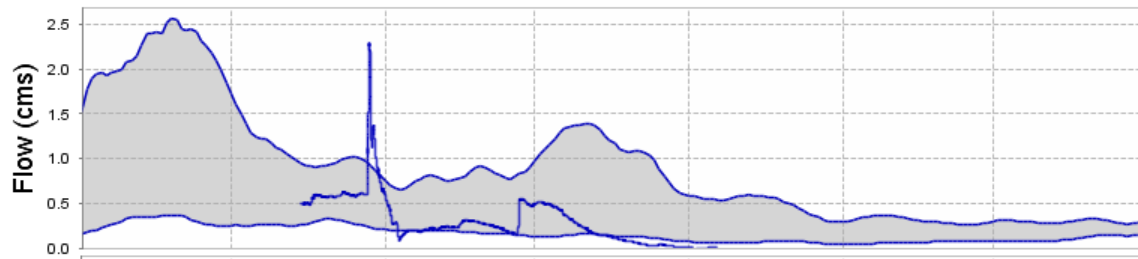
# Daily Flow, Water Survey of Canada Station 05CC009 Lloyd Creek near Bluffton



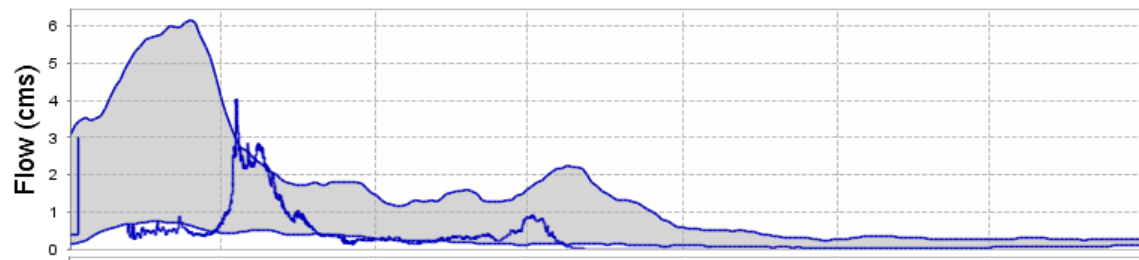
Daily Flow, Water Survey of Canada Station 05CC009  
Lloyd Creek near Bluffton



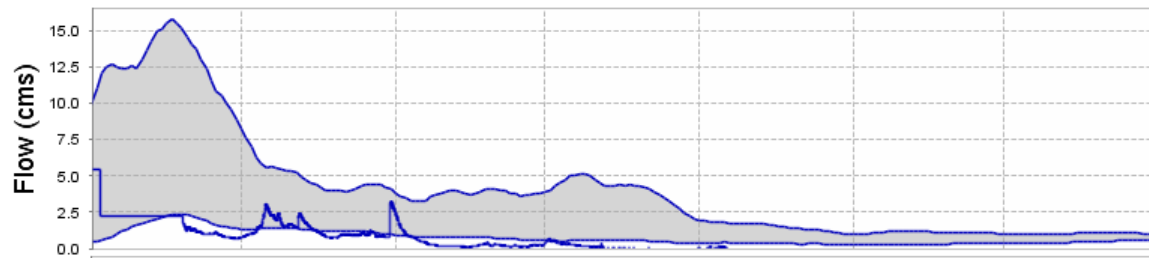
Lloyd Creek near Bluffton - WSC



Blindman River near Bluffton - WSC



Blindman River near Blackfalds - WSC



Water Shortage Advisory: Medicine -  
Blindman Rivers

Advisory Created  
2024-07-17 7:44 AM

Advisory Updated  
2024-07-17 7:44 AM



**Low Flow Condition.**

Water Shortage Advisory Issued for the following streams:

1. BLINDMAN RIVER and TRIBUTARIES
2. LASTHILL CREEK

The Blindman River is experiencing severe low flow conditions. Water management actions may be in place. Licensees are advised to review the conditions of their licenses. No further surface water TDL applications will be accepted from all flowing waterbodies.

For Lasthill Creek new surface water licence TDL applications will be considered on a case by case basis based on current flow conditions.

close

# Contact Information

# Contact Alberta Environment and Protected Areas

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## **General:**

- Toll free in Alberta: 310-3773
- Toll free in Canada: 1-877-944-0313
- Email: [epa.outreach-services@gov.ab.ca](mailto:epa.outreach-services@gov.ab.ca)

## **District Office:**

- 403-340-7052
- [WaterApprovals.RedDeer@gov.ab.ca](mailto:WaterApprovals.RedDeer@gov.ab.ca)

## **Environmental Hotline:**

To report on water-related activities or diversions that you suspect to be unauthorized

- 1-800-222-6514



# Contact Alberta Energy Regulator

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## **General:**

- Phone: 403-297-8311
- Toll-free: 1-855-297-8311
- Fax: 403-297-7336
- Email: [inquires@aer.ca](mailto:inquires@aer.ca)

# Thank you

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