Morbidity and Mortality in Animals Sudmitted at the Wildlife Rehabilitation Center of Santa Coloma (Andorra)

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INTRODUCTION

Rehabilitation Centers are an indispensable tool for monitoring the ecosystem health and help to detect major emerging diseases and anthropogenic interferences with wildlife. The Rehabilitation Center of Santa Coloma is the only center of such characteristics in Andorra, and therefore the retrospective analysis of its data it is important to monitor the major morbidity and mortality causes of Andorran wildlife.

OBJECTIVES

• To analyze the causes of admission at the Wildlife Rehabilitation Center of Santa Coloma from 2000 to 2015
• To determine the rehabilitation success of animals submitted during this period
• To analyze the causes of mortality at the Wildlife Rehabilitation Center of Santa Coloma in the last 16 years

MATERIALS AND METHODS

STUDY DESIGN AND ANIMALS:
- Study population of 688 animals admitted from 2000 to 2015
- 74 species of 22 different orders from classes Aves, Mammalia and Reptilia
- Diagnostics were assessed by the veterinary clinician and the mortality cause was established with the necropsy, histopathological examination and other complementary diagnostic tests

STATISTICAL ANALYSIS:
- Spearman correlation test for correlation between variables of study
- Non-parametric exact Fisher test and Chi-square analysis for comparison between proportions
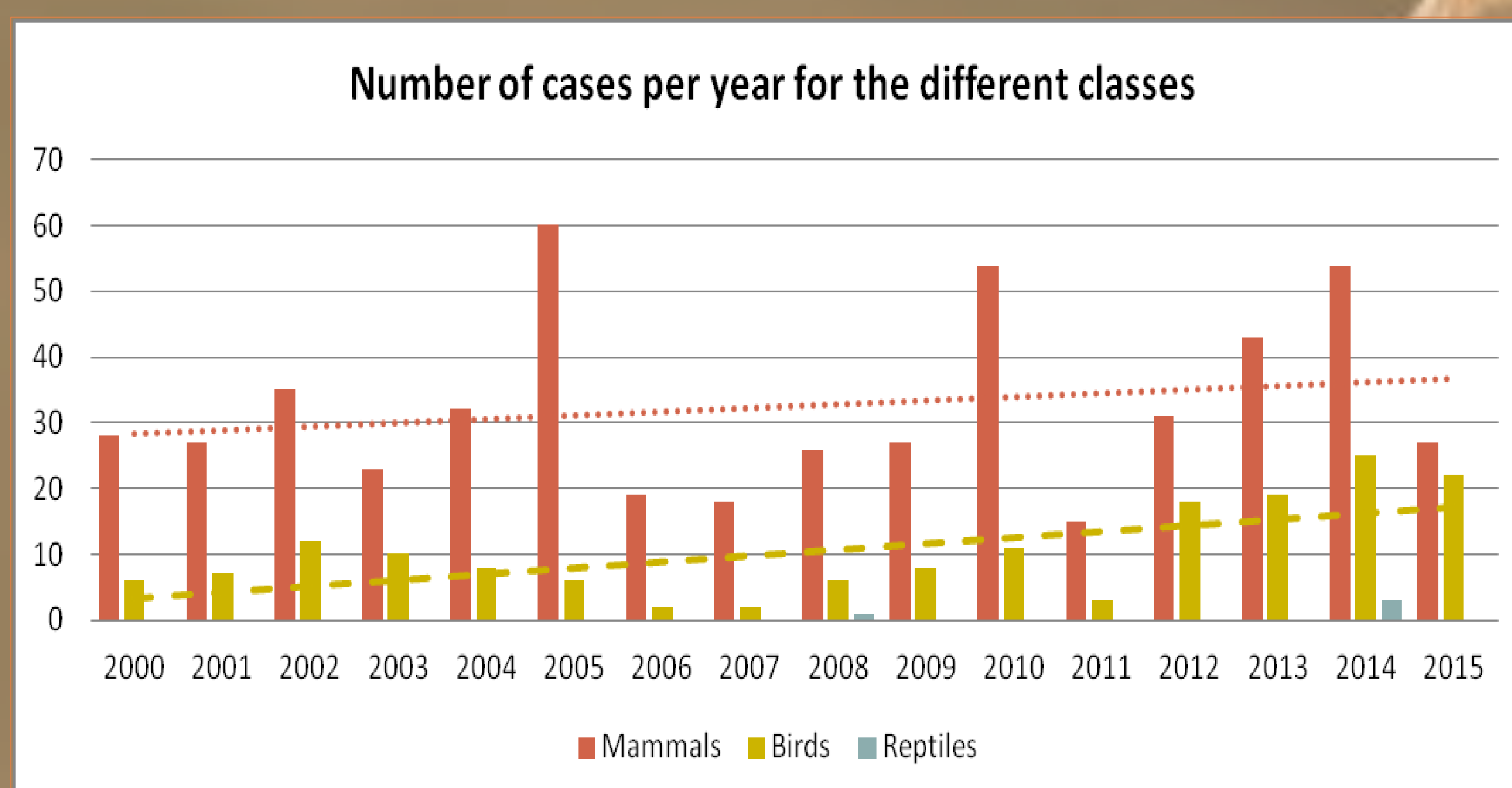
RESULTS

Figure 1. Number of cases per year of mammals, birds and reptiles. The increase in the number of cases is associated with a lengthening of the collection period and the increase of collection localities due to a major effort and a major social awareness.
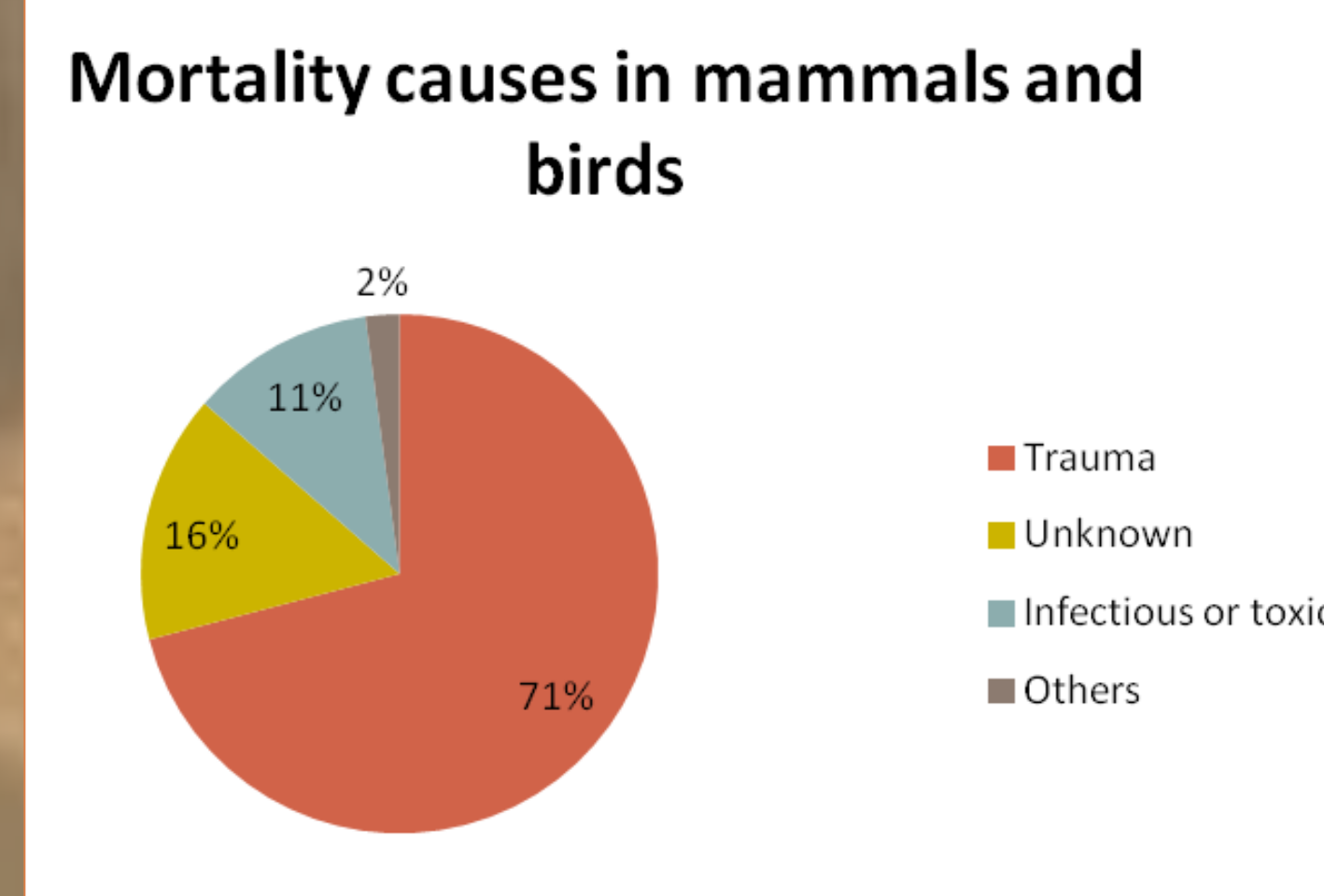

Figure 2. Number of cases per year and group of cause in mammals and birds. Over the years, the most frequent cause of admission in both classes was trauma, followed by unknown cause.

Figure 3. Mortality causes in mammals and birds. Over the years, in both classes the most frequent cause of mortality was trauma, followed by the unknown cause.
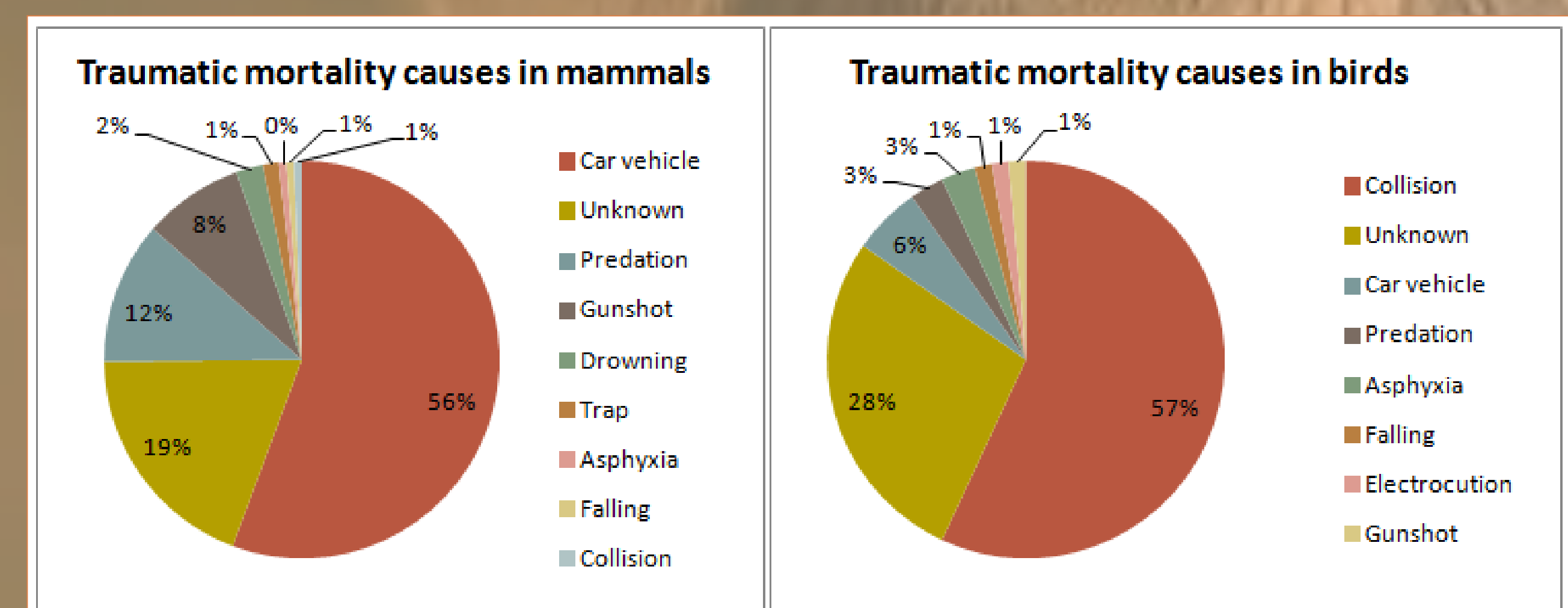

Figure 4. Traumatic mortality causes in mammals and birds. The most frequent cause in mammals was collision with car vehicle and in birds was collision with human structures.
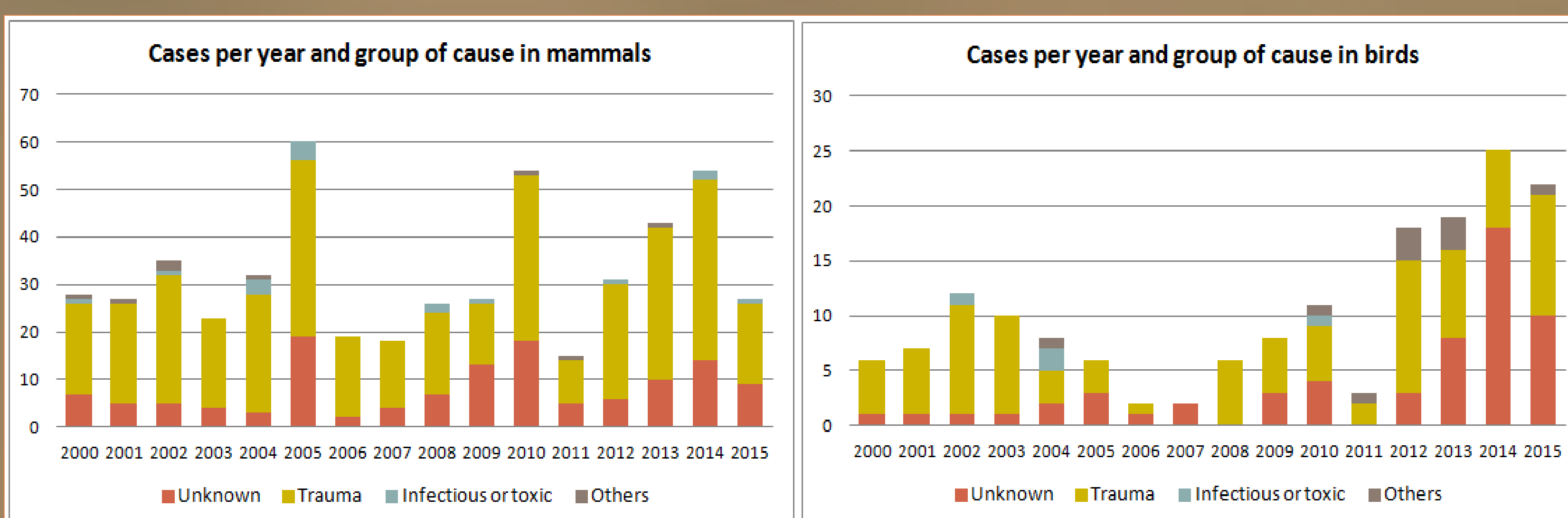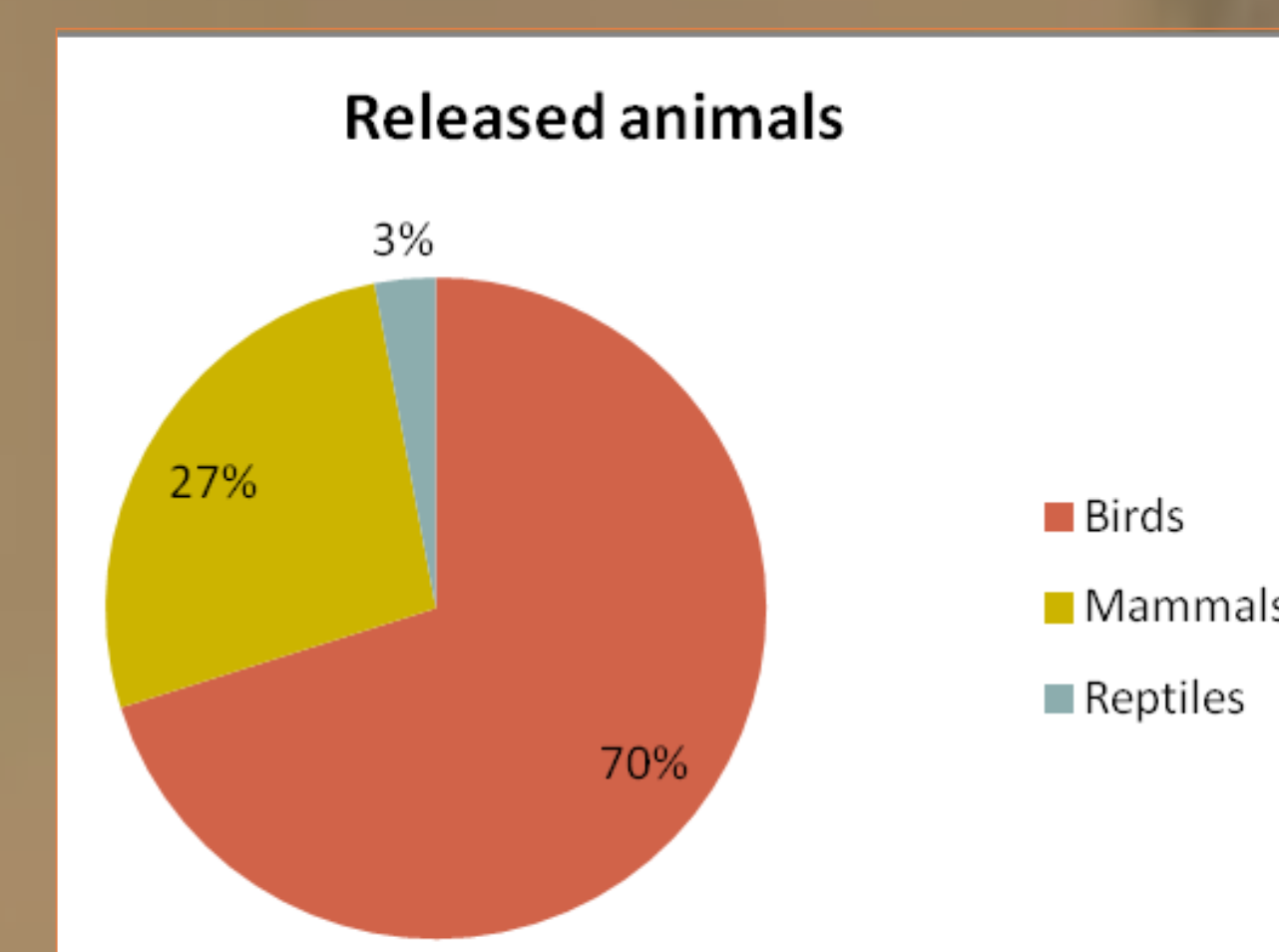

Figure 5. Proportion of rehabilitated and released animals per classes. Birds showed the maximum rehabilitation success.

DISCUSSION AND CONCLUSIONS

Despite the limitations of this kind of studies, such as the lack of randomization, the lack of homogeneity in the different diagnostic methods and the over-representation of anthropogenic causes, morbidity and mortality studies are a good indicators of the ecosystem health and help to analyze the impact of human activities in wildlife populations.

In this study, the most frequent causes of admission and mortality were from anthropogenic origin in both mammals and birds. The analysis of this data can allow the elaboration of hot-spot maps for wildlife and therefore can help to reduce and prevent these kind of interactions.

It is important to point out the relevance of environmental education in the protection of the wildlife of a region. Some of the animals submitted to the Rehabilitation Center belong to species considered endangered or threatened, so their recovery and subsequent release can have a great influence on the wild populations. Citizen participation with rangers is critical.