SEARCHING FOR THE ELUSIVE

FISHER

In an unprecedented survey, crews in Montana and Idaho set up hundreds of bait stations in targeted mountain habitat to locate these rare predators. **By Laura Lundquist**

University of Montana graduate student Jessica Krohner spent the past year in a cramped office looking at more than 300,000 trail-camera photos. She scrolled through shots of empty space, deer, bears, martens, more than a dozen bird species, and several wolves and mountain lions. The trail cams also captured images of wolverines, an elusive species rarely seen or photographed. But even wolverines were more abundant in the photos than Krohner's target: fishers.

That's not unexpected in the northern Rocky Mountains. "A big question we have is whether that's because numbers have declined historically or because they've never been very abundant here in the first place," Krohner says.

Krohner grew up in Massachusetts and knows a lot about fishers, midsize members of the weasel family that for reasons unknown have long been more abundant in the Northeast than the mountainous West. But ever since she started working for the Idaho Department of Fish and Game (IDFG) in 2016, even after spending weeks in remote backcountry mountains monitoring wildlife, Krohner has never glimpsed a single live fisher. So rare is the species that most people haven't even heard of it. "I'm constantly surprised by how many people don't know what I'm talking about when I tell them what I'm studying," Krohner says.

No wonder. Fishers are a state-level endangered species in Washington, have all but disappeared from California, and are seldom seen in Idaho or Montana.

That apparent rarity, as well as a lack of scientific information on fisher distribution and abundance, prompted Montana Fish, Wildlife & Parks and IDFG to focus more attention on the elusive forest predator. Scientists from the two states, the U.S. Forest Service, and the University of Montana devised a way to survey fishers in the northern Rocky Mountains to better understand which habitats fishers use so that conservation efforts could focus on those areas. They hired Krohner to carry out the project.

INTO THE BACKCOUNTRY Above: Bob Inman, FWP Carnivore-Furbearer Program coordinator, stops to check his GPS while sledding in supplies for a fisher survey station in the Bitterroot Mountains near Lolo. Right: Biologists and volunteers also skied and snowshoed into remote areas to check and restock a total of 324 stations in western Montana and north-central Idaho in an unprecedented search for fishers.

PHOTO CREDITS: JUSTIN GUDE/MONTANA FWP

HOUSE CAT X WEINER DOG

Fishers are furtive creatures of dense forests. Weighing 7 to 10 pounds, they have a thick, dark coat; a long, bushy tail; and a long muzzle. "I describe them to people as a cross between a house cat and a weiner dog," says Joel Sauder, an IDFG wildlife diversity biologist. Though sometimes called "fisher cats" because of their partially retractable claws and ability to climb trees, fishers are not related to felids. They also don't eat fish but rather mountain grouse, beavers, and snowshoe hares. The name comes from the Old Dutch *fisse* or French *fichet*, names for the European polecat, a similar-looking mustelid (weasel family member).

Fishers have historically lived in the Lower 48 in the mountains of western California, the northern Rocky Mountains, and a large portion of the Great Lakes states and the Northeast. Numbers declined rapidly throughout the species' range in the late 1800s and early 1900s due to heavy commercial trapping and logging.

The first challenge for FWP and IDFG biologists was to decide where to search for the seldom-seen furbearers. They narrowed the scope to northern Idaho and western Montana, based on several attempted

LIGHTS! CAMERA! VENISON! Clockwise from top left: University of Montana graduate student Jess Krohner positions a trail camera on a tree while FWP pilot Trever Throop affixes brass gun brushes that will snag hair when fishers or other wildlife climb past them to reach the bait; Justin Gude, head of the FWP Wildlife Research Bureau, wires a venison haunch to a bait station; FWP game warden Alex Mattson, FWP wildlife biologist Liz Bradley, and FWP wolf specialist Tyler Parks signal to a trail camera that a site is ready to detect fishers.

GOT ONE Above left: Bob Inman checks images captured by a bait station trail camera. Above right: An image from the camera shows a fisher taking bait wired to a nearby tree. Such photographs were rare, especially in Montana, reflecting the relative scarcity of the species and its habitat in this state. Conducted in Montana and Idaho, the fisher survey project was funded largely by the federal Pittman-Robertson Program, which uses a federal excise tax on hunting and shooting gear to pay for wildlife research and management.

CLOCKWISE FROM TOP LEFT: TORREY RITTER; JUSTIN GUDE/MONTANA FWP; JESS KROHNER; ROBERT S. MICHAELSON

CLOCKWISE FROM TOP LEFT: JUSTIN GUDE/MONTANA FWP; JESS KROHNER; JESS KROHNER

introductions, habitat models created from field studies conducted in Idaho and western Montana, and detailed reports required from trappers.

In the early 1960s, Montana imported roughly a dozen fishers from British Columbia and released them in mountain ranges west of the Continental Divide. The goal, says Bob Inman, FWP Carnivore-Furbearer Program coordinator, was to reduce numbers of porcupines, which fishers prey on and loggers consider a tree-damaging pest, while creating an additional fur resource for trappers. At the same time, similar numbers of fishers were transplanted into four areas on the Idaho side of the Bitterroot Mountains. Later, around 1990, biologists transplanted 110 fishers from Wisconsin and Minnesota into the Cabinet Range.

As part of his doctoral work at the University of Idaho from 2007 to 2012, Sauder helped build a map of probable fisher habitat based on radio telemetry data from collared fishers in north-central Idaho. Data from that and another study led Idaho and Montana biologists to believe that the species' core habitat in the Northern Rockies is in the moist red cedar forests of Idaho's Clearwater and St. Joe National Forests and parts of the Cabinet Mountains south of Libby, Montana. Sauder says fishers in the Northern Rockies prefer forests of large, mature trees with cavities where they can den and rest. Because it naturally hollows out with age, the western red cedar makes ideal fisher habitat.

The translocation areas as well as places where trappers in recent decades have caught fishers were added to the habitat study sites to create a map of where biologists wanted to survey.

> "We don't want to spend time and money trying to conserve fishers in habitat that never has or never will support them."

Though core fisher habitat is wet and dominated by red cedars, historical trapping data shows some fishers also in drier, higher-elevation forests, mostly in Montana. Trappers have captured fishers along the east slope of the Bitterroots, particularly around Lolo Pass. "Though that's much drier than what we consider prime fisher habitat, it's very close to wetter habitat dominated by red cedar in Idaho," says Inman. "This survey should tell us whether those animals just occasionally 'spill over' from quality Idaho habitat, or if they also can exist year round in drier habitats on the Montana side, far from those wetter areas."

That information matters, Inman continues, "because if fishers aren't really using the drier habitats year round, then we don't want to spend time and money trying to conserve 'would be' fisher habitat that never has or never will support the species."

That's only part of what Krohner's study will show. Biologists will also use the data to understand where soil and moisture conditions produce the best fisher habitat. "That way we can provide denning structures, improve habitat, and even do future translocations to help keep fishers distributed everywhere they should be," Inman says.

Fisher trapping is no longer legal in Idaho and is strictly managed in Montana. Trapping is allowed only in portions of the state's northwestern region for a few months each winter, with a total harvest quota of just five fishers. After the quota is reached, or when a single female is trapped, FWP closes the season.

FISHERS ON FILM

In mid-March 2019, volunteer Bruce Hazeltine straps on snowshoes for the five-mile trek up the Fred Burr Trail to a fisher camera trap he'd helped install a few months earlier. FWP biologist Rebecca Mowry and three other volunteers from Wolverine Watchers, a citizen-scientist monitoring group, do the same as the morning sun casts a rosy glow on the Bitterroot Mountains. "I love doing this," Hazeltine says. "It gets me outside in the winter, and I always learn something new."

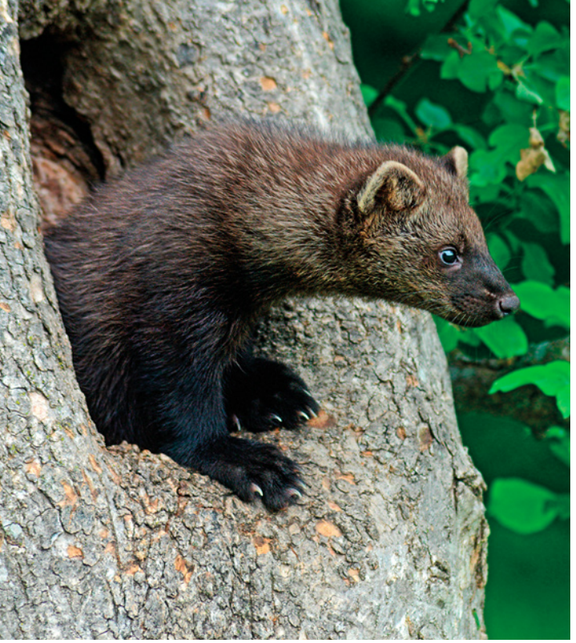
In previous years, the Missoula-based group has set several camera traps for wolverines in the Bitterroot and Sapphire Mountains, including one along the Fred Burr Trail. They were among dozens of professional and volunteer crews that took part in a wolverine survey across Montana, Wyoming, Idaho, and Washington (see "Where Are the Wolverines?" November-December 2018, *Montana Outdoors*). Because wolverine and fisher surveys often overlap geographically, this year FWP asked group members if they'd also set out bait stations and cameras for fishers.

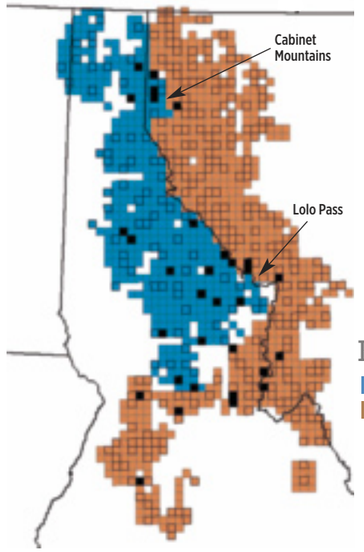
> "If we hadn't had the game wardens helping us, I don't think we could have finished the survey."

The week before, Mowry had accompanied volunteers to three other sites to download trail-camera photos and hang venison haunches as bait on trees opposite the cameras. Earlier, she'd set several camera traps even farther up the Bitterroots. Because deep snow later in the winter would make these sites inaccessible for rebaiting, she installed camouflaged scent pumps. Originally devised by Sauder for the wolverine survey, the pumps are similar to machines that spray air freshener into public restrooms. Each pump periodically dribbles a small amount of liquid that reeks of skunk onto a large bone wired to a tree. The smell attracts fishers and other carnivores, and the camera captures their images as they climb to investigate.

Other FWP employees set similar traps throughout western Montana, from the southern end of the Bitterroots to the northern tip of the Cabinets, while their counterparts in Idaho did the same. Temporarily swapping ticket books for snowshoes, more than a dozen FWP game wardens provided essential assistance. "If we hadn't had them

Laura Lundquist is a writer in Missoula.





Where are the fishers?

Cameras captured fishers in nine Montana cells and 23 Idaho cells. "That's right in line with what we expected," says Justin Gude, head of FWP wildlife research. "Based on historical records and field habitat studies, we didn't expect to find fishers in most of the drier, high-elevation sites found mainly in Montana. But we needed to scientifically document that hypothesis."

Key

- Predicted core habitat (wetter)
- Predicted secondary habitat (drier)
- 324 cells with trail cams
- Cells where fishers were photographed

SOURCE: JESSICA KROHNER AND MONTANA FWP

HARD TO FIND Above left: A photo of a captive fisher shows the animal's lush fur, dark coloration, and long muzzle. Below: A wild fisher leaves a remote backcountry survey station in Idaho. Above right: The recent survey of the species in Idaho and Montana showed that fishers stick mainly to wet, cedar-dominated core habitat, occasionally venturing into nearby dry, lodgepole pine-dominated habitat.

helping us, I don't think we could have finished the survey," Mowry says.

Because it would be impossible to count all of the elusive animals, biologists used the remote cameras to generate a distribution estimate, called "occupancy." They divided the vast mountainous landscape of Idaho and western Montana where fishers might live into 1,134 "cells," each measuring 22 square miles. A camera was set up in each of a random sample of 324 cells, in both core fisher habitat and secondary drier habitat, to establish what percent fishers occupied. As crews retrieved the cameras in the spring of 2019, they sent the photo files to Krohner to review.

WET, NOT DRY

Krohner found fishers in photos from nine Montana cells (four in the Cabinets and five in the Bitterroots) and from 23 Idaho cells. Though Krohner hadn't finished her analysis when this article went to press, Justin Gude, head of FWP's wildlife research program, says the preliminary findings appear to confirm biologists' suspicions. "It looks like fishers were detected mostly in wetter areas and drainage bottoms with taller, denser forests and, in Montana, were either in wet habitat or in drier habitat near those places," he says. "That indicates they only move occasionally from the wetter habitats and don't fully use the drier habitats, which would have been indicated by occupancy spread randomly throughout the drier, high-elevation sites."

The findings weren't surprising. In 2003 Ray Vinkey, now a U.S. Forest Service biologist, combed Montana's historical records for any mention of fishers by trappers or naturalists. He found only two references from before 1930. "That's far fewer historical records than we have of wolverines, and wolverines are extremely rare," says Inman, the FWP furbearer expert. What that implies is that Montana likely has never been home to many fishers, lacking the habitat the species requires. "This new survey appears bear that out," Inman says. "That's good to know, because we don't want to set expectations that fishers can live in places where they can't—like in dry, high-elevation lodgepole forests that lack the tree cavities they need."

> "If we don't know where fishers are—and aren't—we can't work to conserve the places where they live.

Gude adds that the survey located fishers near previous translocation areas in the Cabinets and in places where trapping has occurred. "The former tells us that future translocations in those same areas might work," he says. "The latter indicates that trapping, which is now regulated to a very low level, probably isn't limiting distribution."

As wildlife biologists in Montana and Idaho wait to read and discuss Krohner's final report, they've begun working on ways to piggyback a second fisher survey on another wolverine study scheduled for 2022. By setting trail cameras out every few years, they can track whether fisher distribution is shrinking, expanding, or even shifting into new areas.

"It's critical that we keep monitoring," says Gude. "If we don't know where fishers are—and aren't—we can't work to conserve the places where they live."

TOP TO BOTTOM: SHUTTERSTOCK; JESS KROHNER

Plugging the Leaks

A worrisome incident in September 2019 highlights the need for Montana to continue improving watercraft inspections.

By Jim Pashby

In late September 2019, a boat from Chicago infested with invasive mussels slipped through two Montana inspection stations before inspectors with the Confederated Salish and Kootenai Tribes (CSKT) intercepted it in Ravalli and decontaminated the vessel.

"We were extremely concerned that the boat's mussels escaped detection," says Thomas Woolf, bureau chief of the Montana Fish, Wildlife & Parks' Aquatic Invasive Species (AIS) Program. "After that, we knew we needed to take even more steps to improve quality control at inspection stations."

The driver hauling the infested boat was headed for Seattle and stopped at Montana watercraft inspection stations in Wibaux and Anaconda, where crews failed to spot the mussels. Montana's AIS protocol requires that a contaminated vessel be decontaminated with hot water to remove and kill invasive species before it can leave an AIS check station.

In 2019, inspectors with FWP, tribes, conservation and weed districts, and other entities checked more than 113,000 boats. They discovered invasive mussels on 16, all of which were decontaminated.

So how did the Chicago boat slip through Montana's line of defense?

The inspector at the Wibaux AIS station, on I-94 near the North Dakota border, failed to inspect the boat properly yet provided paperwork to the driver indicating the craft was clean, Woolf explains. When the driver stopped at the Anaconda station, inspectors reviewed the paperwork and allowed the boat to proceed without inspection. "When inspectors encounter a boat already inspected at another Montana station, they don't perform another full inspection but are still supposed to look at the boat to ensure it's clean. That didn't happen," Woolf says.

Jim Pashby is a writer in Helena.

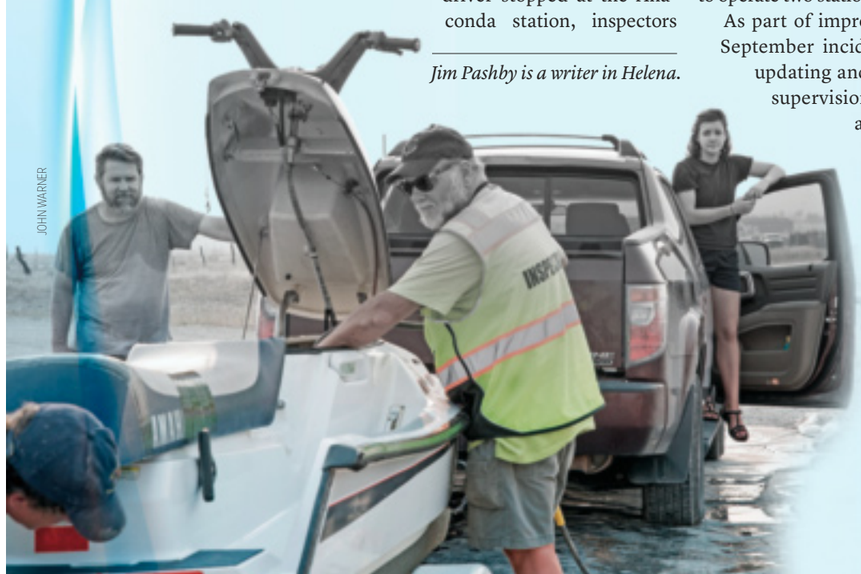
When the boat reached the Ravalli AIS station, inspectors followed protocols and identified mussels on the boat. They decontaminated the craft and notified the state of Washington so it could be examined again after reaching its destination.

Woolf says the incident highlights the challenges of managing watercraft inspection stations in a large, rural state. "Our inspectors are seasonal employees working long days in remote areas with minimal supervision," he says. "Most do outstanding work in tough conditions interacting with boat owners—who sometimes aren't happy about having to stop for an inspection. It's not easy making sure every inspector follows protocols correctly every time, all season long."

Until recently, regional AIS supervisors were responsible for overseeing dozens of inspectors at multiple stations, sometimes hundreds of miles apart. "For instance, the eastern supervisor managed five stations covering an area the size of the state of Washington," Woolf says. FWP has now begun contracting with local entities like conservation districts to manage many of the stations. "This encourages local ownership in the issue and allows expanded oversight and improved quality control," Woolf says. FWP is also contracting with the CSKT to operate two stations on the Flathead Indian Reservation.

As part of improvements already scheduled when the September incident occurred, the department is also updating and enhancing inspector training, adding supervision and quality control requirements, and surveying boat owners about their experiences at stations.

"The reality of watercraft inspection stations is that we rely heavily on individual inspectors to do their job every single time," says Woolf. "We have a great team and many great inspectors who are pulling hard to make things work the best they possibly can. But like anyone, an inspector can have a bad day and make a mistake. Even so, we're taking steps this season to tighten things up even more to protect Montana waters from harmful invasives."



JOHN WARNER