

Conservation of the Cardinal Divide

By Devon Earl, Kristen Andersen, Beth MacCallum, with support from Elisabeth Beaubien and Tara Russell



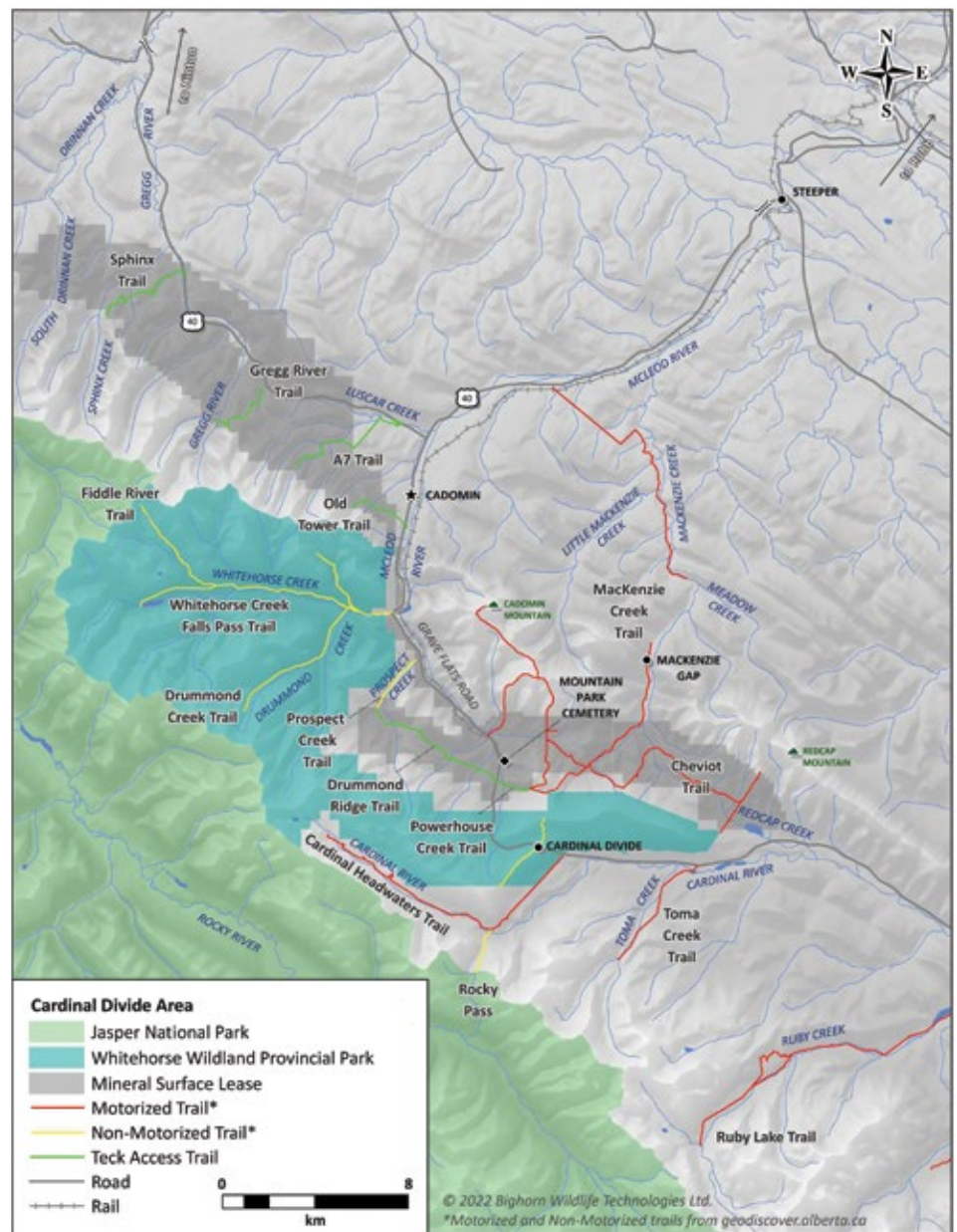
Introducing the Cardinal Divide Conservation Coalition

South of Hinton, near the eastern border of Jasper National Park, lies the dividing point between two major watersheds: the Athabasca River to the north, and the North Saskatchewan River to the east. This wide ridge — known as the Cardinal Divide — boasts unique and rare flora. It is suggested that it may have escaped the last Wisconsin Ice Age as a glacial refugia, where some species were able to persist while the surrounding region was blanketed by a thick sheet of ice. Observers have recorded over 250 plant species, and a wide variety of wildlife thrives in the area including grizzly bears, bighorn sheep, bull trout, golden eagles, and harlequin ducks. The Whitehorse Wildland Provincial Park protects a small portion (175 square kilometres) of the area, while the surrounding public lands are still subject to exploitation by industry and high-impact motorized recreation.

A September 2018 article by AWA Conservation Specialist Nissa Petterson in the *Wild Lands Advocate* discussed this exceptional area, and it is worthy of revisiting today, as a reminder of its significant ecological values, and to provide an update on the ongoing conservation efforts by the individuals and organizations that steward the area. In 2021, a group of people came together to discuss conservation of the Cardinal Divide and surrounding region. We call ourselves the Cardinal Divide Conservation Coalition, and our members include Tara Russell (CPAWS Northern Alberta), Dr. Elisabeth Beaubien (University of Alberta), Kristen Andersen (Alberta Native Plant Council), Beth MacCallum

(Professional Biologist), and Devon Earl (AWA). This group came together over shared passions for the protection of the region; Elisabeth, Kristen, and Beth have

many years of experience enjoying and stewarding the land, and have extensive knowledge of the unique issues that the area has faced over time. Together, our goal is the



A map of the Cardinal Divide area and associated trails. Map © Bighorn Wildlife Technologies.

responsible conservation of this ecologically important area for its inherent value and for the enjoyment of generations to come.

Biodiversity, Whitehorse Wildland Park, and KBAs

Of the numerous plant species that have been recorded in the area, many are rare or disjunct — meaning that they are occurring in isolation from the typical range of their population. The area is unique and ecologically important and there is a proposal to designate a portion of the Whitehorse Wildland Provincial Park as a national Key Biodiversity Area, or KBA. KBAs are a way to nationally or globally recognize and conserve areas that are important for a threatened species or its habitat. In the case of Whitehorse Wildland, the species that triggered the KBA proposal are Porsild's bryum moss (*Haplodontium macrocarpum*), little brown myotis bat (*Myotis lucifugus*), and northern myotis bat (*Myotis septentrionalis*). According to the KBA proposal, Whitehorse Wildland contains 65 percent of the Canadian population of Porsild's bryum, which is globally imperilled, listed as threatened under Schedule 1 of Canada's *Species at Risk Act*, and endangered under Alberta's *Wildlife Act*. The KBA proposal boundary deviates slightly from the southern boundary of Whitehorse Wildland to include the full population of Porsild's

bryum, and to include important bat habitat. Cadomin Cave provides shelter for the two endangered bat species, and is one of the largest hibernacula in Alberta. Now that white-nose syndrome has been identified in Alberta, it is particularly important to keep these animals safe and reduce additional threats to the populations. The access to Cadomin Cave is now closed to the public to protect the sensitive habitat. These are just a few of the features that make Whitehorse Wildland and the surrounding area important to protect.

Conservation Concerns

The area that surrounds the Cardinal Divide is part of Alberta's Coal Branch, where coal mining has been ongoing since 1911. Mountain Park was the first coal mine on the western arm of the Coal Branch. The mine began development in 1911 and underground mining occurred until 1950. The Luscar Mine was the first mine to reopen in the Coal Branch in 1969 and was operational until the early 2000s when the Cheviot Mine opened. The Cheviot Mine produced metallurgical coal with open pit techniques for the most part in the same locations as the original underground operations from 2004 to 2020. In 2022, Cardinal River Operations (owned by Teck Coal Ltd.) completed the first year of a six year plan to reclaim the Cheviot Mine.

This will be followed by six more years of reclamation and infrastructure removal from the Luscar Mine. The Gregg River Mine began construction in 1981, closed in 2000, and has now been reclaimed.

The history of mining in the area has created significant environmental concerns. In particular, several creeks downstream of mining activities exhibit elevated selenium concentrations in water as well as in the tissue of fish and fish eggs. However, the lack of human presence at the reclaimed mine sites has created a unique wildlife refuge for species such as grizzly bear and bighorn sheep. Unique local climate conditions contribute to the unusually high biodiversity of the Cardinal Divide; Chinooks occur through a narrow wind corridor that passes through the area and provides an additional refuge for overwintering wildlife. Grizzly bears use these reclaimed mine sites to forage for food and as a safe haven from human-caused mortality, and some research shows that the grizzly bear population has increased in this area between 2004 and 2014.

The bighorn sheep populations using the reclaimed mine have been a source herd for the translocation of 450 sheep to recover populations in the US and Alberta since 1985. The reclaimed mine sites offer an opportunity for research, education, and interpretation given their extensive



The Cardinal Divide is a beautiful region of Alberta, uniquely home to a few rare and threatened species which make it worthy of protection and conservation efforts. Photo © C. Olson.

use by wildlife. The coalition would like to retain these benefits amidst the damaging activities of coal mining that have affected the area. Retaining this area as an important wildlife habitat will require thoughtful access management planning and restrictions of damaging forms of high-impact recreation.

Off-highway vehicle (OHV) use in this area has already created significant scars on the landscape; rutted, eroded, and braided trails have carved up sensitive alpine areas and re-routed alpine streams. OHVs can impact wildlife behaviour, damage sensitive vegetation, and decrease water quality by increasing sediment runoff into streams. Although no designated OHV trails lead into Whitehorse Wildland, certain trails in the vicinity of the park allow motorists access to the park if they divert from the designated trail — which many do. The coalition is concerned that the current amount of trail access in the area negatively impacts the ecological values of the park and surrounding area, and would like to see the number of trails reduced, as well as limiting motorized access to well below science-based thresholds, and restricted only to areas that can withstand these pressures.

In August of 2022, a few members of the coalition attended a trails meeting hosted by Teck, the company that operates the Cheviot Coal Mine. The meeting provided an opportunity for the group to learn and engage with Teck's access management in the region. The meeting was heavily skewed

towards OHV users hoping for more trail access, and no time was allotted to discuss trail management from the perspective of preserving the environment. The coalition penned a letter to Teck in October of 2022 outlining the ecological importance of the area, and asking for critical examination of all existing and historical human access in the area.

Specifically, the group requested that:

1. The planning process for access management (re-opening of access on the Cheviot mine site) have trail uses and densities determined by environmental thresholds, and all proposed motorized trails in the access management plans be carefully evaluated for their potential impact on Whitehorse Wildland Provincial Park;
2. Only non-motorized access should be permitted on the Mackenzie Creek trail to 'the gap' to support habitat and recovery for bull trout (provincially designated as *threatened*), maintain habitat for harlequin ducks (provincially designated as a species of special concern), and maintain wildlife movement through the travel corridor;
3. All current motorized access in the vicinity of Whitehorse Wildland Provincial Park, within alpine areas, and within bull trout habitat is removed; and
4. Human access is carefully managed

on the reclaimed mine site to support grizzly bear habitat and recovery.

The coalition plans to engage in upcoming land-use planning for the area to push for responsible stewardship and management.

Stewardship History

Stewardship of Whitehorse Wildland Park began in 1991 by Alison Dinwoodie (recipient of AWA's 2012 Wilderness Defenders Award) in collaboration with the Alberta Native Plant Council (ANPC). Alison continued her work as steward until the past decade when this role was passed on to Kristen Andersen at the ANPC. Stewardship has involved several site visits to identify concerns, reporting to Alberta Parks, regular attendance to annual trails meetings, regular engagement with the mine and regulators involved in land-use planning, and ongoing efforts to promote education about the area's conservation value. Alison led a team of volunteer botanists to develop a book on the Wildflowers of Whitehorse Wildland Provincial Park, which is available from the ANPC website.

Beth McCallum has conducted a Breeding Bird Survey along the Grave Flats Road from the Whitehorse campground up and over the Cardinal Divide to the Grave Flats since 1993. For the most part this route travels through Subalpine and Upper Foothills habitat but it does cross the Cardinal Divide and is one of the few Breeding Bird Surveys in Alberta that includes alpine habitat. Beth says it is always a pleasure to emerge from the dense coniferous forest of the Subalpine to the open and expansive alpine vistas of the Cardinal Divide. The clear song of a male mountain bluebird singing, and a flash of electric blue as he takes flight is a delightful welcome to this unique environment and always draws you back.

Building on the work that has been conducted by coalition members as well as others before us, the coalition intends to continue this important stewardship work. The Cardinal Divide is such a special place in Alberta for rare biodiversity and species at risk. Just like the other wild spaces in Alberta, responsible and thoughtful stewardship will be needed to maintain the area and its many values. 🌲



The Cardinal Divide Conservation Coalition is concerned about the negative impact that off-highway vehicle use (pictured) is having on the ecological values of the park. Photo © L. Smandych.