Collisions with wildlife: the rising toll

Background and epidemiology: Running over or hitting animals with a vehicle is such a common occurrence it rarely receives notice or mention. The Humane Society of the United States reports that more than a million animals are struck by vehicles on US roadways each day.[1] These collisions are almost inevitably fatal for the animals. The risk to humans is much lower, but it increases with factors such as the size of the animal hit and the likelihood of a secondary collision while trying to avoid the animal.[2] These accidents also carry a growing price tag. In Manitoba, collisions between vehicles and wildlife cost the provincial auto insurance agency $16.2 million in 2000, with 200 people injured in the 8200 collisions that were reported.[3]

Although the problem is serious, there is little epidemiologic evidence about injury patterns and effective prevention. Data on collisions resulting from close encounters with foxes, turtles, porcupines, badgers and the like are virtually nonexistent. Most of the information comes from police reports and medical records, and is limited to collisions with larger animals that result in injury or property damage. Data on these accidents are also incomplete; one jurisdiction estimated that reported collisions accounted for only about 54% of the deer killed by motor vehicles in the area.[4] The available data suggest that between 10% and 30% of collisions with moose and 1% to 3% of collisions with deer result in injury requiring medical attention.[2,5]

The risk of fatality from either is lower — of 661 moose-related accidents reported in Newfoundland over a 2-year period, 130 people were injured and 3 were killed.[5] In Alberta, 3 members of one family died in February after their truck hit a moose and then veered into the path of another vehicle.[6] Common injury sites are the head, face or neck.[4,5] Occupants of the car may be cut by flying glass, and unusual axial-load–type injuries to the cervical spine of front-seat occupants are a common result of moose–automobile collisions.[5,7]

Risks increase according to the time of day and the season, with dawn, dusk, spring and early summer being prime times to drive with wildlife in mind. Moose hits occur most often between April, when road salt attracts them, and October, the mating season. Deer hits occur most frequently during the fourth quarter of the year. The risk of hitting deer 1 hour after sunset is 30 times greater than the risk of hitting them during the day.[2] The incidence of moose and deer collisions is increasing in many vicinities[4,6] because of revitalized herds, increased traffic, lost habitat and expanded motorways.

Management: Drivers who injure an animal should be warned not to put their own safety at risk by trying to move it from the road unless this can be done in absolute safety. A vehicle's hazard lights or emergency road flares should be used to warn oncoming traffic. Drivers or their passengers should never attempt to handle large animals that have been injured or smaller ones that could inflict a serious bite. Instead, they should call the nonemergency number of the local police department and provide the animal's location, emphasizing that the animal is a traffic hazard, and they should stay in the area until help arrives. Drivers who try to assist a small animal should wear heavy gloves while moving it to a shelter or the office of a receptive veterinarian. Roadkill should be reported to hasten its removal. This will prevent scavengers from being attracted and may prevent a potential traffic accident.[1]

Prevention: Several inventive strategies to modify the behaviour of the agent (the animal), the host (the vehicle occupant) and the environment (the car and road) have been adopted by different jurisdictions, but many have not been rigorously evaluated. Reducing the population of animals through recreational hunting and outfitting deer with reflectors are examples of agent modification.[8] Road modifications include the introduction of animal overpasses and underpasses, walls, culverts, fencing, and roadside mirrors and reflectors (to deflect headlight beams toward the side of the road to alert animals). Vehicles can also be outfitted with devices that catch wind currents and emit a high-pitched signal to frighten animals, although there is debate about their usefulness.[8] Shatter-proof windshields and strengthened A-pillars and roofs have also been recommended. Animal-crossing signs that inform drivers about high-risk periods ("black spots") and advise them to reduce their speeds and be watchful during these periods can also reduce injuries, provided drivers comply.[2,8]

Canapress

Two people were rushed to hospital after this 275-kg moose was struck by a truck in St. John's.

Erica Weir
CMAJ

References

1. Humane Society of the United States. *HSUS credits New Jersey DOT for informing drivers on avoiding collisions with wildlife*. Available: www.hsus.org/news/090601a.html (accessed 2002 Feb 12).
2. Haikonen H, Summala H. Deer-vehicle crashes. *Am J Prev Med* 2001;21:209-11.
3. Werier V. Traffic takes toll of Manitoba's deer. *Winnipeg Free Press* 2002 Jan 24; Sect A:14.
4. Injuries from motor-vehicle collisions with deer — Kentucky, 1987–1989. *MMWR Morb Mortal Wkly Rep* 1991;40(42):717-9.
5. Rattey T, Turner N. Vehicle–moose accidents in Newfoundland. *J Bone Joint Surg* 1991;73:1487-91.
6. Three die in collision with moose in N. Alberta. *Globe and Mail* [Toronto] 2002 Feb 4; Sect A:4.
7. Farrell T, Sutton J, Clark D, Horner W, Morris K, Finison K, et al. Moose–motor vehicle collisions: an increasing hazard in northern New England. *Arch Surg* 1996;131:377-81.
8. Pless IB. Collisions with animals [letter]. *Lancet* 1996;348:492.