

Questions for Alberta Energy Regulator – August 20th 2024 (in addition to the questions from spring 2024 which are included after these questions)

In the August 8th presentation, it was stated that the AER looks at trends when deciding whether to issue new licences. The short-term trend over the past three years is an obvious drought and subsurface moisture deficit. The long-term trend (50 year linear regression from the Crestomere weather station) for our area is lower precipitation amounts and higher temperatures. Two questions from this:

- 1. Short term: Why, after the dry 2023, the low soil moisture and low snowpack, was there higher allocations in the licences issued in the fall of 2023, and pumping allowed in 2024? Is there no recognition for the need to recharge the riparian zones and soil moisture reserves when determining sufficient water for licences? Are soil moisture conditions and precipitation trends only used for deciding when diversions can restart, but not to pro-actively suspend TDLs?**

For the Blindman River Basin, in 2023 the flow volume of water was 20,999,000m³ and the AER allocation was 2,810,400m³, which is 13.4% of the total water in 2023. The actual water diverted from all AER allocations was 1,043,791m³, which is about 5% of the total water flow volume in 2023. One of the reasons the volume diverted was less than allocation is because the flows in the stream were below Instream Objectives conditions in licences. All AER term licences and TDLs in 2023 had a condition to not divert when flows were at or below the Instream Objective of 0.156m³/s, and to only divert with a maximum diversion rate of 10% (or less) of a monitored flow at a hydrometric station such as the Water Survey of Canada (WSC) Station 05CC009 in Lloyd Creek or 05CC001 near Blackfalds. A company having an active licence issued to them, does not necessarily mean they can divert water under that licence at any time.

New term licences now have a further restriction of only diverting up to a maximum diversion rate of 5% of the flow when flows are below 0.5m³/s, with a more conservative AER cutoff of 0.35m³/s. Future TDLs out of the Blindman river would have similar or more stringent conditions as the new term licences.

Water diversions from rivers in Alberta are managed based on current flow conditions because the flow rate in a river is the overall result of conditions across its entire watershed, including soil moisture and riparian conditions. Instream Objectives are set based on the needs of aquatic ecosystems and senior water users. Therefore, when a river's flow is above its IO the watershed is considered to be in a condition that can support some limited withdrawals as described above.

Over the winter period of 2023/2024, the Department Coordinating Center (DCC) led by the Government of Alberta (GoA), set up teams to work every week to manage the provincial basins. For the Red Deer Basin the AER meets with other governmental agencies such as Alberta Environment and Protected Areas (AEPA) and Alberta Agriculture and Irrigation (AGI) to be informed about the status of the watersheds and to determine if basins should have an

advisory in place. At the meeting, the team is presented with information such as current flow conditions at hydrometric stations against Instream Objectives (IOs), current allocations, and forecasted precipitation patterns. Also, every week to two weeks AGI provides current conditions of soil moisture across the province. All this information is considered to determine if actions such as advisories are needed for basins. The description of the methodology used to include and remove advisories is publicly available at the Alberta River basins website <https://rivers.alberta.ca/>

The methodology is as follows:

For each Water Management Area (WMA), the activation of a water shortage advisory is represented by the addition of a purple layer on the website and is a visual indication that low flows are being experienced in water bodies within a WMA. Each water shortage advisory is unique based on the WMA's attributes related to water supply, flow, risk, and other factors and is typically activated when the following criteria are met:

- For 7 consecutive days the station shows flow under the corresponding instream objective and
- The following 7-day forecast from Environment and Climate Change Canada calls for low to minimal precipitation to occur within the WMA.

Currently, the Blindman River is closed to any new TDLs from flowing streams as of July 17, 2024. Mid-August 2024 the AER suspended all TDLs from flowing streams and from gravel pits adjacent to Lloyd Creek. Recent rainfall events have allowed for the re-instatement of one TDL out of the gravel pits adjacent to Lloyd Creek. The reinstated TDL has conditions to meet IOs for the Blindman River, Water Conservation Objectives (WCOs) for the Red Deer River, a cutoff of 0.06m³/s for Lloyd Creek and a maximum diversion rate limit of no more than 10% of the flow recorded at WSC hydrometric station 05CC009.

Long term: Is there a plan for managing the basin with increased demand and lower supply?

The most recent term licence from the Blindman River contains a cut-off threshold of 0.35m³/s, which is greater than the Instream Objective of 0.156m³/s. The increase to the threshold is to account for increased downstream demand. Future AER TDLs from the Blindman River are now expected to have a similar cut-off threshold that would consider the increased demand from the system. Future licences would also only allow 5% maximum diversion when flows in the stream are between 0.35 to 0.5 m³/s. Blindman River flows would continue to be variable for allocation, however licences will contain more stringent conditions that account for low flows by providing an Instream Objective or a cut-off threshold.

2023 was the lowest flow year on record in the Blindman River. River flows were below 0.156 m³/s for 68 of the 214 days between April 1 and Oct 31, and below 0.35 m³/s 124 of 214 days. Therefore, going forward, new licences will be cut off from diverting from the Blindman River and its tributaries up to twice as often in very low flow years.

The basin will continue to be managed as per existing policies set by GOA. During low flow years GOA may establish working teams at any time to further manage the ongoing low flow situation (see the answer in question 1).

2. Why does Alberta Energy Regulator issue Temporary Water Diversion Licences a year in advance when they don't know the environmental conditions of the upcoming year?

The *Water Act* has no rules with regards to when applicants can apply for Temporary Water Diversion Licences; however, the AER usually will not accept applications exceeding six (6) months in advance of the proposed diversion operation. All TDLs are issued with conditions that consider potential low flows in the upcoming year and a sustainable diversion from the source. Having an active licence does not guarantee a company can divert water under that licence. There may be conditions in the licence that restrict when and how much water can be diverted.

For the Blindman River, conditions are based on the South Saskatchewan River Basin Water Management Plan <https://www.alberta.ca/south-saskatchewan-river-basin-water-management-plan>, which sets an Instream Objective of 0.156m³/s. To minimize any impacts to the source as result of high diversion rates, TDLs are also limited to how fast they can divert water from the stream called the 'diversion rate'. For example, TDLs in 2024 have a condition that limits the maximum cumulative diversion rate to no more than 10% of a measured flow at the point of diversion or 5% of the flow recorded at Water Survey of Canada (WSC) station 05CC001 Blindman River near Blackfalds. The Blindman River is considered to be a "flashy stream" with high flows recorded during the spring freshet or after a prolonged rainfall event. Companies understand that the best time for diversion is during the spring and therefore apply in advance to have a licence in place to divert during the spring melt. Diverted water in most cases is stored in off stream storages for later use.

3. Spring 2024, term licence holders in the Blindman River basin received letters from Alberta Environment & Protected Areas about the Stage 4 water restrictions. When term licence holders were being asked to cut back on water, why are ANY TDLs permitted?

Term Licence holders across all of Alberta were asked to reduce unnecessary water usage. However, as previously mentioned, GOA sets up advisory teams that would monitor each basin to determine the need for any local water management.

Recently, the Government of Alberta has divided the province into major basins to better manage drought. Currently, the Red Deer Basin as a whole is in stage three (3) out of five stages, while the Blindman River is managed at a local level. This is why within the entire Red Deer River watershed only the Blindman River has restrictions of not issuing new TDLs from the river and its tributaries. AER follows the final decisions that come from GOA. Until the Blindman River Basin was closed to new TDLs from flowing streams, TDL's were reviewed on a case-by-case basis and issued based on GOA policies such as the SSRB Water Management Plan to include IOs and WCOs

Why were the TDLs in our area not all suspended spring 2024?

As previously mentioned, the basin is being managed on a weekly basis, where decisions based on current data are being made (please see the response to question 1 with respect to the DCC). TDLs were not suspended because the volume of water available in the spring of 2024 was assessed to be well above the Instream Objective based on flow measurements conducted by the Water Survey of Canada.

4. For term licences, the WCP applies and a director must sign-off that there is enough water for the ecosystem and other licence holders. With TDLs, what is the communication between AER and AEPA to ensure similar protections?

When reviewing TDLs, the AER checks previously issued and active TDLs that have been issued by both AEPA and AER. The AER also follows the policies that apply to the basin and source in question. For the Blindman River, the AER follows the South Saskatchewan River Basin Approved Water Management Plan that allows diversions from the stream provided flows are above the Instream Objective of 0.156m³/s. The volumes that have been previously allocated are considered when determining whether a TDL can be issued.

What is the manual or process that is used to issue TDLs?

Applicants use the Water Act Temporary Diversion Licence Electronic Review System (WATERS) to apply for a TDL. The system contains a map with areas that have been identified as closed or subject to a higher level of review (<https://ems.alberta.ca/WaterRestrictions/>). When an application is submitted into the WATERS system, AER staff initiates a review. The initial review will assess if the application requires additional review by subject matter experts such as, but not limited to, hydrologists, hydrogeologists, and fish and wildlife experts. If an application is sent for additional review, the subject matter experts would provide a recommendation. All recommendations are then gathered and sent with a final recommendation to a Director under the Water Act. The Director would then either ask for additional questions or take the recommendation and either approve or reject the application. Through this process, all involved in reviewing the file would consider all policies that apply as well as any special management plans for the basin. For example, as of July 17, 2024, the AER has rejected all new TDL applications from flowing streams within the Blindman River watershed, due to the Advisory placed by GOA.

Is there anything like Manual 25, but for TDLs?

No current similar manual is in place for TDL's since they are for short-term operations, e.g. maximum duration one year.

In the responses from the AEPA to the spring 2024 questions, "it is recommended water sources for TDLs be sourced where there is minimal impact on the aquatic environment. Recommended sources include surface runoff dugouts, sloughs, and non-fishing-bearing bodies of water. Fish-bearing lakes and creeks are least recommended. EPA and the AER TDLs are taken into consideration when determining if an area is locally constrained."

5. How was it determined that it was ok to issue TDLs from the Blindman River, a small, fish-bearing river? Please provide the written justification, especially for such large volumes.

The recommendation quoted above is meant to be interpreted as an order of preference for water sourcing. It should not be interpreted to mean that water cannot be issued from fish bearing lakes and streams, but instead that licences from fish-bearing streams would be subject to more restrictive conditions, such as flow-based diversion limits and cutoffs.

As previously mentioned, over the winter of 2023/2024, the Department Coordinating Center (DCC) set up teams to work every week to manage the provincial basins. For the Red Deer Basin, the AER meets with other governmental agencies such as Alberta Environment and Protected Areas (AEPA) and Alberta Agriculture and Irrigation (AGI) to be informed about the status of the watersheds and to determine if basins should have an advisory in place. The team is composed of hydrologists, water quality specialists, fishery expert agricultural experts, water engineers and infrastructure operators. At the meetings, the team is presented with information such as, current flow conditions at hydrometric stations against Instream Objectives (IOs), current allocations, and future precipitation patterns, also every week to two weeks AGI provides current conditions of soil moisture across the province. All this information is then considered to determine if actions such as advisories are needed for basins. The Alberta River basins website <https://rivers.alberta.ca/> publicly describes the methodology to place and remove advisories. Currently the Blindman River is closed to any new TDLs from flowing streams as of July 17, 2024.

Prior to July 17, 2024, and should the advisory on the Blindman River be lifted, all TDLs are issued with conditions that would consider low flows and a sustainable diversion from the source. For the Blindman River conditions are in relation to the South Saskatchewan River Basin Water Management Plan <https://www.alberta.ca/south-saskatchewan-river-basin-water-management-plan>, which sets an Instream Objective of 0.156m³/s. To minimize any impacts to the source as result of high diversion rates TDLs are also limited to how fast they can divert water from the stream called the 'diversion rate'. For example, TDLs in 2024 have a condition that limits the maximum cumulative diversion rate to no more than 10% of a measured flow at the point of diversion or 5% of the flow recorded at WSC station 05CC001 Blindman River near Blackfalds.

6. IOs are usually set in response to fish habitat concerns and water quality and the current IO for the Blindman does not seem to meet either goal. How is the Instream Objective for the Blindman River set?

The Blindman River is part of the Approved Water Management Plan for the South Saskatchewan River Basin that sets the Water Conservation Objectives (WCOs) and Instream Objectives (IOs). The Government of Alberta is responsible for setting Instream Objectives and the AER implements the IOs when issuing licences. Any concerns with the Instream Objective should be directed to Alberta Environment and Protected Areas.

Please provide the methodology used. What is the evidence that this methodology adequately protects the aquatic ecosystem?

As previously mentioned, all Instream Objectives and policies that aim to establish Instream Objectives are the responsibility of the Government of Alberta, please reach out to Alberta Environment and Protected Areas.

7. Can you clarify why the weekly flow graphs shown in the presentation had the SWAD 95 and SWAD 80 with the IO?

The graphs presented August 8, 2024, are for comparison only of the existing Instream Objective and what the Surface Water Allocation Directive (SWAD) would recommend as Instream Objectives. February 2019 the Province of Alberta released the Surface Water Allocation Directive <https://open.alberta.ca/publications/9781460143339>. The SWAD applies only in areas where there is no existing water management plan or framework to manage water. The SWAD recommends that a weekly Q80 Instream Objective is established for small streams with mean annual flows less than 2m³/s (for example, Lloyd Creek). For streams with a mean annual flow greater than 2m³/s but less than 10m³/s (for example, Blindman River) the weekly Instream Objective is based on the Q95. The Q80 streamflow is the streamflow that is equaled or exceeded 80% of the time for a specified time interval, based on historic streamflow data. Q80 is a low flow indicator and Q95 is a very low flow indicator.

Does the SWAD apply in our basin, even though we are under the SSWMP?

SWAD does not apply within the SSWMP but can be considered when assessing potential impacts on a water body from a proposed diversion of water such as a lake.

8. TDLs were originally meant for smaller uses such as washing equipment, camp use or single well drilling projects, which are a completely different scale to diverting millions of cubes annually (for decades) out of one basin, as is happening for fracking. Why is there not an annual volume limit on TDLs?

Current legislation does not prescribe the use or purpose of water licenced under a TDL or prescribe an annual volume limit. The 'Directive for water licensing of hydraulic fracturing projects – area of use approach' is written to encourage hydraulic fracturing projects to apply for term licences. TDLs are not allowed to have area of use mineral lease maps and are required to list all well locations that the water is requested for. Please refer to the Directive found at: <https://open.alberta.ca/publications/directive-for-water-licensing-of-hydraulic-fracturing-projects-area-of-use-approach>

9. When companies are restricted to 10% of flow on each diversion licence, but there are multiple diversion licences along a river (either from one company or multiple companies) all using the flow gauging station 50km downstream, what prevents them from each taking 10% of the flow at the station, rather than 10% of the flow that is coming to them in the river?

Depending on the condition in the TDL each Licensee may be limited to divert up to 10% of the flow at the station. The flow at the station would reflect diversions that may be occurring from other Licensees that are currently diverting upstream. Because the station is near the mouth, it reflects the diversions from all upstream users. Not all users divert at the same time, and new licences have a cutoff higher than the instream objective to ensure senior demand and IOs downstream are met. If a licence point of diversion is relatively far upstream, the licence will

usually be limited by 10% of the flow rate at a station more upstream (such as the Lloyd Creek station for licences in the Lloyd Creek watershed) or at the point of diversion.

Also new licences have a reduced diversion limit of 5% of the flow from 0.35 to 5m³/s. Currently there are three term licences issued by the AER, one out of the gravel pits adjacent to Lloyd Creek, one just below the confluence of Lloyd Creek and Blindman River, and the other south of the town of Bentley. The licence just below the confluence with Lloyd Creek would receive additional flow from the upper reach of the Blindman River and it also has a cutoff that is greater than the existing IO at 0.35m³/s to take into account downstream senior demand and the difference in drainage area between the hydrometric station 05CC001 near Blackfalds and its location of diversion.

10. Why are large water licence holders not required to measure flow at the point of diversion? (using downstream gauging stations can leave the intervening stretch of river below IOs)

Flow measurement locations are selected based on the proximity, reliability and accuracy of the Water Survey of Canada stations. If a Water Survey of Canada station is not representative of flows in the source of water at the point of diversion, the licensee is required to measure flows at the point of diversion. In some situations, the Licensee is required to measure flows at the point of diversion as well as monitor flows at a WSC Station. The new term licence below the confluence of Lloyd Creek and the Blindman River would only divert 5% of the flow recorded at station 05CC001 near Blackfalds, and only allowed to divert when flows are above 0.35m³/s. These conditions would ensure that the IO and potential downstream senior demands are met. Going forward TDLs would have similar conditions that would protect the stream from going below the Instream Objective of 0.156m³/s. In 2024, TDLs also had a similar condition to only divert 5% of the recorded flow at Blackfalds which is conservative as the flows at Blackfalds would already include any upstream diversion. The 0.156 m³/s IO originates with the Gull Lake stabilization licence (<https://avw.alberta.ca/pdf/00044974-00-00.pdf>) which limited that licence to only divert when the flow in the river was over 5.0 cubic feet per second (0.142 m³/s) to protect senior users and the aquatic ecosystem. When the SSWMP was approved, all IOs in the SSRB were increased by 10%, or to 0.156 m³/s for the Blindman River. The current IO was therefore set to protect senior users who are not subject to the IO and are allowed to divert at any flow rate.

By the time the flow is so low that the water bottling plant notices water quality issues (higher TDS and sodium content) or farmers begin relying on well water or trucking water for livestock, calling priority is too late. Why is the volume of traditional ag-use and term licences along the river not added to the IO and unavailable for TDL diversions?

The AER understands that a water bottling plant in the Lloyd Creek watershed sources its water from springs that contribute flow to Lloyd Creek, as described in Water Resources Act licences 00025717 and 00025718. The AER is not aware of any evidence that the water quality of the springs is affected by water withdrawal from the gravel pits adjacent to Lloyd Creek in the vicinity of 7-44-1W5. The diversion restrictions from gravel pits based on the flows in Lloyd Creek and the Blindman River IO provide additional protection to any potential local groundwater impacts.

The AER follows any existing policies set by GOA, and in this case the SSRB water management plan established the IO for the Blindman River to be 0.156m³/s. The AER has also recognized the increased demand from this source and has added a cut off threshold of 0.35m³/s to a new term licence. This added cut-off threshold together with a limitation to diverting only 5% of recorded flows below 0.5m³/s at Blackfalds would further protect downstream senior diversions. These similar conditions will be added to any future TDLs from the Blindman River. It is expected that licence conditions will protect the environment and any other existing users, however senior licensees can call priority at any given time when water is not available for diversion due to upstream diversions by junior licences.

11. Is the total traditional ag-use volume along the Blindman river known?

The Government of Alberta's Authorization Viewer shows Licences that have been issued including traditional ag-registrations. Along the Blindman River and its tributaries, there are 681 traditional ag-use records for a total allocation of about 250,000m³ per year. Traditional Agricultural registrations have no diversions restrictions and, in some instances, may only divert one time per year. Traditional agriculture licences are under AEPA's jurisdiction and are not required to report any water use, however the AER accounts for traditional agricultural registrations' allocated volumes when reviewing applications.

Does it have priority over TDLs and if so, how is it accounted for?

Yes, trad ag registrations have priority over TDLs. Volume of traditional agricultural registrations (and all term licence allocations) are accounted for in cumulative allocation analysis when reviewing and issuing TDLs.

Is it added to the IO and the remaining is available for TDL allocation, or is that not considered when issuing TDLs? What about for Term Licences?

The AER has recognized the increased demand from this source and has added a cut off threshold of 0.35m³/s to a new term licence. This added cut-off threshold together with a limitation to diverting only 5% of recorded flows below 0.5m³/s at Blackfalds, would further protect downstream senior diversions such as trad-ag registrations and Statutory household rights. The AER threshold of 0.35m³/s will be used on any future TDLs to be issued from the Blindman River.

12. In the case we have now in the Blindman, is it up to traditional ag use or term water licence holders to call priority on upstream users?

Term Licensees, traditional ag-use and household users can call priority. It should be mentioned that Temporary Diversion Licences don't have a priority, meaning that they can be cancelled or suspended at any time. Also, future TDLs would have a similar threshold cut off at least 0.35m³/s that would further protect senior rights and the established IO of 0.156m³/s.

When can this occur?

This can occur at any time. The Government of Alberta set up four water sharing agreements in the Red Deer River, the Bow River, the mainstem of the Oldman River and the upper tributaries of the Oldman River this year in order to support and collaborate with users so that Priority Calls can be avoided. Additional details are available at the Government of Alberta 'Drought - What government is doing' web page

<https://www.alberta.ca/drought-what-government-is-doing#:~:text=There%20are%204%20water%2Dsharing,tributaries%20of%20the%20Oldman%20River.>

Also, traditional agriculture licences as well as household rights have the priority over other users such as the oil and gas industry given that their diversions are not subject to the IO, meaning they are allowed to divert water under any flow conditions from the Blindman River or its tributaries. Therefore, such a priority call would likely not be necessary as all AER term licences and TDLs should already have been cut off.

13. How does the Water Conservation Policy for Upstream Oil and Gas apply to the hydraulic fracturing industry in our area?

The Water Conservation Policy for Upstream Oil and Gas applies to Term Licences in the province. Any term licence application in this area would have to follow Manual 025. Because this area has been identified as “Potentially Water Short Area” industry must follow Tier 3 requirements and guidance (please refer to page 9 of Manual 025).

Especially regarding TDLs?

Only Water Act Term Licences are guided by the [Water Conservation Policy for Upstream Oil and Gas Operations](#) and further guided by [Manual 25 – Applications Under the Water Conservation Policy for Upstream Oil and Gas Operations](#)

How are energy companies in this area incentivized to improve their water use efficiency or look at alternatives?

GoAs Water Conservation Policy for Upstream Oil and Gas Operations requires applicants for a term licence under the *Water Act* to identify and assess alternatives to high-quality nonsaline water (e.g., produced water, saline groundwater, fracturing flowback water); additional information can be found in AERs Manual 025 - Applications Under the Water Conservation Policy for Upstream Oil and Gas Operations. Companies using temporary diversion licences to fulfil their nonsaline water needs may only be issued such temporary licences for three consecutive years, after which the AER requests they apply for a term licence. The AER has enabled the use of alternatives to nonsaline water through expanding options for storage and conveyance of those alternative sources as well, through updates to AER Directive 055 and 077, respectively.

The AER’s Annual Water Use Performance Report compares Licensees ‘freshwater usage’, ‘alternative make-up’ water and ‘recycled water’ against other companies. Companies showing a higher ‘alternative make-up water’ and ‘recycled water’ usage would be considered as achieving better efforts to ‘conserve freshwater’. The public has access to the Water Use performance <https://www.aer.ca/protecting-what-matters/holding-industry-accountable/industry-performance/water-use-performance> where they can see the performance of individual companies.

14. Why is the AER and not AEPA in charge of TDLs?

The AER is responsible for regulating the life cycle of energy and minerals resource developments in Alberta. The *Responsible Energy Development Act* gives the AER the power, duty and function specified in the Specified Enactments, including the *Water Act*, in respect of an energy resource activity. As such, TDLs for drilling and hydraulic fracturing fall under the AER's jurisdiction. The AER is required to implement policies set by the Government of Alberta and works closely with AEPA Water Act staff to ensure consistent implementation of those policies.

15. Please provide clarification on the Water short areas assessment. Werner initially stated it was simply if the basin was fully allocated it was Water Short, but then in the presentation he gave an alternative definition saying it was in an area of higher demand. Please provide the definition and methodology used.

Water-short Area is an area where natural conditions and/or development pressures limit the availability of surface water and groundwater for future sustainable development and protection of aquatic ecosystems. Water short areas are considered exceptionally dry, or the area/watershed has been closed to most of all new water applications. Potentially water short areas are considered either dry or the area/watershed has a generally high level of allocations compared to natural supply. For any additional information on the water short or potentially short areas please contact AEPA as they are the entity who developed these areas and its criteria.

16. Why aren't hydraulic fracturing companies required to monitor surrounding wells, or shallow aquifer depletion while water is being diverted?

When diversion of water may cause an impact to surrounding water wells, the AER may limit the 'drawdown' on a particular water source. Some companies have groundwater monitoring from surrounding consenting landowners and some licences may require monitoring of surrounding wells if warranted.

Companies are not exempt from monitoring groundwater levels in surrounding wells. If a proposed groundwater diversion poses a potential risk to existing groundwater users, the AER may incorporate monitoring conditions into a licence. These conditions will require the licensee to monitor and report the levels in nearby water wells. Refer to section 2.0 and 3.0 of The Alberta Environment and Protected Areas Guide to Groundwater Authorization (2023) for more information.

17. Have any of the companies operating in our watershed had to complete a cumulative effects evaluation or have a plan for increasing their water use efficiency and conservation in their water licence application?

The cumulative effects evaluation only pertains to the alternate sources compared to the requested water source under Manual 025. Term Licence applicants are required to provide this information as part of AER's Manual 025. Both Vesta Energy Ltd. and Baytex Energy Ltd. hold Term Licences in the area, and have submitted a cumulative effects evaluation, with respect to

alternate sources. Baytex Energy Ltd. has secured Letters of Authorization's (LOA's) from the Town of Rimbey to use 'treated municipal wastewater'.

Baytex currently holds long-term renewable agreements with the Town of Rimbey for continued use of this 'treated municipal wastewater' source. The annual available volume of wastewater to be utilized from this source is approximately 450,000 m³ accounting for 41% of water requirements from 2026-2032.

If not, why not?

AER's Manual 025 does not apply to TDL's given that TDLs are for a short-term water diversion up to a maximum diversion period of 1 year.

18. Under what circumstances can a licence be revoked and what are the penalties for not abiding by the rules of a water licence?

The Water Act has specific sections outlining when a Licence can be 'Suspended' or 'Cancelled' see section 55 for Term Licences and section 62 for TDL's.

Penalties – Enforcement actions taken by the AER could include Orders, Warning Letters, Administrative Penalties, or Prosecution. Files accepted by the 'Investigations' team show up on the AER's Compliance Dashboard. <https://www.aer.ca/regulating-development/compliance/compliance-and-enforcement-tools#:~:text=Under%20the%20dashboard%27s%20compliance%20and,and%20investigations%20across%20the%20province.> [Compliance Dashboard – Home \(aer.ca\).](https://www.aer.ca/regulating-development/compliance/compliance-and-enforcement-tools#:~:text=Under%20the%20dashboard%27s%20compliance%20and,and%20investigations%20across%20the%20province.)

The AER often conducts desktop and field audits to ensure compliance. Field audits are conducted during the time of diversions, all TDLs diverting from fish bearing streams must notify the AER within 48hrs of starting diversion, this is to allow compliance staff to prioritize and audit at the time of diversions. Desktop audits are conducted after diversions to ensure the companies met the conditions with respect to Instream Objectives and a maximum percent diversion of recorded flows.

19. Why does Alberta Energy Regulator consider shallow groundwater, rivers, lakes, ponds, etc., as 'surface runoff'?

When it comes to water licensing, the AER adheres to definitions and categories as outlined in the Water Act and related guides and regulations.

Water body is defined in the Water Act as any location where water flows or is present, whether or not the flow or the presence of water is continuous, intermittent or occurs only during a flood, and includes but is not limited to wetlands and aquifers but does not include except for clause 1(1)(nn) and section 99 "water body" that is part of an irrigation works if the irrigation works is subject to a licence and the irrigation works is owned by the licensee, unless the regulations specify that the location is included in the definition of a water body. As such, shallow aquifers, rivers, lakes, ponds are considered 'water bodies' and are recipients of surface runoff. Runoff makes up a portion of the water contributing to these sources but is not the only contributing factor. Another example of source water could be

groundwater and shallow groundwater under influence of surface water, which is evaluated according to surface water licensing procedures.

Shallow groundwater under the direct influence of surface water is administered according to surface water licensing procedures as per the Guide to Groundwater Authorization, however, during technical review, we review the hydrological and hydrogeological impacts of the diversion. Rivers, lakes, and ponds are not considered 'surface runoff' sources but are identified by their name, e.g. Blindman River. Since all flowing water bodies don't have names the WATERS system uses 'Unnamed Creeks'. Gravel pits may have some contribution from shallow groundwater or be 'hydraulically connected' to flowing water bodies if located near them.

Generally, TDLs from dugouts or small "pothole lakes" that are not along an identified stream are assumed to be isolated for the surface water system of a watershed. If the source is a natural pond, TDL diversion volumes are limited to the equivalent of 12% of the average annual outflow volume and a 10 cm drawdown water level cutoff condition may also be included in the TDL.

Why are surface runoff-filled reservoirs not a distinct category of water inventory, defined by a reservoir only being filled by overland flow from precipitation and snowmelt, with no groundwater recharge.

The system used to issue AER Temporary Diversion Licences (WATERS), has limited water source types; however, our review ensures that all interactions and impacts on all waterbodies, surface and groundwater are considered, and conditions placed accordingly.

The system was not set up with two distinct categories of 'surface runoff' vs. 'surface runoff with potential groundwater recharge' since it may be too difficult to distinguish between the two sources. The AER does look at the surface runoff source location relative to flowing streams. See response to the first part of the question.

20. How do you ensure licenses for runoff filled dugouts are not connected to groundwater?

The AER assumes that dugouts or pits adjacent to rivers/creeks are 'hydraulically connected' meaning that any diversions may be restricted by the Instream Objective of the adjacent river/creek and the Licence may limit the maximum 'rate of diversion' based on flow. Assessing that a dugout is likely hydraulically connected to an adjacent surface water body does not mean that the dugout is not connected to groundwater as well. The purpose of this assessment is to determine if a licence from a dugout, or other man-made reservoir, requires diversion limits related to an IO, a WCO, or SWAD.

The AER uses Geographic Information System (GIS) layers maintained by the Government of Alberta that distinguishes between natural features such as flowing stream and lakes to those that are manmade such as canals and reservoirs. The AER also uses Aerial photography, past and current satellite imagery freely available to the public found in the Sentinel website (<https://apps.sentinel-hub.com/eo-browser/?zoom=6&lat=54.65477&lng=-115.77393&themeld=DEFAULT-THEME&toTime=2023-06-12T22%3A18%3A19.445Z>). In most

cases it is not possible to know if such dugout is connected to shallow groundwater given that the depth of dugouts is not known. The AER may request the applicant to provide information about the source of water in the dugout. The requested diversion may also be referred to a hydrogeologist to determine if any nearby wells may be impacted. Lastly the AER may add a drawdown limit to make sure that diversions don't have an impact to the shallow groundwater and any nearby well.

21. How do you ensure if a landowner sells their dugout water (ag-exempted water allocation), that they get a licence for their ag water use the rest of the year?

If a landowner sells 'access' to water, it would be up to them to ensure they leave adequate water for agricultural water use the rest of the year. If they run short, it would be the landowner's responsibility to locate other water sources to meet their demand. For any further information on this please follow up with Alberta Environment and Parks.

22. Why don't companies need to have a plan for water conservation and efficiency improvements? Please see AEPA Question 9 from the set of questions from the spring.

An application for a Water Act term licence is guided by the Water Conservation Policy for Upstream Oil and Gas Operations and further guided by the AER's Manual 025 – Applications Under the Water Conservation Policy for Upstream Oil and Gas Operations which requires applicants to complete Alternative Source Assessments. Moving to alternate sources vs. using high quality non-saline water helps conserve fresh water. The AER's Annual Water Use Performance Report compares Licensees freshwater usage, alternative make-up water and recycled water against other companies.

23. How does the AER know that industry is pumping at the correct rate (ie. 10% of flow) and total volume?

The maximum rate of diversion is specified in the TDL. The Licensee is responsible for following the conditions in the Licence. The AER will conduct random field inspections to verify the information or do 'desktop' Audits where the Licensee has to provide this information. The monitoring data must be held for 5 years, and the Director can ask for the data at any time. Low flow areas are audited more frequently.

How does the pump operator know what diversion rate to use and how is this monitored and recorded?

The licenced maximum diversion rate is usually set by the size of the pump to be used. If a licence condition requires water to be diverted at a rate below the maximum rate, it is up to the licence holder to have a methodology to reduce the diversion rate accordingly. As mentioned above, companies are subject to random audits to verify that they are able to follow their licence conditions and are subject to penalties if they are found to be out of compliance.

Why aren't daily diversion volumes recorded and published publicly?

The AER and AEPA both use a water use data database that is under the control of AEPA. Data from this database can be requested from AEPA or AER (if the request is focussed on AER

regulated use). Questions about the potential for this data to be more publicly accessible should be directed to AEPA.

24. How can the public monitor TDL applications when we do not know the Legal Land Description for the TDL application until it is approved?

The current system is so onerous that it is unreasonable for the public to have to manually check every LSD, even in a local area, every 30 days. Can the webapps.aer.ca/pnoa page please have an interactive map that shows the location of the applications, to quickly see where the applications are being made?

This is a good suggestion, and the AER will take this into consideration for future development.

Water Act Term Licences of interest regulated by the AER.

Water Act Term Licence No. / Licensee	Water Source	Point of Diversion Locations	Position with respect to water body
00458425-00-00 Vesta Energy Ltd.	Blindman River	03-040-01W5M	Lower watershed, south of Bentley
00498767-00-00 Baytex Energy Ltd.	Gravel pits adjacent to Lloyd Creek	35-044-02W5M (three locations) 07-044-01W5M (two locations)	Upper watershed
00499334-00-00 Baytex Energy Ltd.	Blindman River	21-043-02W5M	Upper watershed, downstream of the confluence of Lloyd Creek and Blindman River

The public can also access current allocation and some applications via the public website called the Alberta Flow Estimation Tool for Ungauged Watersheds (AFETUW).

<https://afetuw.alberta.ca/>

Questions for Alberta Energy Regulator from Spring 2024

- 1. Why does Alberta Energy Regulator consider shallow groundwater, rivers, lakes, ponds, etc, as 'surface runoff'? Why are surface runoff-filled reservoirs not a distinct category of water inventory, defined by a reservoir only being filled by overland flow from precipitation and snowmelt, with no groundwater recharge?**

When it comes to water licensing, the AER adheres to definitions and categories as outlined in the *Water Act* and related guides and regulations.

The system used to issue AER Temporary Diversion Licences (WATERS), has limited water source types; however, our review ensures that all interactions and impacts on all waterbodies, surface and groundwater are considered, and conditions placed accordingly.

The system was not set up with two distinct categories of 'surface runoff' vs. 'surface runoff with potential groundwater recharge' since it may be too difficult to distinguish between the two sources. The AER does look at the surface runoff source location relative to flowing streams. See response to the first part of the question.

Water body is defined in the *Water Act* as any location where water flows or is present, whether or not the flow or the presence of water is continuous, intermittent or occurs only during a flood, and includes but is not limited to wetlands and aquifers but does not include except for clause 1(1)(nn) and section 99 "water body" that is part of an irrigation works if the irrigation works is subject to a licence and the irrigation works is owned by the licensee, unless the regulations specify that the location is included in the definition of a water body.

As such, shallow aquifers, rivers, lakes, ponds are considered 'water bodies' and are recipients of surface runoff. Runoff makes up a portion of the water contributing to these sources but is not the only contributing factor. Another example of source water could be groundwater and shallow groundwater under influence of surface water, which is evaluated according to surface water licensing procedures.

Shallow groundwater under the direct influence of surface water is administered according to surface water licensing procedures as per the Guide to Groundwater Authorization, however, during technical review, we review the hydrological and hydrogeological impacts of the diversion. Rivers, lakes, and ponds are not considered 'surface runoff' sources but are identified by their name, e.g. Blindman River. Since all flowing water bodies don't have names the WATERS system uses 'Unnamed Creeks'. Gravel pits may have some contribution from shallow groundwater or be 'hydraulically connected' to flowing water bodies if located near them.

Generally, TDLs from dugouts or small "pothole lakes" that are not along an identified stream are assumed to be isolated for the surface water system of a watershed. If the source is a natural pond, TDL diversion volumes are limited to the equivalent of 12% of the average annual

outflow volume and a 10 cm drawdown water level cutoff condition may also be included in the TDL.

2. Why aren't hydraulic fracturing companies required to monitor surrounding wells, or shallow aquifer depletion while water is being diverted?

When diversion of water may cause an impact to surrounding water wells, the AER may limit the 'drawdown' on a particular water source. Some companies have groundwater monitoring from surrounding consenting landowners and some licences may require monitoring of surrounding wells if warranted.

Companies are not exempt from monitoring groundwater levels in surrounding wells. If a proposed groundwater diversion poses a potential risk to existing groundwater users, the AER may incorporate monitoring conditions into a licence. These conditions will require the licensee to monitor and report the levels in nearby water wells. Refer to section 2.0 and 3.0 of The Alberta Environment and Protected Areas Guide to Groundwater Authorization (2023) for more information.

3. Who sets the minimum flow rate? Why are they set so low? How are the minimum flow rates established? Why not increase the minimum flow rate, especially during drought years?

In making decisions for Water Act License applications in the South Saskatchewan River Basin (SSRB) for example, including the Red Deer River basin, and the Battle River Basin, the AER follows guidelines provided in the [SSRB](#), and [Battle River Basin](#) plans.

The SSRB, and the Battle River Basin Water Management Plan (WMP), outline the Instream Objectives (IOs) and Water Conservation Objectives (WCOs) that are attached as conditions to licences when reviewed and approved for diversion. All licences including TDLs issued after the Water Management Plan (WMP) implementation have IO's and/or WCOs attached to the licence.

All Instream Objectives and Water Conservation Objectives are specified in the Approved Water Management Plan set by the Government of Alberta. The AER does not set IO's but follows policies set by GoA such as Water Management Plans. If the public is concerned, with the set IO's they should contact Alberta Environment and Protected Areas.

4. How does the Alberta Energy Regulator differentiate water from rivers/creeks versus man-made structures, such as dugouts or pits adjacent to rivers/creeks?

The AER assumes that dugouts or pits adjacent to rivers/creeks are 'hydraulically connected' meaning that any diversions may be restricted to an Instream Objective of the adjacent river/creek and the licence may limit the maximum 'rate of diversion' based on flow.

The AER uses Geographic Information System (GIS) layers maintained by the Government of Alberta that distinguishes between natural features such as flowing stream

and lakes to those that are manmade such as canals and reservoirs. The AER also uses Aerial photography, past and current satellite imagery freely available to the public found in the Sentinel website (<https://apps.sentinel-hub.com/eo-browser/?zoom=6&lat=54.65477&lng=-115.77393&themeld=DEFAULT-THEME&toTime=2023-06-12T22%3A18%3A19.445Z>)

5. How does the Alberta Energy Regulator ensure water from rivers/creeks is not being diverted to/connected to pits/dugouts?

Diversion of water from rivers/creeks to pits/dugouts is allowed with the proper *Water Act* Licence in place. Companies may store water during 'high flow' periods for projects at a later date. In the case of TDL's the water must be diverted and used within one year. This prevents speculation of water resources and minimizes impacts on the rivers/creeks when flows are low or diversions are not allowed.

Pits and Dugouts under the direct influence of surface water from a river and Creek generally would have conditions that aim to protect the stream. Also, shallow groundwater under the direct influence of surface water is administered according to surface water licensing procedures as per the Guide to Groundwater Authorization, however, during technical review, we review the hydrological and hydrogeological impacts of the diversion.

6. Why are Temporary Diversion Water Licence holders not required to measure flow at the point of diversion?

At this time, Lloyd Creek monitoring station is downstream from where the water is being diverted out of Jones Trucking and Backhoe, as well as the gravel pits on Highway 611. There could be tributaries in between where Jones pit is and the Lloyd Creek monitoring station, which can affect the level of the body of water and the flow rate.

For example, in 2023, Baytex was using the Blackfalds flow station to determine Blindman River flow for diversion just south of Bluffton. These two locations are more than 50 km apart. When recorded flow data is not available, Licensees must measure flows at the Point of Diversion or at the specified hydrometric station to determine if water can be diverted or not.

When recorded flow data is not available, Licensees must measure flows at the Point of Diversion or at the specified hydrometric station to determine if water can be diverted or not. Licences on the Blindman River, such as from Baytex in 2023, had monitoring conditions at Blackfalds but also included an additional restriction to only divert 10% of the flow at Blackfalds provided flows remain above the Instream Objective.

- a. At this time, Lloyd Creek monitoring station is downstream from where the water is being diverted out of Jones Trucking and Backhoe (LSD S7 44 1 W5), as well as the gravel pits on Highway 611. There could be tributaries in between where Jones pit is and the Lloyd Creek monitoring station, which can affect the level of the body of water and the flow rate.**

b. In 2023, Baytex was using the Blackfalds flow station to determine Blindman River flow for diversion just south of Bluffton. These two locations are more than 50 km apart as the crow flies.

7. When the Alberta Energy Regulator reports a certain percentage of Alberta's non-saline water used/allocated by certain users each year, how is that determined? Is it done on a watershed level or a provincially aggregated level? If the latter, how is it meaningful since you could use a large portion of an allocated volume in one basin where there is water scarcity and have it look like there are no issues on a provincial level? How is the yearly fluctuation in supply determined?

The Water Use Performance is done at both the watershed level and provincial level. Assessed at the Hydrologic Unit Code (HUC) 8 level which is finer than the 4-character watersheds from Water Survey of Canada. The AER computes the percent of water allocation to median annual availability at a local watershed scale and cumulative scale down to the HUC 8 of interest. The Water Use Performance is done at the watershed level and provincial level. Yearly fluctuation in supply is not determined. The water availability is based on long-term median to provide a consistent pattern of the allocation percentages year after year (it is not an operational tool). Yearly fluctuations may affect the number of TDL's that can be issued due to ongoing water management actions from the Government of Alberta and Alberta Energy Regulator, therefore, restricting the number of TDL's that can be issued (e.g, advisories not to issue any TDL's may be displayed in the Alberta Rivers web site).

Please refer to the Water Use Performance AER website: <https://www.aer.ca/protecting-what-matters/holding-industry-accountable/industry-performance/water-use-performance/water-allocation-and-availability>

8. What are the 'standard conditions' that allow for Temporary Water Diversion Licence applications to be automatically approved by the Water Act Temporary Diversion Licence Electronic Review System (WATERS)?

There are risk-based thresholds set in WATERS, the program used for processing TDL applications, that enable low risk applications from acceptable sources e.g. runoff sources, to be issued automatically. These thresholds are evaluated continuously and updated as required by the AER. A typical TDL for hydraulic fracturing would not meet low risk thresholds and are reviewed manually. Due to drought and low flow concerns TDL's within certain watersheds within the SSRB are sent to review. During periods of drought/low flow advisories, all TDLs from severely affected water basins may be sent for additional review.

9. How does the Alberta Energy Regulator determine if there is sufficient water before issuing Temporary Water Diversion Licence approvals? How are landowner needs and ecological needs determined?

Surface water TDLs are issued in accordance with the SSRB Approved Water Management Plan. The AER may consider the use of the *Surface Water Allocation Directive* in the absence of an approved water management plan (for e.g., small streams with no Instream Objective or Lakes with no specified water level cutoff).

When a TDL application is submitted for the diversion of groundwater, the AER requires the applicant to submit a groundwater evaluation report as supporting documentation, as outlined in the *AEPA Guide to Groundwater Authorization (2023)*.

A groundwater evaluation report includes the interpretation of yield test(s) conducted on the proposed production well(s) to determine the hydraulic properties of the aquifer, to assess potential groundwater boundary conditions and to determine the long-term sustainable yield (Q20) of the aquifer in the vicinity of the well. The groundwater evaluation report also must include a field-verified survey to assess potential impacts of proposed groundwater diversion. This allows applicants to notify nearby users, record concerns, and address these in the application report submitted to the AER.

The AER reviews current 'active' and 'expired' Licences on a water source and considers the SSRB Approved Water Management Plan and may consider the Surface Water Allocation Directive.

Landowner needs would be determined based on Licences or Traditional Agriculture Registrations they hold and would be considered in the water availability assessment.

Ecological needs are met by following the SSRB Approved Water Management Plan and may consider the Surface Water Allocation Directive.

10. Were Baytex Energy, Spartan, Bonavista and Resourceful required to do an 'investigation of alternatives to non-saline water' before applying for a Temporary Water Diversion Licence? If so, can we see it?

TDLs are short-term (up to one year) diversions that may cause a temporary impact to the water source. Due to their short-term, temporary nature, an alternative to non-saline water source investigation is not required.

Only *Water Act* Term Licences are guided by the [Water Conservation Policy for Upstream Oil and Gas Operations](#). While this is not explicitly stated in the WCP, it is clarified in [Manual 25 – Applications Under the Water Conservation Policy for Upstream Oil and Gas Operations](#).

Temporary Diversion Licenses (TDLs) are guided by any approved Water Management Plans applicable to the basin from which the TDL is being applied for, or the *Surface Water Allocation Directive* in areas that do not have an applicable approved Water Management Plan.

11. Many water licenses issued have return flow, whereas hydraulic fracturing does not. How is this accounted for in issuing licences? Many other Temporary Water Diversion Licences would have return flow available for downstream users, other licence holders and the aquatic environment.

Return flow volumes usually date back to Water Resources Act licences and were included in cases where the water user returned a significant fraction of the water they diverted back to the source. Typical examples are municipal licences, pulp and paper mills, and many electric power plants. In watersheds where a significant fraction of the allocation volume includes reliable return volumes the return volume in the licence is assumed to be released back into the river for potential allocation downstream.

Hydraulic Fracturing does create a small amount of 'frac flow back' water that is not capable of being returned to the environment. When pumped downhole during a fracture stimulation, the water mixes with formation fluids such that it is typically saline when returned to surface. This returned brine is often treated and reused for additional frac treatments before it is eventually disposed downhole. Different amounts of frac flowback water is 'generated, e.g. returned to surface depending on the geological formation type. The AER assesses the water diverted as being 'permanently' removed from the hydrologic cycle.

12. How is the cumulative effect of multiple hydraulic fracturing Temporary Water Diversion Licences (TDLs) in a watershed measured and does it affect the availability of water (in available TDLs) more than other TDLs? Have any of the companies operating in our watershed had to complete a cumulative effects evaluation?

The Approved SSRB Water Management plan sets the IOs and WCO cutoff conditions in the Blindman River. If flows drop below the IO and/or the WCO due to multiple users diverting, licences restricted by the IO and/or WCO must stop diverting until the river flows goes back above the IO and/or WCO. AER reviews the TDLs looking at all licences both issued from AER and AEPA upstream and downstream of the requested point of diversion. The cumulative allocation analysis together with the current availability provides information to approve, deny or ask for more information from the applicant.

The Government of Alberta's Approval Viewer allows TDL's and Term Licence to be viewed at the web site: [Authorization Viewer - Environment and Protected Areas \(alberta.ca\)](https://www.alberta.ca/authorization-viewer-environment-and-protected-areas)

Active licences can be viewed on a map or downloaded using the Alberta Flow Estimation Tool for Ungauged Watersheds (<https://afetuw.alberta.ca/>)

13. How is shallow groundwater usage determined if the Temporary Water Diversion Licence (TDL) is from a dugout or pond with groundwater recharge and how is this figured into available TDLs?

Generally, TDLs from dugouts or small "pothole lakes" that are not along an identified stream are assumed to be isolated for the surface water system of a watershed. If the source is a natural pond, TDL diversion volumes are limited to the equivalent of 10 cm of lake depth and/or a 10 cm water level cutoff condition may be included in the TDL.

Shallow groundwater under the direct influence of surface water is evaluated according to surface water licensing procedures.

14. How does the Alberta Energy Regulator ensure companies applying for Temporary Water Diversion Licences in sub-regional areas "engage and collaborate with all water users...in order to minimize overall impacts on the water source?" (Community engagement and collaboration between oil companies to ensure water use is sustainable in that area. These are in the Water Conservation Policy for Upstream Oil and Gas Operations).

There are two types of water diversion licences issued under the *Water Act*. Term licences and TDLs.

An application for a *Water Act* term licence is guided by the [Water Conservation Policy for Upstream Oil and Gas Operations](#) and further guided by [Manual 25 – Applications Under the Water Conservation Policy for Upstream Oil and Gas Operations](#).

TDLs are diversions that may result in a temporary impact to a water source and are issued for up to one year. The *Water Conservation Policy for Upstream Oil and Gas Operations* does not apply to TDLs, as noted in Manual 025.

TDL's are short-term operations, e.g. maximum duration one year, and the AER keeps track of all active TDLs from both AEPA or AER, at the time of review of a new request for allocation.

15. Since we are located in a 'Potentially Water-Short Area,' what have the energy companies done to show they have 'maximized efforts to reduce high quality, non-saline water?'

An application for a *Water Act* term licence is guided by the [Water Conservation Policy for Upstream Oil and Gas Operations](#) and further guided by [Manual 25 – Applications Under the Water Conservation Policy for Upstream Oil and Gas Operations](#) which requires applicants to complete *Alternative Source Assessments*.

Baytex currently holds long-term renewable agreements with the Town of Rimbey for continued use of this 'treated municipal wastewater' source. The annual available volume of wastewater to be utilized from this source is approximately 450,000 m³ accounting for 41% of water requirements from 2026-2032.

16. With the Alberta Energy Regulator directives 55,58,77, as the website states that non-saline water use intensity is expected to start decreasing in 2024. Is this expected in our area, given the number of enormous holding ponds being constructed in our sub-basin for non-saline water storage?

The 'water use intensity' is the number of barrels of water required to produce one Barrel of Oil Equivalent (BOE). If the 'water use intensity' decreases that may mean that more BOE's can be produced from the same amount of water. The amount of water required to produce one BOE is affected by type and development stage of the geological formation.

Reservoirs are an important mitigation measure that allow licensees to divert water at times when the flows are favourable and when they can have the least impact (e.g. spring freshet) and store the water prior to using it. By diverting water during high flow events, the demand on the sources of water is reduced during low flows.

Please refer to the Water Use Performance AER website:

<https://www.aer.ca/protecting-what-matters/holding-industry-accountable/industry-performance/water-use-performance/water-allocation-and-availability>

17. What is the current Conservation, Efficiency, and Productivity (CEP) Sector Plan for the hydraulic fracturing industry?

The Alberta Energy Regulator is not directly involved in the establishment of the voluntary Conservation, Efficiency, and Productivity (CEP) Plans under the Water for Life Strategy. Seven identified sectors each compile these under the oversight of the Alberta Water Council (AWC). Hydraulic fracturing falls under the broader sector of Oil & Gas, represented by the Canadian Association of Petroleum Producers (CAPP), who presented an update to the AWC in October 2023. Any questions related to this would best be directed to Tara Payment (tara.payment@capp.ca) of CAPP or to Katie Duffett of the AWC (kduffett@awc-casa.ca), as appropriate.

18. What are the in-stream flow needs for the Blindman River and its tributaries? How are they determined? Are they actual “Protected Water” through Water Conservation Objectives, or are they set by the Alberta Energy Regulator during licensing?

In making decisions for *Water Act* License applications in the South Saskatchewan River Basin (SSRB) including the Red Deer River basin, and the Battle River Basin, the AER follows guidelines provided in the [Approved Water Management Plan for the South Saskatchewan River Basin](#).

The SSRB Water Management Plan (WMP), outlines the Instream Objectives (IOs) and Water Conservation Objectives (WCOs) that are attached as conditions to licences when reviewed and approved for diversion. All licences including TDLs issued after the Water Management Plan (WMP) implementation have IO's and/or WCOs attached to the licence.

In-stream flow needs for the SSRB were determined by the GoA and used to establish the Water Conservation Objectives (WCO's) identified in the Water Management Plan for the SSRB.

The Instream Objective for the Blindman is 0.156m³/s, which is 110% of the existing IO of 0.142m³/s as per the approved Water Management Plan for the SSRB. The IO is to be met anywhere in the mainstem of the Blindman River. The WCO is for the mainstem of the Red Deer Basin which is the greater of 45% of the Natural Flow or 16m³/s at Red Deer.

TDLs are also issued with consideration to current water advisories or restrictions as identified by Alberta Environment and Protected Areas. <https://rivers.alberta.ca/>. If a water shortage advisory is in place, TDL applications are considered on a case-by-case basis based on current flow conditions.

19. Why is hydraulic fracturing not listed as a possible reasons for a Temporary Water Diversion Water Licences on the Alberta Energy Regulator's website?

Please see the link below:

<https://www.aer.ca/regulating-development/project-application/application-processes/water-act-temporary-diversion-licence>

The AER's web site is not an exhaustive list for all the purposes for issuing TDL's.

20. Is the Alberta Energy Regulator working on a specific noise directive for water pumping operations? These are no longer “temporary oilfield activities” as the producers have their pumping contractors park their pumps outside the same residences for 2 or 3 months every year. The level of respect the contractors have for the residents seems to vary with the contractor as well as the producer that hired them. This needs to be regulated to protect the residents in the area.

Since the water pumping operations are part of a water licence issued by the AER, their noise emissions are regulated by the existing noise control directive, please refer to [Directive 38](#).

21. Do hydraulic fracturing companies have the right to replace water when it evaporates? For example, with the Baytex Energy reservoir in Ponoka County

Reservoirs are authorized under the *Water Act* but no Licence is attached to it. Baytex will have to use any of their existing Term Licences that include this reservoir as part of their works or apply for a TDL to meet their operational needs which may include any losses, such as evaporation, from the reservoir