Welcome Back, Wolverines

By Paula MacKay

Illustration by Lindsay Holladay

August 2012, Glacier Peak Wilderness

As my husband, Robert, and I approached our first research site of the day, I immediately noticed that the lure pile—a crude teepee of sticks slimed with cow blood and fermented fish—had seen some serious action in our absence. What once resembled a Boy Scout bonfire had collapsed into a jumble of branches more akin to an eagle's nest. Probably black bears, I told myself as I sat down to review the images captured by our motion-triggered camera. I didn't want to get my hopes up this soon in the trip.

Although it was a treat seeing photos of any animals, we were after something specific: grizzly bears. As part of a collaborative team of field biologists, our goal was to confirm the presence of the seldom-seen animal in Washington's North Cascades ecosystem. We'd already spent much of the summer (not to mention the previous three) lugging hefty survey gear up thigh-burning trails, and were admittedly disappointed to have detected no grizzlies so far. Maybe our luck was about to change.

While Robert tended to the hair-snagging devices centered around our now-destroyed lure pile, I began scrolling through the pictures. I decided to look at the most recent trigger events first and work backward.

- ***Event #4:*** *Yup, just as I suspected: a big ol' black bear snuffling around our pile. And the time stamp indicates he was here just this morning!*
- ***Event #3:*** *Another black bear. Slightly smaller, brown coat.*
- ***Event #2:*** *Aw, a marten. They're so cute—even if they do eat squirrels and pikas for breakfast.*
- ***Event #1:*** *Whoa, isn't that a ... ?*

"Rob!" I exclaimed in a tone that must have conveyed "grizzly bear" given the height of his eyebrows when he turned my way. I tried to hold back until he could see the photos for himself, but I couldn't stop myself from blurting out, ***"We got a wolverine!"***

Needless to say, we were both very excited—in our search for wilderness icons, wolverines were one heck of a consolation prize. On the camera's display screen, we watched the wolverine roll around in the lure pile like a puppy that had just discovered cow patties for the first time. His snowshoe-like paws pointed skyward as he rubbed his back in the woody debris. Suddenly the wolverine stood up and showed us his broad, bearish head and bushy tail, but only for a moment. Then he was spinning around on his rear end again. This frenetic routine continued for a full two minutes before he finally left the stage to resume his life as a respectable wolverine—albeit a very smelly one. Little did he know that his antics were caught on camera. Or that he'd left us a few stray hairs in the process.

Those hairs yielded a lot of information once they were sent to the U.S. Forest Service's Wildlife Genetics Laboratory in Montana for DNA testing. When the results came back, we learned that the wolverine we photographed was previously unknown to biologists—a new kid on the block—and only the second to be documented west of the Cascade Crest in recent years. (The first was at Sauk Mountain, just north of Rockport, earlier that same summer. DNA and photos showed they were two different animals.)

But the news got even better. It turns out that our visitor reflected a surprising trend in Washington's wolverine population. Absent for much of the last century, wolverines are now thought to be reclaiming their former range in the North Cascades.

Vilified Weasels

Wolverines (*Gulo gulo*) are the largest and most enigmatic terrestrial members of the mustelid, or weasel, family, a feisty group whose other North American members include badgers, ferrets, fishers, martens, minks, and river and sea otters. Ranging in size from beagles (females max out at around 26 pounds) to border collies (males typically weigh up to 40 pounds), and capable of fending off much bigger predators (even grizzly bears!), wolverines are widely considered a top dog in the toughness department.

Although wolverines have long been considered cantankerous loners, biologists have discovered that they do have a sociable side, with two or more wolverines occasionally seen traveling and playing together. However, when it comes to meal time, their reputed nature for being feisty and tenacious is revealed. A wolverine can take down animals as large as a deer or a tired elk. But most of a wolverine's winter diet comes from the frozen food section—packaged as carrion buried in snow. In summer, small mammals dominate the menu.

Persecuted by Trappers

The wolverine's adeptness at sniffing out a good meal didn't sit well with marten trappers who were trying to supply the voracious fur market of the 1800s. Wolverines in the North Cascades weren't significant targets for the fur trade—they were too coarse-haired, scarce and difficult to access. But they were heavily persecuted for raiding traps.

One regional trapper named Charles Greenwood captured the tension between trappers and wolverines in his 1894 article, "The Wolverine at Home." Greenwood spent the winter of 1891–1892 working trap lines from a cabin near Lake Chelan. He described with both consternation and admiration how one after another of his traps had been robbed by wolverines (aka gluttons)—seven of whom had lost their hides to Greenwood by spring. Although Greenwood and other trappers credited wolverines with shrewdness and courage, neither trait could shield them from the snares and poisons that peppered post-settlement Washington. By the mid-1900s the wolverines were gone.

Identifying Wolverines

"If you look at an animal and you can't for the life of you figure out what the heck it is," says Doug Chadwick, author of *The Wolverine Way*, "it just might be a wolverine!"

According to Chadwick, the wolverine's shape and unique gait set it apart from other wildlife. "If the animal you're looking at is really round, it's a marmot," he says. "A distant coyote is going to be trotting with its back on a level plane," versus the "up-and-down, bumpety-bump" lope of the wolverine. Bear cubs are another potential source of confusion (wolverines are sometimes called skunk-bears), but wolverines have more of a humped back and rolling gait.

Like lynx, wolverines have supersized feet designed to help them float across deep snow. Says Chadwick: "In the rare times that you actually see a wolverine just walk, the feet are so big and at the end of such surprisingly long legs that they have to kind of swing them out to the side. They move like some kind of really awkward porcupine—probably lower to the ground than you imagined."

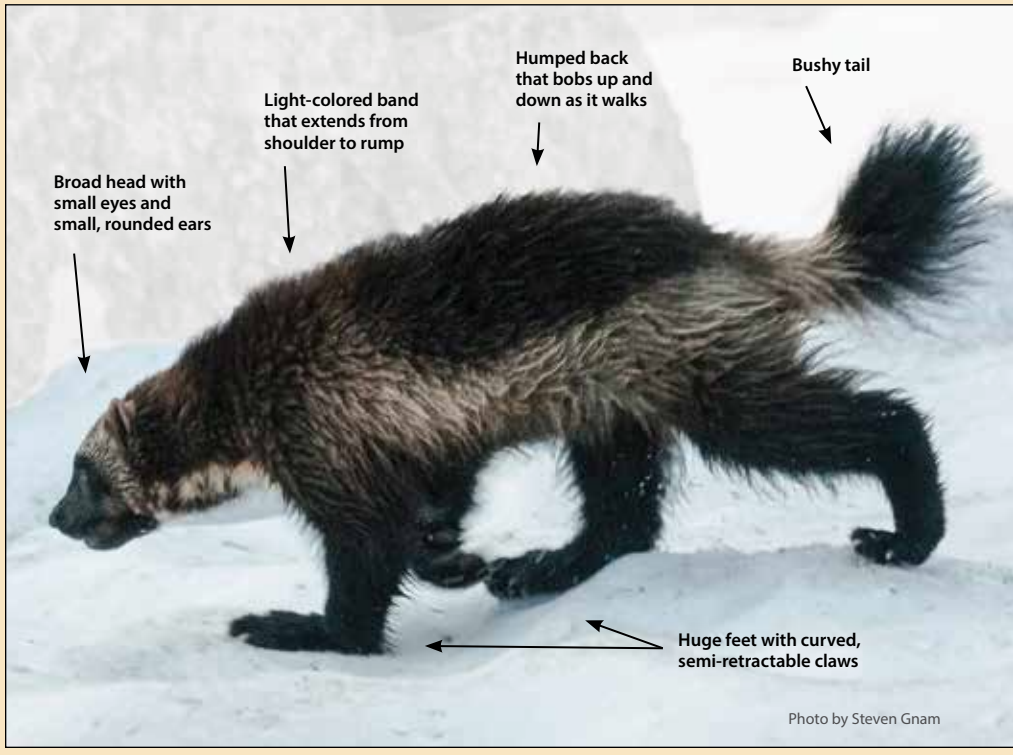

Photo by Steven Gnam

Wolverines in Washington

Between 2000 and 2013, there have been 34 reliable wolverine records in Washington outside the study area boundaries, indicating that wolverines are extending their range beyond the North Cascades. They have been documented in the Glacier Peak, Goat Rocks and Mount Adams areas, and there is even one record far to the east in the Kettle Range.

Information provided by Keith Aubry and Cathy Raley, U.S. Forest Service, unpublished data.

On the Rebound

It wasn't until the 1960s that the state experienced a small surge in wolverine activity. Dr. Keith Aubry, a research wildlife biologist with the Forest Service's Pacific Northwest (PNW) Research Station and a leading expert on mustelids (weasels), attributes this surge to a push from wolverines north of the border. Still, the population didn't really begin to rebound until the mid-1990s.

"About that time, we started to get a number of verifiable reports of wolverines in the North Cascades," Aubry says. The increase in reliable accounts was sufficiently dramatic that it couldn't simply be attributed to more people being out in the backcountry. In 1997, a young wolverine was struck and killed by a vehicle west of Mount Baker, and in 1998, a remote camera photographed another animal near Hart's Pass. Wolverines appeared to be recolonizing some of the habitat left vacant since the heyday of trapping.

In 2005, Aubry, wildlife biologist Cathy Raley, and other colleagues launched the North Cascades Wolverine Study—the first-ever study of wolverines in the Cascades. Thanks to the 14 tenacious wolverines captured, tagged, and released since—Melanie, Rocky, Chewbacca, Xena, Sasha, Eowyn, Mattie, Mallory, Dasher, Logan, Chance, Kendyl, Special K and Hobbes—scientists now have a better understanding of where they came from (probably coastal British Columbia), how they make a living in the jagged peaks of the North Cascades (the hard way) and what their future might look like in the warming climate of the Pacific Northwest.

Playing Dress-Up With Technology

John Rohrer, range and wildlife program manager with the Forest Service in the Methow Valley, and Scott Fitkin, district wildlife biologist with the Washington Department of Fish and Wildlife, are no strangers to tracking wolverines. For the last nine winters, they and other members of Aubry's team have monitored these animals in some of the wildest country the Cascades have to offer. The task has been made all the more challenging by the fact that a male wolverine's activity area can encompass more than 1,100 square miles—an area about the size of Yosemite National Park. Summer typically isn't favored for wolverine research because baited survey stations are vulnerable to bears.

To track their movements, the research crew fits each wolverine with a high-tech collar containing satellite and radio transmitters. But playing dress-up with a grumpy wolverine is easier said than done. First researchers build a box trap out of heavy logs. Next they bait the trap with a dead beaver, wild salmon or a healthy slab of venison. Then they wait to see who shows up for dinner.

With modern electronics, Rohrer and Fitkin can listen for the "doorbell" from the comfort of their own living rooms many miles away—a remote transmitter sends them an email message as soon as the trap lid closes. Exactly who triggered the lid remains a mystery until crew members snowmobile in to the site. It's not uncommon to find a satiated marten or a short-tempered lynx in need of catnip sitting in the trap. If they're lucky, a wolverine is the guest of honor.

Given their preference to eat and run, most wolverines don't appreciate being confined to tight quarters after a meal. "If you didn't know better, you'd think there was a 500- or 600-pound grizzly bear stuffed into that little box!" says Fitkin, who has approached more than his share of wolverines suffering from cabin fever. The wolverine's low-pitched, guttural growl can be so intimidating, in fact, that one rookie team checked traps while still wearing their snowmobile helmets, visors down. "Certain wolverines will very predictably bluff-charge the front of the trap," Fitkin adds. "You can't help but jump back, even when you know it's coming."

Each captive wolverine is sedated, weighed and measured, and given identification tags and a tracking collar. The whole process takes up to 45 minutes, after which the animal is returned to the trap until it has fully recovered and can be sent on its way.

Such high-adrenaline captures have yielded huge payoffs. In April 2012, the North Cascades Wolverine Study located the first two reproductive den sites ever documented in the Pacific

Northwest, after Raley zeroed in on where to look for them using telemetry data. Wolverine dens are typically tunneled into snow, which helps keep young kits safe from other predators and frigid weather. One of the dens was still occupied by mother Xena and her kit; the second mother, Mallory, had already vacated her den by the time it was found by the research team.

Fighting to Stay Alive

Roughly 250 to 300 wolverines remain in the U.S. outside of Alaska, with most of them inhabiting the Northern Rockies, and an estimated 25 to 50 roaming the North Cascades. Because denning wolverines need snow that lasts into late spring—and with climate change models predicting reduced snowpack and earlier spring snowmelt in the future—the U.S. Fish and Wildlife Service (USFWS) has proposed that wolverines in the lower 48 be listed as threatened under the Endangered Species Act.

Like polar bears, wolverines may stand little chance against rising global temperatures. Scientific models indicate that wolverine habitat in the West could shrink by as much as one-third by 2060 and two-thirds by the end of this century if current trends in global warming continue. These projections also suggest that extensive areas of persistent spring snow cover in the North Cascades will provide increasingly important refuge for wolverines as habitat elsewhere disappears. The USFWS is expected to decide on the wolverine's legal status this summer.

Meanwhile, Robert and I have been bitten by the wolverine bug, which tends to induce feverish delusions that we can follow these extreme mountaineers into their near-vertical terrain. In 2013, we helped initiate a project (with the PNW Research Station and Seattle's Woodland Park Zoo) to pilot-test a summer monitoring protocol for wolverines in the North Cascades. Chasing a growing population of wolverines through the snow isn't logistically feasible over the long-term—even with pros like Rohrer and Fitkin on the job. The crew will be out there again in the summer of 2014, deploying remote cameras and trying to snag hairs from passing wolverines. Who knows? Maybe now that we're looking for wolverines, we'll find a few grizzly bears.✦

Where to Find Wolverines

Washington's wolverines typically reside in snowy alpine areas. In the summer months, hikers should scan open areas in the high country, particularly areas populous with marmots and ground squirrels. Wolverines have also been spotted using the same travel routes hikers do, so be watchful on ridges and passes.

If you happen to meet a wolverine on the trail, you have little to fear. Just remain where you are and let the animal pass. Don't lie down and play dead, advises Doug Chadwick. "They love dead stuff." Kidding aside, Chadwick says you shouldn't worry about being attacked. "There has never been a case of a free-roaming wolverine attacking a human."

If you are fortunate enough to see a wolverine in Washington, please contact the North Cascades Wolverine Study at **kaubry@fs.fed.us**. And don't forget to take photos!

If you're interested in volunteering to help document wolverines with motion-triggered cameras, you can contact Alison Huyett at Conservation Northwest: Alison@conservationnw.org or 206.675.9747.

PAULA MACKAY *was drawn to the Pacific Northwest from her native New England by big mountains and large carnivores. She and her husband Robert Long have studied carnivores together for more than a decade, and co-edited the book* Noninvasive Survey Methods for Carnivores *(Island Press, 2008). MacKay is currently earning an MFA in creative nonfiction at Pacific Lutheran University.*