the Trout Trust

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Confluence

The AER Decision on Exploratory Drilling at Grassy Mountain

Dave Eaton

On May 15, 2025, the Alberta Energy Regulator (AER) released its decision on NorthBack Mining's application to drill an additional 33 exploratory boreholes at Grassy Mountain. The AER approved the application. While this is not the final decision in favour of permitting surface coal mining on Grassy Mountain, it does represent another step towards that approval. Proponents of this mine continue to present short-term economic arguments in support of the Grassy Mountain Project, despite the proposal's denial by a 2021 Joint Federal-Provincial Review Panel (JRP).

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Loss of Trout From The Bow River

ENTRAINMENT, PART I

Jim Mclennan

Loss of Trout From The Bow River

Jim McLennan, author and cofounder of The Trout Trust, details the history of entrainment (loss of fish to irrigation canals) in the Bow and other Alberta rivers. Recent study by Alberta Environment and Protected Areas has identified entrainment as one of the key factors negatively affecting the Bow River fishery. Fish loss to these irrigation canals has been recognized as an issue for 115 years, yet a serious commitment to implement solutions has not been made.

If you care about the Bow River please read the following articles:
"**Still Trapped,**" Alberta Wilderness Association, Wildlands Advocate, Fall 2024

https://albertawilderness.ca/wp-content/uploads/2024/09/20240822_WLA_Fall-Proof_FONT-UPDATE.pdf

Irrigation Canals Threaten the Bow River's World-Class Sport Fishery," Outdoor Canada, Jan 2,2024

Irrigation canals threaten the Bow River's world-class sportfishery. Here's what you need to know • Outdoor...

Advertisement Ongoing concern extends throughout Alberta's angling community regarding a decline in populations of mature trout in the Bow River, both in Calgary and downstream of the city. Provincial biologists...

Outdoor Canada / Jan 2, 2024

We also ask that you consider joining other concerned citizens at The Trout Trust .

Entrainment Solutions in Other Places

Entrainment Part II

Gary Hanke

As the number of hydro-electric dams and irrigation projects increases worldwide, including the doubling of new developments in Alberta, concerns about their impact on fish populations are rising. Injuries and mortality at hydroelectric facilities and irrigation diversions can significantly affect these populations in several ways: (1) fish passage through turbines, irrigation canals and spillways; (2) entrainment of resident fish; and (3) fish impingement (fish becoming stuck on screens). In Alberta the most severe issue is entrainment.

Entrainment refers to the unintentional passage of fish through water intakes. This issue is particularly severe where water is diverted into canals for irrigation or power generation. It is worse in the Northern Hemisphere, where freezing conditions trap fish in canals, resulting in their death.

Entrainment captures all fish species in the watershed, and in Alberta, this includes several species protected under the Species at Risk Act (SARA). Notable at-risk sport species include bull trout and westslope cutthroat trout.

Bull Trout

•This species is listed as “threatened” and is the provincial fish of Alberta. They require specific cold, clean, and complex habitats, and their populations are declining in Alberta.

Westslope Cutthroat Trout

•Considered at risk, particularly in Alberta. They are listed as “threatened” under both the Alberta Wildlife Act and the federal Species at Risk Act (SARA).

Other Fish Species

•In Alberta several other fish species that are at risk, includingArctic grayling, brassy minnow, deepwater sculpin, and lake sturgeon.

Global Successes

Australia has researched the effectiveness of fish screens in minimizing the entrainment of various aquatic species and debris at discharge pump diversions of different sizes. The study found that screening pumps reduced fish entrainment by 93% to 100% and debris entrainment by over 99%. When designed and operated

correctly, fish screens significantly decreased the entrainment of fish, crustaceans, and debris at both small and large water pumps in multiple riverine environments.

Research in California has shown that closely related species, such as green sturgeon and white sturgeon, can exhibit different responses when exposed to fish-protection devices, with green sturgeon being more susceptible to contact and impingement on fish-exclusion screens. Studies emphasize the significance of ontogeny—the developmental stage of fish—on responses to water diversions, highlighting the need for species-specific information in conservation practices.

Fish entrainment is a multifaceted issue. Understanding the causes, ecological consequences, and mitigation strategies is crucial for ensuring the sustainability of fish populations, the sport of fishing and riverine ecosystems.

Alberta Irrigation Updates
New irrigation projects proposed for the Red Deer River

Eric Grinnell

Two new irrigation projects are being planned or proposed in central Alberta. The first is a dam and reservoir on the Red Deer River downstream of the City of Red Deer; the second is a number of pumping stations on the Red Deer River close to the Saskatchewan border.

Ardley Dam and Reservoir

Various proposals for a dam and reservoir on the Red Deer River near the hamlet of Ardley, about 70 km downstream of the city of Red Deer, have been floated over the last 100 years. In 2024 the Alberta Government (GoA) issued a tender for a feasibility study for a dam and reservoir at that site. The study is expected to be completed by the fall of 2026.

The tender from GoA reads “The object of the Ardley Dam Scope and Feasibility Study is to assess whether a new dam on the Red Deer River near Ardley can be designed, constructed and operated within the current regulatory environment for a cost that adds value to Albertans and the economy, including benefits to irrigation, drought management, water security and flood protection.”

The proposed reservoir would be about four times the surface area of Glennifer Lake

created by the Dickson Dam on the Red Deer River further upstream. The reservoir would extend almost to the city of Red Deer.

It must be stressed that this proposal is at the feasibility stage. If, after analysis of the costs and benefits, the project is approved, there is an opportunity to include fish-exclusion devices in the design of the irrigation outflow, rather than retrofitting such devices later.

Whether trout would be present in the reservoir or not, we should be guided by the philosophy of “all fish matter.”

MD of Acadia and Special Areas Board Irrigation Project

This project in east-central Alberta proposes to pump water from the Red Deer River to several off-river reservoirs, one north of the river on the border between Special Area # 2 and the MD of Acadia, the other south of the river near Bindloss. Terms of Reference for an Environmental Impact Assessment (EIA) were issued March 2025.

This project also has the opportunity to incorporate fish-exclusion devices in the diversion or pumps as part of the design and engineering. A particular concern in this area could be the presence of lake sturgeon, a Species at Risk in Alberta.

Let’s not repeat the past.

IAfter a thorough review of the proposal, the JRP determined that the environmental risks far outweighed any potential economic benefits of the project.
One thing is sure: if this project were to proceed, it would be detrimental to wild trout.

- The proposed mining impact area includes two small streams, Blairmore Creek and Gold Creek, both of which contain endangered populations of pure-strain Westslope Cutthroat Trout.

- These streams will be severely negatively impacted, including being physically rerouted during mining operations.

- Increased sedimentation, secondary to NorthBack's exploration program, is already an issue in Gold Creek.

- Surface coal mining requires enormous volumes of water for dust suppression and washing coal, among other purposes, and this water is needed year-round. This results in significantly decreased stream volume during periods of natural low flow (late summer, fall & winter).

- It is well-documented that surface coal mining releases toxic levels of harmful substances, such as selenium, which are highly detrimental to fish and other forms of aquatic life.

It is worth noting that harmful levels of selenium continue to leak from the legacy Grassy Mountain and Tent Mountain coal mining operations, both of which are located in the Crowsnest River Watershed, despite the cessation of mining operations at these locations over forty years ago. A recently released Government of Alberta study has directly linked ongoing selenium leaching from Tent Mountain to toxic levels of selenium in Brown Trout, Lake Trout and Whitefish in Crowsnest Lake. A health advisory has now been issued by the province recommending limited consumption of these fish.
In the nearby Elk Valley, where these same coal formations are being mined by Teck Resources (now Glencore), they have been unable to address this problem adequately. Teck has now spent well over a billion dollars in attempts to mitigate the selenium leaving their mines, yet toxic levels of selenium persist. A severe and well-documented decline in the Westslope Cutthroat population in the Fording River, downstream of Teck's Greenhill Operation, has been directly attributed to toxic levels of selenium. The Trout Trust (TTT) speaks for the protection of wild trout and the preservation of their habitat; therefore, The Trout Trust stands in opposition to the approval of the Grassy Mountain Project.

A quick link below to The Trout Trust.