Wolverine study yields valuable fur and facts

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"Yup, a wolverine has definitely been here!" exclaimed Barb Bertsch as we skied into a clearing following her GPS signal a few hundred metres from the Pipestone River bank, two and a half hours from the trailhead near Lake Louise.

"I hope he left more than bones."

Opening a metal box fastened to a tree a metre above the snow surface, Bertsch, a tracker, field technician and veteran of numerous wildlife studies, and wildlife ecologist Tony Clevenger, lead researcher for a five-year study examining the effects of Trans-Canada highway wildlife crossings, checked on the remote infrared-operated camera encased within.

The bones to which Bertsch referred – including telltale elongated front teeth – were all that remained of a beaver carcass that had been securely nailed about three metres above the snow to a tree several metres from the camera. Below the bones, a spiral of barbed wire eight revolutions high wrapped the tree. Approaching the tree brandishing a pair of needle-nose pliers, Clevenger quickly spied his treasure.

"Oh yeah, we've got some fur," he announced.

Moving to within a few centimetres of his gloved finger tip, I finally spotted the fine strands of animal fur snagged in the barb.

Recording strand numbers in a logbook, Bertsch marked the location of each sample in relation to the camera to help identify which animal left each sample in case of multiple individuals of a certain species.

"You don't always get a sample from a hair/fur strand," Clevenger explained. "You have to have the follicle. That's why it's important to rip the fur out, rather than taking shed hair. It's nice to have a big tuft of fur, but even one hair with a good follicle is useful."

Lynn Martel
Wolverine researcher, Tony Clevenger, uses needle-nose pliers to remove strands of fur.
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"Some sites, you see this big wad like a dog shed and it's like 'yahoo', you know you've got some good ones," Bertsch added, explaining a large tuft usually means all the strands are from a single animal since each barb can only hold so much fur.

Moving methodically around the tree, Clevenger placed the samples into numbered envelopes. They will be sent to a U.S. Forest Service conservation genetics lab in Missoula, Montana to be analysed by a top North American mustellid and landscape genetics expert. Tests will identify the species and also individuals, including gender and offspring, the results of which are expected in about six months.

Clevenger and Bertsch then dismantled the site, packing up the wire, camera and casing in their packs. This was just one of 48 such sites established in Banff, Yoho and Kootenay parks during the 2010/11 winter season, including five non-park sites in the Columbia Valley.

It took three full-time and three part-time staff, including Clevenger and Bertsch, a full month to set up the sites by mid-January. Reaching each site meant skiing for several hours carrying a 15-kilogram solidly frozen beaver carcass plus other gear in a backpack. Several remote sites required overnight stays in warden cabins with the beavers, secured inside barrels, delivered by helicopter.

Hanging the carcases on south-facing trees with a smelly lure was physically taxing, messy work best carried out by two-person teams. Through the course of the winter, each site hosted one beaver for three 30-day sampling sessions. Despite skiing more than 2,000 kilometres in temperatures as low as -25 C and wielding barbed wire, hammers and spikes, the project ran injury-free.

Dismantling the sites by the end of April, Clevenger and his team were thrilled with the success of Wolverine Watch, part of a multi-year partnership between Parks Canada, Montana State University's Western Transportation Institute, the Miistakis Institute and Woodcock and Wilburforce Conservation Foundations, with support from the Alpine Club of Canada.

Overall, 88 per cent of the sites saw wolverine visits, with only three of the park sites not visited.

Having wolverine activity throughout the six-square-kilometre study area contrasts information garnered from a similar study conducted in Kananaskis Country over the winter, which showed much lower visitation rates, suggesting the national park population may be a source of animals for the non-park areas that are subject to trapping and more affected by human activities.

"The main study is to learn if the Trans-Canada and other highways are barriers to their movement and gene flow that fragment the population in two," Clevenger explained. "Such fragmentation would ultimately reduce population size and chances for long-term survival in the area."

Rarely seen, the dog-sized wolverine travels up to 40 kilometres a day; males roam up to 1,000 square kilometres while avoiding all types of human disturbance, including roads, logging, snowmobilers and heli-skiers.

Setting the non-invasive (no collars or human contact) traps in winter meant hibernating bears were unlikely to poach the beavers. The study began with six pilot sites last year, and will resume in 2012/13 with more hair traps.

Along with the excitement of finding wolverine fur on the first trap they checked, the researchers also experienced some challenges. One site witnessed so much pine marten activity the camera card was full before any wolverines showed up, while something chewed through the cable to the infrared trigger disabling the HD video. Another camera captured a determined coyote climbing the tree and grabbing the carcass in its teeth, trying to get it down.

"It was amazing, it was up pretty high," Bertsch said.

"Wolves just stand around hoping it will drop," Clevenger added.

After being hit once, the sites were usually visited again. Lab results will determine if it was the same wolverine on stakeout waiting for a fresh beaver carcass.

The project hit a snag in February when beaver carcasses became scarce. Fortunately, trappers from B.C. and Alberta responded to Clevenger's Internet posting: "Need beavers, will pay $30."

"All of a sudden beavers came out of the woodwork," Clevenger said. "Without beavers, the whole project is jeopardized."

On the up side, Clevenger was grateful to have more volunteers than he could assign.

"We know so little about wolverines in the three (Yoho, Banff and Kootenay) national parks, other than that tracks are commonly seen in localized areas with high visitation, such as Lake O'Hara," Clevenger said. "Before the survey began, I guessed we would have had 30 to 40 per cent visitation rate at the hair traps.

"We're thrilled; we've done much better than that."

To learn more, please visit www.WolverineWatch.org

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