

Paula MacKay Research associate, Western Transportation Institute

SEEING FRESH WOLF TRACKS

Top carnivores on the move

It's a chilly day in mid-February, and I'm standing on an old logging road in the Teanaway region of central Washington. As my husband and his graduate student discuss plans for the afternoon, I carefully study the shadows of a nearby drainage—hoping to catch a fleeting glimpse of a resident gray wolf.

Four years ago, when I was a newcomer to the area, this would have been wishful thinking; wolves hadn't lived here in decades, and had only recently re-established themselves in Okanogan County to our north. But today, thanks to the tenacity of a top carnivore both celebrated and reviled, and to the wildness of Washington's rugged North Cascades Ecosystem, there are fresh wolf tracks at my feet: a tangible sign that one of the state's latest confirmed packs is alive and presumably well in its present surroundings.

Of course, the story doesn't end here. Like other carnivores, wolves must roam far and wide to survive, and dispersing animals often wander great distances from their natal territory before settling down again. Assuming all goes well, at least some members of the Teanaway pack will eventually move on, just as the pack's original members made their way to the Teanaway last year. The big question is: where will they go?

From the hillside where I watched for wolves this winter, I could hear and see the endless stream of vehicles traveling along the bustling I-90 corridor. Within a day's walk, a wolf

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A tragic, too common scene: This American marten didn't make it across Highway 20 in the Cascades. Photo Robert Long/WTI



Leaders in road ecology

In 2007, the Western Transportation Institute (WTI), of Montana State University, established a field office in Ellensburg, Washington, to help WSDOT conduct wildlife monitoring prior to installation of wildlife crossing structures at I-90 Snoqualmie Pass East. An international leader in the field of road ecology, WTI is gathering pre-construction monitoring data, which when compared with post-construction data, will provide a scientific means of evaluating the effectiveness of structures in reducing wildlife-vehicle collisions and enhancing wildlife movement.



Paula MacKay installs a remote camera. Photo Robert Long/WTI

With remote cameras and other monitoring techniques, WTI is gathering information about where and how wildlife are currently using the I-90 corridor. WTI and the I-90 Wildlife Bridges Coalition are also collecting data from motorists, who are encouraged to report their wildlife sightings on I-90 between North Bend and Easton at igowildlifewatch.org.

Meanwhile, in Banff National Park in Alberta, WTI's Anthony Clevenger has been monitoring wildlife crossing structures on the Trans-Canada Highway for 15 years. This research has resulted in the most comprehensive body of scientific information in the world on how wildlife respond to wildlife crossing mitigation.

In the past decade and a half, Dr. Clevenger and his associates have documented more than 200,000 crossings performed by a broad range of wildlife, from large mammals, including grizzly and black bears, wolves, cougars, coyotes, Canada lynx, wolverines, deer, elk, moose, and bighorn sheep, to smaller animals, such as hoary marmots, striped skunks, garter snakes, boreal toads, and myriad other species.

Monitoring at Banff has also shown that large mammals require an adaption period before using new wildlife crossing structures—perhaps four years or more.

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Many, many animals use the vegetated wildlife overpass at Banff National Park, Canada, including this Canada lynx. The Rock Knob wildlife bridge just funded for I-90 in Washington will serve a similar purpose. Photo Highwaywilding.org

structures already under construction (see page 6). Once these structures and associated fencing are in place—and with a little time and patience—wildlife will no doubt move more freely and safely through the I-90 corridor. Indeed, the Western Transportation Institute’s long-term monitoring of wildlife overpasses and underpasses at Banff National Park has shown that animals of all sizes and shapes regularly travel across and through them (see sidebar).

It’s exciting to think that, in the not-too-distant future, wolves and other wildlife approaching I-90 near Snoqualmie Pass will not have a life-or-death decision to make. And we’ll be one step closer to restoring habitat connectivity in the Cascades.

A black bear visits a hair-snagging station in the Cascades near I-90. (Barbed wire used for snagging hair can be seen in the foreground.) Photo WTI



“Leaders in road ecology,” continued

Fencing is key. Without fencing to guide them, wildlife are no more likely to use crossing structures than, say, a 3-year-old child is inclined to use a crosswalk! But in the end, both wildlife and people have reaped profound benefits in Banff.

Since the first underpasses were built and new fencing was added in 1988—and with 40 structures now in place—roadkill has dropped by 80%.

To learn more about WTI’s efforts in Washington, Banff, and elsewhere, please visit: wti.montana.edu, cascadesconnectivity.org, igowildlifewatch.org, and highwaywilding.org

“Carnivores on the move,” continued

emigrating from the Teanaway—should it choose to do so—could find itself right smack at the edge of Interstate 90, where it would then be faced with either trying to cross multiple lanes of high-speed traffic or altering its course. Each year, the former option turns out to be fatal for the millions of animals (and roughly 200 motorists) killed in wildlife-vehicle collisions across the country. Perhaps less obvious, however, are the population-level risks that result when roads hinder the natural movement of wildlife. Highways fracture the landscape and can serve as partial or even complete barriers to wildlife movement—potentially thwarting access to necessary habitats, or dividing animal populations into isolated subpopulations that are more vulnerable to inbreeding and other threats to population viability. Reduced landscape connectivity can also impede the recolonization of wide-ranging species, like wolves and grizzly bears.

Since 2008, my colleagues and I have been collaborating with several partner organizations (including Conservation Northwest) to evaluate the effects of I-90, Route 2, and Highway 20 on carnivores in the Cascades. More specifically, the Cascades Carnivore Connectivity Project is using noninvasive methods (methods that do not require that animals be captured or handled) to collect hair samples from American black bears and American martens from I-90 all the way up to North Cascades National Park. Those tiny hair follicles, which are an excellent source of DNA, will enable a big-picture analysis of how highways and other landscape features may be affecting gene flow—and thereby carnivore movement—throughout the ecosystem. Ultimately, we hope that our results will help inform transportation and conservation planning.

Meanwhile, there is a silver lining for wildlife on I-90. The Washington State Department of Transportation’s (WSDOT) efforts to enhance habitat connectivity at I-90 Snoqualmie Pass East are well underway, with several wildlife crossing