**Bird deaths from car crashes number in millions**

Traci Watson, Special for USA TODAY

If only birds had air bags. A new study shows that crashes with cars and trucks kill as many as 340 million birds on U.S. roads every year — a much higher toll than bird deaths from many other human activities.

Hunters bagged a mere 19 million U.S. ducks and geese in 2012, according to federal statistics, and a quarter-million to a half-million birds a year die after hitting wind turbines. Among well-studied causes of death tied to humans, only cats and collisions with buildings lead to more bird deaths than traffic does, the study says.

"We don't really pay attention to or talk much about this issue of vehicle collisions. … We're all used to driving," says Cornell Lab of Ornithology's Amanda Rodewald, who's not affiliated with the study. But the new estimates show the toll of vehicles is "pretty staggering," she says. "I had no idea."

To compile a nationwide estimate of avian road kill, the study's authors extrapolated from 13 small-scale surveys of birds that died after being hit by vehicles. The results show that 89 million to 340 million birds suffer fatal injuries from vehicle encounters annually, a range that accounts for dead birds taken by scavengers, carcasses missed by researchers and other uncertainties, the researchers report in an upcoming issue of The Journal of Wildlife Management. Previous research had pegged bird deaths from vehicles at 60 million to 80 million.

The new study is "the most comprehensive analysis … to date," statistician Wally Erickson of Western Ecosystems Technology, an environmental consulting group, says via e-mail. The numbers are probably in the right ballpark and show that traffic is one of the bigger human-caused killers of birds, he says.

Higher speed limits, wider roads and high bird populations may help make some roads especially deadly, says study author Scott Loss of Oklahoma State University, who worked with scientists from the U.S. Fish and Wildlife Service and the Smithsonian Migratory Bird Center. According to one study that Loss and his colleagues relied on, some 500 birds a year died on a two-mile stretch of highway through a Florida wildlife refuge. Many would've been tiny sparrows or warblers that drivers may not have even noticed.

"Everyone who's spent significant time in a car has probably hit a bird," Loss says, confessing that he has done so himself and was a passenger in a car when a bird struck the windshield "like a rock hitting the window."

Barn owls seem particularly marked for doom in Loss' analysis. Now threatened or endangered in a number of states where they were once common, barn owls accounted for a large proportion of the deaths across the surveys Loss and his colleagues used for their analysis. One of those surveys estimated that as many as 1,500 barn owls a year died along a 150-mile stretch of interstate highway in Idaho – a death rate high enough to wipe out the local population.

Powerful headlights shining into the owls' sensitive eyes might blind the birds or even cause them to freeze, explains Arkansas State University's Than Boves, an author of the barn owl study. While other owls sit safely on perches to look for food, barn owls hunt on the wing, potentially making them more vulnerable. Their vulnerability became clear to Boves when, in one day, he collected more than 100 dead barn owls.

The number was "overwhelming," he says. "They weren't sick, they weren't starving. They were seemingly healthy animals that weren't up to the challenge of dodging a whole lot of high-speed traffic at night."