A recent survey at a professional wildlife rehabilitation facility reported these figures.

CASE OUTCOMES AND CASE FATALITY RISKS (CFR) FOR HUMAN-INDUCED TRAUMA, CAT RELATED, DOG RELATED, AND HIT- BY-AUTOMOBILE CASES FOR AMPHIBIAN/NON-AVIAN REPTILE, MAMMAL, AND AVIAN ANIMALS PRESENTED TO A WILDLIFE CLINIC IN EAST TENNESSEE.

	n (% of cases	) ALIVE (%)	DOA (%)	DIED (%) I	EUTHAN (	%) CFR
AMPHIBIAN / REPTILE	397	192	3	32	171	0.519
HUMAN-INDUCED TRAUMA	60 (15.1)	41(68.3)	0 (0.0) 3	3 (5.0)	16 (26.7)	0.316
CAT RELATED	12 (1.5)	8 (66.7)	0.0) 0	1 (8.3)	3 (25.0)	0.333
DOG RELATED	50 (6.1)	31 (62.0	0.0) (0.0)	3 (6.0)	17 (32.0)	0.380
HIT BY AUTOMOBILE	275 (33.3)	112 (40.7	') 3 (1.1) 3	25 (9.1)	135 (49.1	0.593
MAMMAL	2318	754	36	263	1265	0.675
HUMAN-INDUCED TRAUMA	111 (4.8)	32 (28.8)	2 (1.8)	13 (11.7	) 64 (57.7	") 0.712
CAT RELATED	1115 (19.4)	388 (34.8)	9 (0.8)	166(14.9)	552 (49.	5) 0.652
DOG RELATED	597 (10.4)	253 (42.4)	13 (2.2)	52 (8.7)	279 (46.	7) 0.576
HIT BY AUTOMOBILE	495 (8.6)	81 (16.4)	12 (2.4)	32 (6.5)	370 (74	.7) 0.836
AVIAN	1738	544	23	299	872	0 .687
HUMAN-INDUCED TRAUMA	202 (11.6)	75 (37.1)	0 (0.0)	27 (13.4	) 100 (49	9.5) 0.629
CAT RELATED	809 (10.5)	232 (28.7)	9 (1.1)	168 (20.8	) 400 (49	9.4) 0.713
DOG RELATED	244 (3.2)	73 (29.9)	3 (1.2)	•		2.9) 0.701
HIT BY AUTOMOBILE	483 (6.3)	164 (34.0)	11 (2.3)	65 (13.5	) 243 (5	0.3) 0.660

Wildlife species are continually being presented to veterinary clinics and rehabilitation centers throughout the United States, and it is important to determine the reasons in order to monitor the changing health status of the surrounding ecosystem, decrease the anthropogenic effect of habitat fragmentation and pathogen pollution, and investigate preemptive strategies for reducing the number of wildlife casualties. This large dataset provides a sample to explore causal trends for presentation and sheds light on some of the major anthropogenic threats to wildlife health. This study does not attempt to explain the origin or cause of all reasons for presentation, but rather focuses on human related causes of presentation. Approximately onethird of the cases examined were presented to the hospital because of either direct or indirect anthropogenic reasons. Direct interactions with humans (human-induced- trauma and hit-byautomobile categories) were less common than indirect interactions (dog and cat categories) in this population, but still made up 11% of the total cases. Pathogen pollution, noise pollution, and environmental pollution have also been shown to lead to wildlife morbidity and mortality, but this study provides an additional explanation that "predator pollution," by means of introducing domestic cats and dogs to wildlife areas, may also be having a profound and damaging effect. Of all cases presented, approximately 20% were due to interactions with domestic pets, specifically cats (14% of all cases) and dogs (6% of all cases). It has been presented in a separate article relating to cat attacks on birds that only one out of three prey animals were actually found by the owners – the conclusion therefore significantly increases

the number of wildlife fatalities. These numbers do not reflect the wildlife fatalities relating to the non-native invasive predators – community cats.\*

Invasive predators are defined as non-native North American ecosystem species. These animals do not offer an eco-friendly form of rodent control. These animals kill discriminately, kill at higher occurrence numbers than native predators, killing is not hunger driven, and as the population of these community cats increases so does the number of deaths of native prey species.\*

By narrowing the interface between wild and urbanized areas, it is likely that human—wild animal encounters, whether direct or indirect, will increase and, based on the results of this study; these encounters frequently result in the detriment of the wild animals. The data provided in this study do not investigate or provide evidence for the role of environmental pollution, pesticide use, or other forms of habitat disruption, but it does lend itself to the needed discussion about the many factors contributing to the morbidity and mortality of native wildlife species.

In order to establish long-term conservation, a variety of initiatives including responsible pet ownership and habitat modification should be considered. Community and veterinary-client education about the importance, as it relates to wildlife, of keeping domestic cats indoors not allowing community cat colonies to be present and preventing domestic dogs from roaming outside unsupervised could lead to a reduction in the number of animals presented to wildlife facilities based on the findings of this study.\* Although pets other than dogs and cats were not identified as reasons for presentation in this study, exotic, invasive species can lead to wildlife morbidity and mortality in other regions.

Providing educational materials to owners about the proper care of their exotic pets may decrease those introduced to the wild by intentional abandonment and therefore reduce interactions with native wildlife. Increasing canopy coverage and the shrub layer along urban parks and greenways has been suggested to increase crucial habitat areas for certain avian species and protect them from the negative pressures of urbanized areas. In addition, evidence supports certain habitat defragmentation projects, such as linear patches and biological corridors, as successful in increasing migratory ranges and establishing connectivity between wildlife. On a smaller scale, establishing larger wildlife-friendly areas by arranging neighborhood gardens adjacent to each other has also been proposed as a means to increase wildlife habitat in urbanized areas. By removing invasive predators, focusing efforts on the conservation of native habitats, and affording a level of protection along developed and undeveloped transition zones, the numbers of animals affected by direct and indirect interactions with humans might be decreased, therefore leading to decreased morbidity and mortality.

Excerpts from IWRC journal A. Schenk & M. Souza and NWRA symposium L. Cherkassky\*

"In the end, we will conserve only what we love; we will love only what we understand. We will understand only what we are taught." –B.Dioum. You have the power to keep North Idaho WILD!