



INTO THE BEAR'S DEN

THE RESEARCHERS, STUDENTS, AND VOLUNTEERS AT THE WISCONSIN
BLACK BEAR RESEARCH PROJECT DON'T BELIEVE IN LETTING SLEEPING BEARS LIE.
OUR REPORTER TRAVELED WITH THEM FOR A CHANCE TO GET UP CLOSE
AND PERSONAL WITH *URSUS AMERICANUS*

BY GUSTAVE AXELSON

“SIGN THIS IN CASE a bear eats you.”
A guy in a camouflage baseball cap hands me an insurance waiver. I smile. He’s got me pegged as a city boy.

I expected a little ribbing when I asked to tag along on winter den surveys for the Wisconsin Black Bear Research Project. The people standing around me routinely handle 300-pound bears. The biggest animal I’ve ever wrangled is an overweight house cat.

I was not aware, however, that the bears might not be asleep. Maggie Heino, a veteran of these surveys, relieves me of my false impression.



Above: An adult female, or sow, can measure 4 to 4½ feet long and weigh 225 to 450 pounds. Sows usually give birth in January or early February, while they’re in their winter dens. A typical litter is two cubs, each weighing under a pound at birth. Cubs can take care of themselves at 6 months, but stay with their mother for two winters. Right: Head-first into a den

“The bears will hear us coming, so it’s very important we keep quiet as we approach the dens,” she warns.

“They’re not hibernating?” I ask.

“Oh yeah, they hibernate,” she says, “but it isn’t so much a deep sleep as a semisleep. They sort of go in and out of consciousness. The mama bears especially—they may hear our footsteps from a hundred yards away. So be sure you keep quiet.”

Moments later, my snowshoes are gingerly crunching through crusty, mid-February snow on a solemn march

through balsam and cedar to our first den. We're about a quarter mile off a backwoods logging road in the Chequamegon-Nicolet National Forest near Clam Lake, one of the project's three study areas.

Here, the Wisconsin Black Bear Research Project is studying 15 radio-transmitter-collared bear sows, or females, living within a 20-square-mile area. The collars emit a frequency that can be tracked with radio telemetry antennas. In fall, project researchers drive through the forest or fly above in airplanes, waving antennas to detect where their bears have dened. Now, in February, about a month before the bears wake up, the researchers visit the dens to check in on the sows—and perhaps find a litter of cubs.

In 1978, UW-Stevens Point wildlife biology professor Ray Anderson began studying bear habitat, hibernation, and reproduction. (He later became known for spearheading the reintroduction of elk near Clam Lake.) The *Ursus americanus* research conducted by Anderson, Neil Payne (a now-retired UWSP professor who'd been looking at bear habitat use since 1976), and others eventually led to the founding of the Wisconsin Black Bear Research Project, which helped establish UWSP as an esteemed school for wildlife research.

When Anderson died in 2000, Christine Thomas, another UWSP professor who is now dean of its College of Natural Resources, inherited the project. "Ray always did the study on a lick and a prayer, with dribs and drabs of money here and there. I didn't see how it could go on," she says. "But you know, [after Ray died] we had 20 bears with collars running around in the woods. I thought we needed to do right by these bears, and by Ray's memory."

Thomas assembled a patchwork of funding, from government research grants to donations from Safari Club International, Rocky Mountain Elk Foundation, and Whiskey Jack Camp—a group of local hunters with a lodge deep in the woods outside Clam Lake who are committed to supporting wildlife conservation and research.

Looking at the folks headed with me to the first den of the day, I can see the project relies on a patchwork of supporters, too. Along with university professors and graduate students, our group consists of a few Wisconsin Department of Natural Resources staffers, a biology teacher from Ashland High School, some local members of the Rocky Mountain Elk Foundation, and a few Whiskey Jack Campers (including the camouflage-hatted guy). And then there's Heino. When she warned me about waking up the bears, I assumed she was a wildlife biologist. Turns out she's a volunteer who's been helping with the project since 1985 because she cares about the bears.

"**M**om's down." Those two words, from a man with a tranquilizer-laden hypodermic, let everybody relax. Up to this point, the group has been as stoically silent as monks processing to morning prayer. Now there are giggles of anticipation.

A researcher reaches deep into a hole in the snowy hillside and pulls out a bawling 6-week-old baby black bear—legs outstretched, tiny claws splayed, fuzzy head wagging side to side in disorientation. It's his first time outside the den.

Another cub comes out of the den the same way, erupting into raspy yowls as soon as sunlight hits his eyes. He is handed to me, and I promptly stuff him into my jacket for warmth. He looks like a 3-pound teddy bear come to life, with perfectly round ears, tender pink nose, and bright blue eyes. His tiny muzzle is dusted with cinnamon.

After a few moments of nuzzling against my chest, his

Amazingly, the den smells like fresh dirt. I never would have guessed three wild animals live here.



cries melt into soft chuckles. A lump forms in my throat. I haven't felt this kind of visceral love since I held my newborn son for the first time. I instinctively start rocking side to side and whispering, "It's all right, sweetie," before I remember I'm in the company of scientists. A little embarrassed, I walk over to where they've laid the cubs' mother on a blanket.

I've seen bears in the Boundary Waters before. Once I came within a few yards of one on a hiking trail, an unnerving experience I like to recall around campfires. Now I'm kneeling beside a bear, watching her chest rise and fall. I put

HOW TO BUILD A BEAR DEN

In addition to dugout chambers, bears in the Wisconsin Black Bear Research Project have been found hibernating in rocky crevices, in a ground nest of balsam boughs, and even right out in the open—one bear just let snow cover him so he looked like a snowbank. In 2004, one Wisconsin bear made headlines by hibernating in an eagle's nest at the top of a 45-foot aspen tree near the Chippewa Flowage in Sawyer County.

Bears never use the same den in consecutive years. Some bears maintain a complex of several dens within their home range. If you happen upon a bear in a den, leave it alone. Entering a bear den without a permit in Wisconsin can get you nine months in jail, a \$10,000 fine, or both—and that's if you don't get mauled first. —G.A.



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my hand on her, and I'm quickly enveloped in midnight fur up to my wrist. I pat her a few times and puffs of dust arise in a cloud, as if I were beating a dirty rug. I've watched nature for years, but I've never had the opportunity to so intimately encounter one of its players.

Quietly, I thank the bear for every bear I've ever seen.

I'm examining the leathery, weathered pads of her paws when I notice that there are only three of them. The bear's missing a front leg.

"My best guess would be that she got hit by a car," says Tim Ginnett, UWSP professor and current faculty lead on the project, who's kneeling beside me, taking blood samples. "Last year, she was a sickly thing when we visited her den—festering wound where her leg was, she was down 50 pounds to 115. But she's healthy now. We weighed her at 235 pounds. And she's reproducing. Just goes to show you how resilient bears are."

Bears have needed that resilience over the last hundred years, when habitat destruction and overhunting were rampant in northern Wisconsin. While extensive logging deci-



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Left to right: Volunteer Bruce Prentice checks medical equipment; UW-Stevens Point professor Tim Ginnett and grad student Melanie Hansen measure a bear; Hansen uses a tape measure on one of the bear's paws; longtime volunteer Maggie Heino weighs a cub. Above: inside a den

mated other woodland species, bears feasted on the ants, grubs, berries, and grasses found in the clear-cut fields left behind

"As long as we don't wage an all-out war on bears, they'll be fine," says Bruce Kohn, a now-retired DNR wildlife research biologist who helped manage the state's bear population from 1972 until his retirement in 2004. "The problem in the 1980s was, there were more bear

hunters than bears.”

In 1985, Wisconsin’s bear population hit its low point, around 5,700 bears; that year the DNR closed the hunting season. The following year it began limiting permits to regulate the number of bear hunters. During that time, the Wisconsin Black Bear Research Project provided invaluable insights that helped the DNR manage the population.

“I partnered with Ray on the first few surveys, but the DNR couldn’t keep it going,” says Kohn. “After a few years, I had to move on to wolf and fisher studies. But Ray kept at it, God bless him. Now we’ve got the complete picture of what’s been going on with our bears over the last third of the 20th century. Other states wonder why Wisconsin does such a great job of managing its black bears. I tell them it’s because we’ve got three decades’ worth of research to inform what we’re doing.”

The project documented the bears’ impressive ability to reproduce and survive. One sow in the study produced 19 cubs over a decade, 17 of which survived. Today, Wisconsin’s estimated bear population is 10,950—close to

the U.S. Department of Agriculture Wildlife Services division received 978 complaints about nuisance bears in Wisconsin.

“I think we’re dealing with an acceptable number of nuisance complaints,” says Kohn. “We can handle about 80 percent of them over the phone, by telling people to take in their bird feeders or clean up their garbage. The rest, we trap and move the bear.

“Our forests could certainly accommodate more bears,” he continues. “We’re managing the bear population at a socially acceptable level. We’ve got hunters who want more bears in the woods every fall. We’ve got protectionists who want to end hunting because they think bears are an endangered species, which they’re not. And then we’ve got people who leave their trash uncovered, then want a bear killed because it got in their garbage.

“To tell you the truth,” he concludes, “it’s easier managing bears than people.”

Bear attacks like the 1999 incident in which a Boy Scout was attacked in his tent in Washburn County are



the DNR’s population goal of 11,300 bears. The project has also been instrumental in setting responsible harvest targets. Between 2,000 and 3,000 bears are killed by hunters every year—about 23 percent of the population, a percentage that balances with the number of new cubs.

In the 21st century, it’s not just hunters putting pressure on the bear population. People are building cabins, pitching tents, and planting corn in bear country. In 2004,

extremely rare. Kohn attributes that attack to “extenuating circumstances” and says he can’t remember another attack of its kind during his tenure at the DNR.

It’s hard to imagine the ball of black fur inside my jacket ever hurting anyone. The cub’s asleep now, head pressed to my chest, no doubt soothed by the familiar sound of a heartbeat. He howls when it’s time to stuff him back inside the hole with his mom, but he’s quickly content and



Christine Thomas of UWSP seizes a chance to snuggle with a cub.

resumes nursing. Professor Thomas holds the other cub. I'm not so ashamed of my parental tendencies anymore. Thomas, the distinguished wildlife researcher, is fighting back tears.

"I can't explain it," she says. "The cubs always affect me."

Bruce Prentice, the high school biology teacher, dons a headlamp and prepares to enter the second den. Most schools have a chess club or a math team. Prentice has made Ashland High School perhaps the only school that offers bear-den surveying as an extracurricular activity.

In addition to the den surveys he does with his students around Ashland, Prentice assists on almost all of the

other project surveys—because God made this man for crawling into bear dens. Standing 5 feet 1 inch tall and "130 pounds when he's wet," according to one DNR staffer, the gray-mustached Prentice is nimble beyond his years and fearless well beyond his stature.

This den holds a sow and two yearlings; cubs stay with their mother for two winters before they're chased off and she breeds again. The sow is lying near the front of the den, so she's easily subdued with a hypodermic jab. But the other two bears are behind her. Prentice doesn't hesitate to crawl inside the hole, squeeze over the sedated sow, and shimmy to the back of the pitch-black den to administer the tranquilizer by hand to two feisty yearlings with fully grown teeth and claws.

When asked how he feels about the job, he smiles and says, "I guess it's one of the advantages of being smaller."

When all three bears have been knocked out and removed, I investigate the den, which is a hole excavated under the roots of a fallen balsam. Put a door over the hole and it could be a home for Peter Rabbit or a hobbit. Inside, the den is a cramped, circular chamber dug out of dirt, with a bed of grass for insulation. Later, I learn the den's dimensions are 2 feet high by 5 feet wide by 6 feet deep. Amazingly, this compact space houses a 193-pound sow, a 70-pound yearling, and a 55-pound yearling—more than 300 pounds of bear—from October through March.

Even more amazingly, the den smells like fresh dirt. If I hadn't seen the bears pulled out, I never would have guessed three wild animals live here. During hibernation, a bear's kidneys shut down almost completely, so for six months the animals rarely urinate or defecate. If newborn cubs are in the den, the sow eats their feces. Whether they do this to prevent smells that might attract a wolf or to recycle some of the nutrition left in the cubs' excrement is a matter of debate among biologists.

With all the weights and measurements taken, pulses monitored, and female yearlings outfitted with radio collars, the last task is to give all the yearlings bright yellow ear tags. Yellow tags signify that these bears are UWSP study subjects. (Red tags were previously used by the DNR to identify a nuisance bear.)

Prentice uses an ear-tagging gun to punch the tags into the bears' ears. Their eyes blink as they begin to awaken from their stupor. Yet with each punch of the gun, the bears hardly wince.

"Bears are really pretty accommodating," he says, shouldering a bear's rear as he stuffs it head-first back into the hole. "I think about all the times I've been in the den with yearlings when they're not sedated and have every chance to bite or take a swipe at me, and it's never happened. I'm not saying bears are friendly and cuddly. It's just amazing how tolerant they can be."

DO BEARS REALLY HIBERNATE?

At one time, chipmunks, squirrels, and woodchucks were considered the only true hibernators because their body temperatures drop to around 40 degrees. A bear's stays around 90 degrees, about 10 degrees shy of its normal summer temperature. That's why bears can stay alert to danger; they don't have to warm up their bodies before they can react.

Today, bears are generally considered nature's most efficient hibernators. For the most part, unlike chipmunks and woodchucks, they don't eat, drink, or urinate for six months. Scientists are studying Wisconsin Black Bear Research Project bears to see how they're able to do this without damaging their kidneys. The answer may hold benefits for humans on kidney dialysis.

For more information on the Wisconsin Black Bear Research Project, visit www.uwsp.edu/cnr/research/blackbears/index.htm. —G.A.

The shadows are getting long as we arrive at our last den of the day. This sow is all alone, a daughter of the bear we just visited. She's denned less than a mile from her mother.

That's not a sign of overcrowding. Female bears tend to stay close to home. Project research shows that sows stay within a home range of 7 square miles, whereas male bears roam within territories averaging 36 square miles. That's why only sows are collared for the study. They will reliably stay put within a range that can be monitored by telemetry.

Laid out in the direct rays of the setting sun, the bear's coat exhibits a luxurious ebony sheen. Prentice pulls back her lips to measure the fearsome teeth that are used mainly for munching on acorns, raspberries, and insects. Amid the metallic clink of scientific instruments being used on the bear, I hear a sniffle. I turn around and see that Thomas' eyes have welled up again. It turns out she met this bear as a wee cub in 2001, on her first den survey. I wonder how a wildlife researcher, and a hunter who has stalked bear as game, can be so emotionally attached to the bears in the project. So I ask her.

Her answer flows forth like a torrent.

"Do I go bear hunting?" she asks. "Yes. Would I shoot one of my collared bears? No. Do I resent people who hunt our bears? No. And do I feel that these statements are incongruent? No. As a hunter, I come face to face with my natural place in the ecosystem. In doing this den research, I come to the tremendous realization that because humans have so dominated the natural world, we have a broader responsibility as caretaker for the well-being of these animals. But either way, as hunter or researcher, I feel the same strong feelings of interconnectedness among us, bears and all living things."

Our work is done. The bear is positioned back in her den with her head lying out of the entrance—she won't completely fit. In about an hour, she'll come to and conceal herself inside. For now, we lay balsam boughs over her head to protect her from the elements and interlopers.

Then Prentice takes a small pouch of tobacco out of his toolbox of instruments. He sprinkles three pinches atop the den in a benediction that Ray Anderson adapted from Ojibwe hunters.

"This is thanks for the knowledge and wisdom this bear gave to us, and to wish her well in the year to come," Prentice says.

I whisper my thanks, too. This time, it's for all the bears I'll ever see for the rest of my life. ☺

Gustave Axelson is a freelance writer in Minnesota. Since writing this story, he has tagged along with biologists investigating bear dens in northern Minnesota, and found the experience no less amazing the second time around.



ELISA HUSAR/TEAM HUSAR