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OutThere

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A herd of pronghorns runs down the highway north of Livingston last September.

WILDLIFE CROSSING

NEW BOOK FOCUSES ON MITIGATING RISK TO WILDLIFE ON ROADWAYS

By **BEN PIERCE**
Chronicle OutThere Editor

Measuring nearly 50,000 miles in length, the United States has the largest interstate highway system in the world. Authorized during the Eisenhower administration, the interstate roadways were complete over the course of 35 years. Those routes now course at a relentless pace with millions of automobiles carrying goods and passengers great distances across the country.

As vast as the interstate highway system is, it's still a miniscule fraction of the approximately four million miles of public roads in the U.S. Those roads cover about one percent of all the land in the country and carry with them some profound consequences for the environment and wildlife.

A new book published by Montana State University Western Transportation Institute researchers Anthony Clevenger and Marcel Huijser, and co-edited by Jon Beckmann and Jodi Hilty of The Wildlife Conservation Society, makes the case for safer, smarter roads. Entitled "Safe Passages: Highways, Wildlife, and Habitat Connectivity," the book details case studies aimed at mitigating risk to wildlife, humans and the environment on the increasingly fast-paced lanes of the nation's highways.

"Road ecology didn't really exist here 15 years ago," Hilty said on Tuesday. "Departments of transportation across the country are starting to pay more and more attention to it. As road planning goes forward, wildlife migration is becoming increasingly important."

Hilty said wildlife migration corridors and habitat were not taken into consideration when the country's highway system was conceived. Roads developed over the course of the last 100 years effectively fractured wildlife populations, in some cases severing migration routes essential for their survival.

(More **Wildlife**, Page C2)

The book, "Safe Passages: Highways, Wildlife and Habitat Connectivity" was published by MSU Western Transportation Institute researchers and co-edited by members of The Wildlife Conservation Society.

Foreword by Richard T. T. Forman

SAFE PASSAGES



Highways, Wildlife, and Habitat Connectivity

Edited by Jon P. Beckmann, Anthony P. Clevenger,
Marcel P. Huijser, and Jodi A. Hilty

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The most obvious result of all this is road kill, which litters many of Montana highways. However, advancements in technology and increases in human population density have also impacted wildlife. Faster and louder vehicles, increased traffic volume, highway runoff, roadside rubbish and headlights all impact wildlife in various ways.

Hilty cited pronghorn migrations in the Greater Yellowstone Ecosystem when discussing the impact of roads on wildlife. "We have lost about 75 percent of the pronghorn migration in the Greater Yellowstone Ecosystem," Hilty said. "If we want to save the last migrations we need to think about what could sever those migration corridors."

Marcel Huijser, a research ecologist for the Western Transportation Institute and co-editor of "Safe Passages: Highways, Wildlife, and Habitat Connectivity," believes underpasses, overpasses and wildlife fencing can be used in combination to vastly mitigate risk on roadways.

"When we look at these safe passages, it is safe to say that the use by wildlife is substantial," Huijser said on Tuesday. "When we build a passage of the right type in the right area of the right dimensions, it will be used by wildlife in the area."

Huijser said wildlife fencing is used to prevent animals from reaching roadways or to funnel wildlife toward safe passage areas. A safe passage could be a vegetated overpass or an underpass that allows an animal to move across a roadway without the risk of a collision.

Used in conjunction,

Huijser said studies have illustrated that wildlife fencing combined with an underpass or an overpass correlates to an 80-90 percent reduction in wildlife mortality on the roadway.

Implementing mitigation measures could mean safer roads for wildlife and drivers.

In 2009, the Montana Department of Transportation (MDT) reported 2,100 crashes with wild animals on Montana highways. There were four human fatalities among those crashes.

"(Crashes with wild animals) is something that we believe is under-reported," said Charity Watt, MDT public information officer.

Watt said MDT gathers data on crashes with wild animals from the Montana Highway Patrol and from maintenance vehicles that remove road kill from highways. She said estimating the number of unreported crashes can be difficult.

"There could be situations where (a crash) doesn't cause any damage to the vehicle or a driver does not need assistance," Watt said, "so they just keep going on their trip."

Watt said MDT has undertaken efforts to protect wildlife for a number of years, and that the movement toward implementing safe passages and wildlife fencing is growing. She said MDT has worked with other state and federal agencies, private landowners and conservation groups to mitigate risks to wildlife and drivers.

Those, and other projects like them, have garnered tangible results in places like Gallatin Canyon and Bozeman Pass where fencing and safe passages have limited

wildlife traffic on high-risk areas of the roadway.

"Our first priority is public safety and the safety of the travelers," Watt said. "We work with the other organizations that may have other goals, but certainly those goals cross in the middle."

"I think we have been pleased with what we have been able to accomplish working with different groups around the state," Watt said. "We have seen success working with (Montana Fish, Wildlife & Parks) and American Wildlands to move projects forward and achieve our individual goals working together."

"Safe Passages: Highways, Wildlife, and Habitat Connectivity," aims to reinforce those partnerships and act as a guide for other organizations and agencies to expand on recent successes.

Huijser said he is encouraged, but still sees some major challenges ahead. In many situations he's seen positive cooperation between organizations, but still feels strides must be made to institutionalize the implementation of safe passages as a norm, rather than as special projects.

And, he said, society needs to take a deeper look at road ecology to fully assess the cost of inaction.

"We know that (safe passages) are good for human safety and conser-

vation," Huijser said. "That is all very good, but when I have spoken to people over the years, there is always the but of, it costs too much money."

In the fall 2009 issue of the Journal of Ecology and Society, Huijser co-authored a report with University of Montana economist John Duffield. The report examined the gross cost related to wildlife-vehicle collisions with a specific focus on deer, elk and moose.

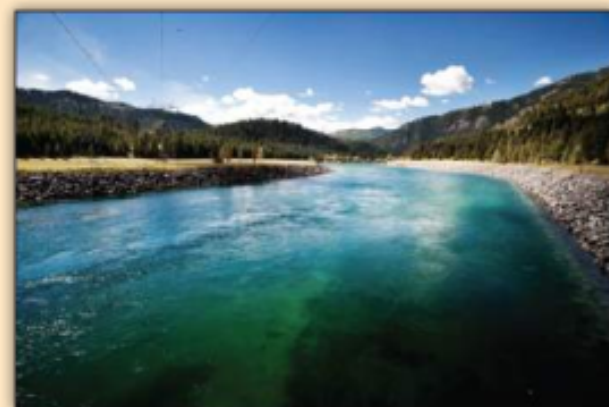
Weighing vehicle repair expenses, human injuries and fatalities, towing, carcass removal and lost hunting value – among other associated costs – the report concluded that on average a vehicle-deer collision cost society \$6,600. That figure nearly triples for an elk at \$17,000 and balloons to \$31,000 in the case of a vehicle-moose collision.

"It begs the question, how much money is enough?" Huijser said. "Now that we know what the average collision costs, we know what the value of mitigation efforts is."

"It is not inconceivable that you could have an economic benefit from these types of mitigation efforts ... It is actually more costly to do nothing."

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WHERE AM I?



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Last week's photo stumped everyone. The location was Round Butte near Geraldine.

GEOLOGIST PRESENTS STATE PARK PROGRAM AT CAVERN

"Geology: Oil and Minerals" will be presented Aug. 27 at the Lewis & Clark Caverns amphitheater at 8 p.m.

Rocks, minerals oil, coal – Montana's got them all. Richard Gibson, geologist and historian in Butte, connects geology to minerals' end uses with reflections along the way on America's surprising dependence on global trade for resources that make commonplace items ranged from knives and forks and batteries to flat-panel TVs. The presentation is based on Gibson's in-progress book, "What Things Are Made Of," and nearly 40 years in the oil exploration business.

This program is free to Montana residents and those registered to camp that evening in the park's campground. There is a \$5 per vehicle entrance fee for any non-residents who would like to attend. For more information, contact Lewis & Clark Caverns at (406) 287-3541.