



BRUCE MCLELLAN

A wildlife research ecologist who has spent more than 40 years studying the grizzly bears of southeast British Columbia

BY MARIANNE SCOTT



In early November 1978, Bruce McLellan got his first shot at collaring a grizzly bear in southeast British Columbia's Flathead Valley, a wilderness area stretching into northern Montana. It's been called "the grizzliest place in the interior of North America."

Accompanied by a Montana colleague, Joe Perry, the two mid-20s guys were checking one of the snares they'd installed. Bruce carried a shotgun, Joe a hunting rifle. Their job was to sedate ensnared grizzlies, attach a radio collar and release them back into their habitat to be tracked and studied.

When they approached the snare, the landscape had changed markedly. Boulders and dirt were strewn around and puffs of steam rose in the frosty air. A large, male grizzly's foot had been ensnared and he was angry. When he spotted the two guys, he lunged at them with explosive force from the deep pit he'd dug trying to ›

escape his entrapment. Only the snare cable prevented him from reaching Joe and Bruce, who sprinted back to the relative safety of the Dodge Power Wagon's steel cab. Unlike the less aggressive black bears they'd collared before, the grizzly inspired deadly fear. Ensnared in the cab, they pondered how much drug it would take to sedate him.

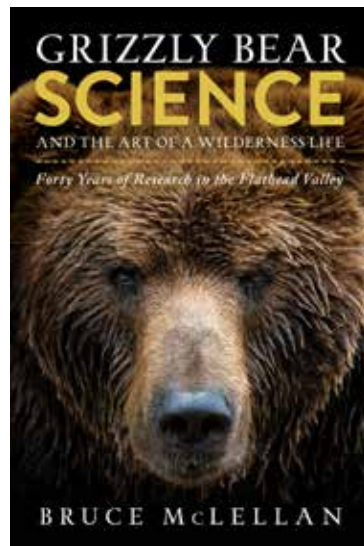
They loaded the dart gun with a half dose and launched it at the grizzly. It had no effect—the bear kept coming. It took several more doses, with the men scurrying back to the truck after each dart, until the 600-pound bear was sedated. Attaching the radio collar was a tough job as his neck measured 36 inches, twice the size of a hefty man's shirt collar. They named him "Rushes," to commemorate the way he'd rushed at them. Bruce followed his travels, feeding patterns and hibernation locations until 1981, when someone shot him and cut off his head, claws and hide.

THIS FIRST EXPERIENCE with a grizzly changed Bruce's life and career. He'd worked in wildlife ecology before tracking deer, elk and black bears, but studying grizzlies became the passion he followed for decades. Recently, he told the tale of this first grizzly collaring and the next decades of bear research in *Grizzly Bear Science and the Art of a Wilderness Life—Forty Years of Research in the Flathead Valley* (Rocky Mountain Books, 2023). In the book, he intersperses chapters on his family life and studies of *Ursus arctos horribilis*. Celine, Bruce's French-Canadian wife, and he kept a "cabin diary" and science data sheets on which parts of the book have been based.

In the prologue Bruce explains that, as part of his graduate studies and as a researcher, he's published 40-some academic articles about the 200-plus grizzlies he's trapped, tracked and studied, but that it's likely only a few other scientists have read the work. "Therefore," he writes, "I thought it was worth my time to summarize what we have learned [about grizzlies] in a format that more people will read..."

Between 1978 and 2020, Bruce and

Celine lived in a 135 square-foot game-warden cabin on the banks of the Flathead River. They raised a daughter, Michelle, and a son, Charlie, in the same cabin (with a later addition) and introduced the kids to wildlife ecology from birth. The river supplied drinking water and an outhouse complemented the living quarters. Electrical wires never reached their remote home; only later did solar collectors and batteries provide current for lights, the computer and charging the tracking receiver. A propane-powered stove, fridge and freezer kept the family fed. Fernie was the closest



est town and Celine ventured out in an old Volkswagen bus (later a truck) down the rutted trails to provision the family, while Bruce monitored the grizzlies he collared. Bruce hunted sometimes to add to the family diet. Mosquitos were abundant, but as Bruce wrote, "How many evenings did we, as a family spend watching grizzly bears in the mountains? Yep, there were a few mosquitos, but it was better than watching TV."

During some winters, when bears hibernate for at least five months, the family lived in UBC's family housing. While the kids supplemented their home schooling by attending public school, Bruce earned master's and Ph.D.

degrees in wildlife ecology. Celine worked with special-needs kids. "She's a 'baby whisperer' with exceptional talents dealing with children," said Bruce. Celine dislikes city life and was—and continues to be—happy spending many months each year in what others likely consider primitive living conditions.

BRUCE'S EARLY YEARS prepared him for a wilderness life. His engineer dad built suspension bridges and ski lifts at such places as Lake Louise and Grouse Mountain. The family lived in North Vancouver. "Dad encouraged me to learn practical things," said Bruce. "And my grandparents had a farm in D'Arcy where I spent much time. It was a place where self-reliance was key and you fixed your own tractor. What I learned there enabled us to survive in isolated conditions. We adapted and could repair most anything. We liked our off-grid lives. And some things in the Flathead Valley were simple. When you don't have plumbing, there's nothing to repair."

Finding funding for grizzly research wasn't easy. Early in their Flathead Valley sojourn, Bruce cobbled together grants from industry, foundations, non-profits and government. "It was hit and miss," he said. "Some government funding was short-term, could be cut at fiscal years' end, or switched to other projects." Sometimes other studies, like documenting where deer, elk, moose, caribou and mountain goats spent their winter, tied them over. Graduate scholarships also helped. Fortunately, the tiny cabin was rent-free. "Our bills were minimal," said Bruce. "We never went into debt, Celine is super frugal and we buy our clothes at thrift stores."

In 1990, the BC ministry of Forests and Ecology employed Bruce full time to study grizzlies and family finances became more predictable. "We much preferred focusing on grizzlies," said Bruce. "I think there's a different relationship people have with large carnivores, a special feeling they don't have with snakes or spiders. I remember sitting in the truck with Celine watching deer. 'They're so boring,' she said. 'Bears are much more interesting.' Naturally, I agree." ▶



Of course, wilderness living has its adversities. Bruce recounts an 80-kilometre trip from Cranbrook returning to the Flathead cabin in early April. He drove the snowmobile with Celine, a toddler and a baby, while also dragging a skimmer filled with jerry cans and a month-supply of groceries. The slushy snow made it tough to keep the snowmobile and skimmer on track. Then, a debris-filled avalanche blockaded the road and the nearby creek. After a difficult creek crossing via a snow bridge and later repeating that manoeuvre past the avalanche, the skimmer tipped twice tossing the family and gear into the snowbank. No one was amused. Leaving the skimmer behind and reaching the cabin, they quickly found heat and cheer in their familiar abode.

STUDYING GRIZZLIES IS complicated. Except for the couple of years when a mother bear is raising her cubs, grizzlies are solitary creatures, their habits differ from group animals and they can roam across vast areas. Many live in dense forests. Moreover, grizzlies look alike and are sometimes difficult to identify as individuals—especially when viewing them from a safe distance. As a result, they’re hard to locate and track in person. Although they may be seen in numbers at rivers where salmon are spawning, those sightings show only one short-term aspect of their behaviour.

The introduction of radio collars made grizzly research more comprehensive. Instead of tracking solely on foot, Bruce could deploy a tracking receiver with antenna, listen to the pings, identify bears (each had a name) and better estimate the range of their travels and rest periods. Combined with on-foot (or on-ski) tracking, later spotting from aircraft and improved GPS collars, he established multiple bears’ histories, knew their personalities and hibernation locations. They often found dens in mountain caves near the Flathead Valley; some bears use the same den year after year, revealing their excellent memory for that exact crack in the rock.

Documenting the range of male grizzlies, who cover more territory than fe-



males, presented a particular challenge. Their heads and necks are roughly the same size (more than 30 inches) and their collars frequently dislodged. So later, with Parks Canada funding, Bruce flew in piloted helicopters and darted grizzlies in non-forested areas. After analyzing the data he collected, he wrote that “the smallest range was 69 square-miles... and the largest 500 square-miles” with multiple bears’ ranges overlapping. He followed specific female bears, when they bore cubs and some over their lifespan of about 32 years. He also includes the family trees of his major bears in an appendix.

BRUCE UNDERTOOK MANY other research projects over his decades of living close to grizzlies: their overall habitat; how roads, mining and logging impact bear habitat and movement; and why grizzlies are relatively scarce.

What and how much bears eat in the Flathead—what Bruce calls the “bottom-up factor” or “grizzly grub”—and when and where these omnivores find food was another subject he explored. “What we now know is that food is the

driver of most grizzly bear populations,” he wrote. “Areas with an abundance of high-energy foods such as salmon, berries or whitebark pine seeds not only attain higher densities of bears, but can withstand higher mortality rates.”

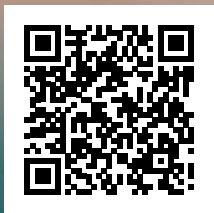
Watching bears eat provides only limited information about their feeding habits, although Bruce reported watching bears fattening up on hefty quantities of buffalo berries and huckleberries in good berry years. A more productive method is following in their footsteps to see where they’ve dug roots, grazed on various plants or eaten parts of animals that hunters leave behind.

ANOTHER METHOD OF uncovering their diet was to examine bear scat following the old adage that “what goes in must come out.” Bruce collected hundreds of scat samples and sent them to the Washington State University’s bear lab for analysis. There, researcher Dave Hewitt compared the samples with captive bear scat. When not all plants bears ate in the wild were found near the lab’s caged bears, Bruce supplied such plants so the research was accurate. Another ▶

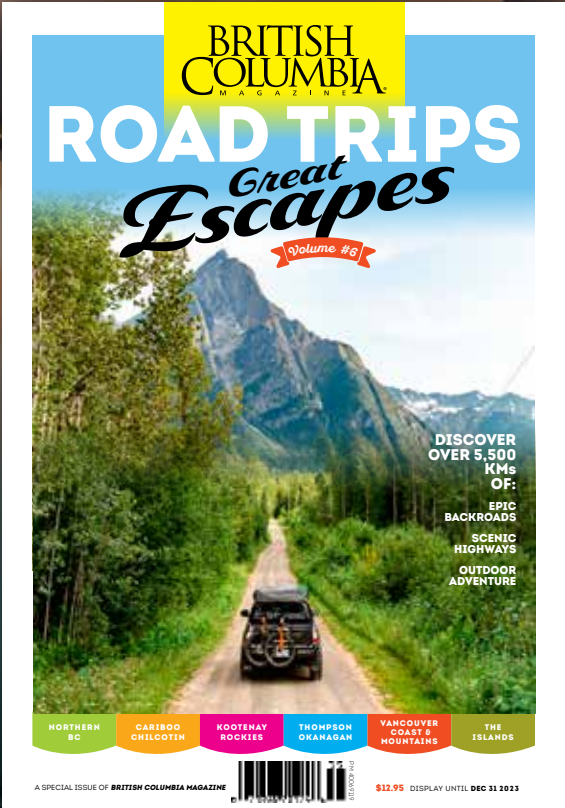
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Celine, Charlie, Michelle and Bruce McLellan in front of the log cabin they inhabited for decades

“Studying Grizzlies is complicated. **They are solitary creatures, and they roam across vast areas**”

scientist, Bill Callaghan, “the master of bear poop,” stored jars with seed samples of any food bears might eat, and the hair of small mammals like voles and ground squirrels they swallowed whole, thereby providing a list of foods ingested.

The fourth method is “based on different ratios of stable isotope in animal tissue.” The weight of isotopes varies and, Bruce wrote, “isotopes ratios cannot tell much about what species of leafy greens, roots or berries a bear has eaten. However, these ratios can give us an idea of what proportion of their diet came from plants and what proportion from meat.” He added that isotope analysis can be done inexpensively in a lab using various tissues, including animal hair.

IN HIS LATE 60S, Bruce and Celine decided that some of the hard work of bear tracking, darting and collaring, along with the demands of wilderness

living, should be left to a younger generation. Today, during the winter’s coldest months, the couple camp near Loreto, on the east side of Mexico’s Baja California. I spoke with Bruce by phone; his truck’s battery was keeping it charged. As is their wont, he and Celine live in an isolated wild area down dirt roads, a half-hour from town. “It’s warm and we do everything outside, cook, eat and so on,” he said. “We only sleep in our tiny trailer.” He stopped our conversation when the sun made it too hot for him to stay in the truck. Although there are no bears to study at the shore, Bruce is still the researcher—he free dives and docu-

ments the health of reefs and fish in the Gulf of California.

The rest of the year, the couple lives on the farm Bruce’s grandparents owned in D’Arcy, about 150 kilometres northeast of Vancouver with a 2016 population of 43. “I bought out my siblings,” he told me. “And, with family help, we built a new log house. Our children, who both have earned graduate degrees in wildlife ecology, can bring grandchildren for their turn to appreciate rural life.” The couple manages a small vineyard and orchard on the acreage. “We make great, organic, no-sulfate cider,” Bruce said, “and bad red wine.” Wild animals are still part of their lives, however, and he’s installed electric fences to keep out the black and grizzly bears who like to eat the apples and grapes.

“I still like bears,” he said. “I’m not just *talking* about them. “I’m walking the walk. I live it.” 🐻