



Sunrise over Split Rock Lake and Castle Reef along the Rocky Mountain Front near Choteau

# WHERE PRAIRIE MEETS MOUNTAIN

The origins, beauty, grandeur, and wonder of Montana's Rocky Mountain Front. *By David Cronenwett*

**I**t was a long drive from Dillon that day, eight years ago. I was giddy with excitement, having just accepted a job as a naturalist with The Nature Conservancy at the organization's Pine Butte Guest Ranch, about 30 miles northwest of Choteau. I was eager to start a new life in that semi-mythical place most Montanans simply call the "Front." In a truck bulging with my life's possessions, I turned off I-15 onto U.S. Highway 287, which heads north through miles of undulating, wildlife-rich prairie. During the next hour I had momentary glimpses of huge,

wall-like mountains far off to the northwest, and then, during the highway's long and gradual descent toward Augusta and the Sun River, I got a full and overpowering dose of the place. Before me unfolded an astonishing collision of two major continental ecosystems: western mountains that rose dramatically from the prairie, and a sea of grass falling away to the east.

I'd visited the Front before, but now that I'd be living on this landscape indefinitely, it seemed more luminous and real. Nearing Choteau, with that immensity in full view, I started to ask myself questions about

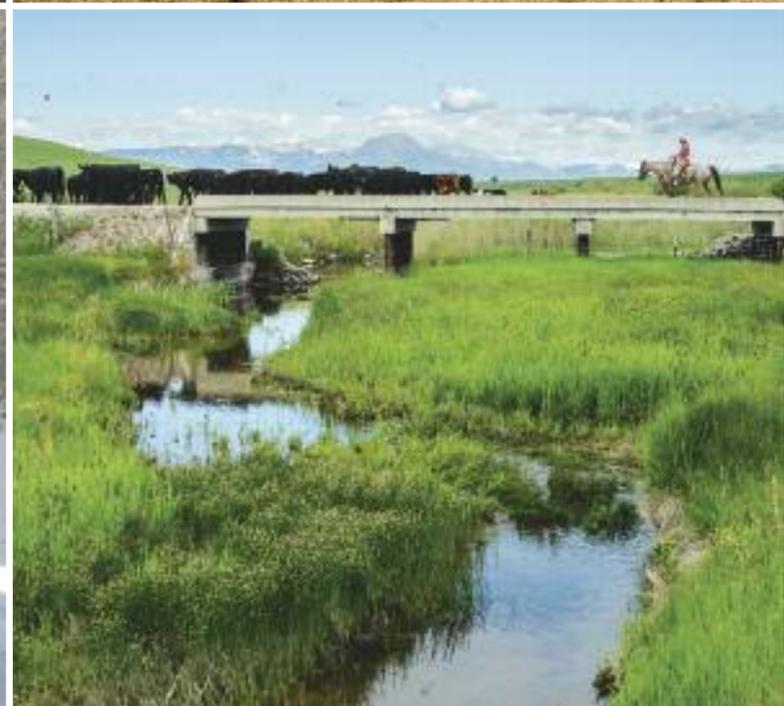
what I was seeing, starting with that single word: "Front."

The term is not unique to Montana. There are mountain fronts in Utah (Wasatch Front), Colorado (the Front Range), and California (the San Gabriel Front Range). It also has no agreed-upon meaning by geologists. We're left to accept it at its awkward, face-value dictionary definition: "the side or part of an object that presents itself to view or that is normally seen first." And yet, when looking west from the edge of a high sandstone bench in Teton County, the term "Front" doesn't do justice to the overwhelm-

ing reality of the country. It quickly becomes obvious that you are in the presence of a great, complex, and unfolding story.

Many define the Front as the forested and mountainous public land west of Great Falls and U.S. Highways 89 and 287, with the southern boundary as Montana Highway 200 at roughly Rogers Pass and the northern boundary as U.S. Highway 2 around Browning. While convenient, this definition is limiting and arbitrary. Ecologists extend the Front's northern boundary well into Alberta, to about the community of Pincher Creek, and include the largely undisturbed

JOHN LAMBING



Clockwise from top left: cleaning a dinosaur bone at Bynum; view of the Front from Sawtooth Ridge; herding cattle; hunters riding out of Sun River Canyon

Sunlight on Ear Mountain near Choteau

and mostly privately owned native grasslands abutting the mountains. The Front is also the drier, eastern edge of the massive 20 million-acre Crown of the Continent ecosystem, which straddles the international boundary and contains an awe-inspiring array of topography, ecotypes, and wildlife.

On the prairie rise lonely sandstone buttes and windswept benches where people centuries ago, millennia ago, climbed and gazed outward to the grass in the endless search for game. And in some special places, they looked inward in search of themselves. A visitor can sense that much has happened

on this ground, a place harboring great beauty but also undeniable harshness. If you look closely, as I've tried to do, you can find in this vast and richly storied landscape the traces of many histories.

**Deep time**

Thirty miles west of Choteau, huge, vertical walls of slate-gray limestone glow with gold incandescence when caught by the first rays of sun. Though the spectacular sight occurs regularly, it never fails to make even local ranchers and anyone else up so early pause to take it in. What we sense is that here, as

everywhere, the rocks—the bones of the earth—are the stage upon which all of the land's stories occur.

The tale of these starkly beautiful mountains takes place on a time frame inconceivable to us, beginning at the bottom of an ancient seabed 350 million years ago. A chunk of the landmass that would become North America was clustered with other supercontinents near the equator. The bodies of corals, bivalves, and other creatures with calcium-based shells accumulated on the ocean floor for thousands of millennia, forming, under pressure from the oceans,

great masses of limestone. The eventual slow-motion, multimillion-year collision of the Pacific and North American tectonic plates folded and fractured huge bodies of this rock (called the Madison Formation), ultimately heaving its broken slabs thousands of feet skyward. Though the Front has eroded over the ages, an aerial or mountain-top view clearly shows these impressive north-south trending "thrust-faults." As seen from the prairie, the formations look

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like a massive tidal wave of stone.

About 100 million years ago, during the more recent Cretaceous Period, a shallow seaway flooded the interior of North America with the Rocky Mountains forming its western shoreline. Great beasts like the duck-billed maiaasaura and triceratops still roamed the earth. Much of the geology of the plains and foothills was laid down during this period, as rivers eroded fine-grained particles from the ancestral Rockies, depositing them eastward where, through a process similar to cementation, sediments transformed into the sandstone

and shales found there today.

The Pleistocene glacial events beginning about two million years ago also helped define the Front as we know it. Sheets of mountain ice advanced and retreated multiple times over this period. Under their own weight, some of these glaciers pushed slowly eastward, bulldozing rock, carving smooth-walled canyons, and eventually establishing present-day stream and river channels across the range. In the Teton drainage, glacial moraines and evidence of intense flooding are easy to find. Glacial activity created unique topography and

CLOCKWISE FROM TOP LEFT: ELIZABETH MOORE; ERIC HEIDLE; STEVEN GNAM; DICK WALKER

CHUCK HANEY



Snow geese over Freezeout Lake, with Sawtooth Ridge in the background

hydrology here. As the Teton River travels downstream from the mountains, some of its water naturally percolates through porous glacial soils, eventually rising upward as it encounters more-dense sandstone. One result is Pine Butte fen, a lush, spring-fed wetland in the middle of a dry prairie environment about 20 miles due west of Choteau. This feature, the biggest of its kind in the western United States, supports extensive groves of aspen and willow along with dozens of ponds. Moose, grizzly bears, and other wildlife are drawn to the verdant oasis and its diverse vegetation.

Rare and delicate orchids grow in the moist soils, while the prairie landscape immediately surrounding the fen supports a mix of grasses, wildflowers, and sages.

**Narrow ecotone**

Up one of the local canyons, amid tall spruce and cottonwoods, there's a slight pullout off the gravel road. The trail up to the ridge begins there and is barely noticeable if you don't know where to look. It winds upward through stands of aspen and fir, breaking out into lush meadows and then, farther up, dead-ends at an exposed 500-foot cliff.

Almost every week during the summer, I'd bring excited tourists here to that beautiful limestone outcrop. Surrounded by the fossils of ancient corals and breathtakingly blue forget-me-nots, we'd sit and take in an incredible 360-degree view of mountain, canyon, and prairie.

The abruptness of this landscape is startling to those unaccustomed to it. Because of the sudden convergence of mountain and grassland, the Front is a thin, but very long, mixing zone (or "ecotone") of plant and animal species. Approached from the east, wide-open mixed-grass prairie transitions

JAY L. CROSS



Clockwise from top left: cinnamon-colored black bear; long-billed curlew; pronghorn; Missouri iris

CLOCKWISE FROM TOP LEFT: STEVEN GRIMM; JASON SAVAGE; JASON SAVAGE; CHRIS MCCORMAN

quickly to a Serengeti-like limber pine savanna with slight gains in elevation and changes in geology. Continuing west, you enter the montane, or mountain, habitat, with its gorgeous wildflower meadows and expansive aspen clones interspersed with forest dominated by Douglas fir. All of this happens rapidly. The distance from prairie foothills to the iconic 8,500-foot summit of Ear Mountain is roughly 5 linear miles and covers life zones from grassland to alpine. There are other places in Montana where species mingle in this way, but none are so enormous in scale or as ecologically com-

plete, where the flow of wildlife across the land remains largely unimpeded. From that precipitous limestone cliff where I guided visitors, it can all be seen at once.

**Conservation legacy**

Many events and circumstances converged to make this place what it is. Elemental forces such as frequent gale-force winds, scorching summers, and brutal winters have helped keep the human population relatively low for a long time. Unlike the Canadian side of the border, which contains dozens of towns and abundant energy

development, Montana's portion of the Front looks much as it did 200 years ago. The Lewis and Clarke Forest Reserve (now the Lewis and Clark National Forest, which encompasses the upper elevations of the Front) was established by the federal government in 1897 to protect water supplies, wildlife habitat, and timberland. In 1913, the state of Montana established the Sun River Game Preserve (now the Sun River Wildlife Management Area) to preserve habitat for deer, bighorn sheep, and elk populations decimated by overhunting. A handful of visionaries knew that if



Northern lights over the Front

Montana's big game herds were to recover, it would begin here, amid pristine mountains, forests, and grass. And what a success story it has been. Through careful management (and with tolerance and compromise among many stakeholders), the Front is now considered one of the best hunting and wildlife viewing areas in the United States.

The area today is a mosaic of large private ranches mixed within state, federal, and tribal holdings. Its grasslands, some of the richest but most threatened habitat on the continent, are largely intact. Because most big marketable trees in Montana grow

on the wetter west side of the Continental Divide, relatively little industrial logging or road building has taken place along the Front. The place also defies simple ideas of conservation and wildness by remaining a working landscape. Local ranches, many of them generations old, support families while providing critical habitat for grizzly bears, elk, and long-billed curlews. Guest ranches, hunting outfitters, backcountry guides, and other outdoors businesses that have existed for decades draw visitors from across the globe. In a world where conflicts rage over natural resources allocation, it is heartening

to know that a place exists where people have found a way to conserve both natural systems and human livelihoods.

#### Sacred geography

While hunting whitetails in the Teton drainage last fall, I explored a few sections of unfamiliar state land and stumbled upon a long row of sunken, lichen-covered stones on a north-south axis. I quickly recognized it as the work of ancient human hands, but could not fathom the purpose. Rocks that indicate human settlement and use extend up and down the Front, including tipi rings,

alignments that point toward vision quest sites, buffalo drive lanes, "stickman" figures, and more. It's easy to imagine early peoples drifting into this country along the Old North Trail, part of a prehistoric migration route that followed the ice-free corridor out of today's Siberia and Alaska, running along the east face of the Rockies from the Arctic to Mexico. Those people and their descendants lived and died here for at least 14,000 years, and evidence of their presence is scattered all over.

For them the Front was a world of useful features such as buffalo jumps and sacred

sites like Chief Mountain. In a way, not much has changed since then. This vast sweep of land is still used by people to make a living, but it is also recognized for its greater value to our culture, as shown by the extraordinary efforts to conserve its water, wildlife, mountains, and grasslands. Though residential subdivision, invasive plants, and energy development continue to threaten the Front, the momentum to keep the place more or less the way it has always been appears inextinguishable.

There are places in Montana where past, present, heaven, and earth seem unified.

For me, the Front is one of them. Life events required that I move to Helena last year, and on my final evening drive as a resident of Choteau, I stopped by the side of the road near a friend's ranch. The sunset bathed the country in its warm, low-angle light. As a grizzly grazed near a herd of cattle that seemed unbothered by its presence, I found myself thinking about the many stories of the Front, and how my own, like all the others, will eventually be woven into and consumed by this place. The bear disappeared into the aspens, and I drove off, leaving another story behind. 🐻

JEFF WATKINS