

## Health Monitoring of Wild Animals- An Overview

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### Abstract

Health monitoring of wild animals is a critical aspect of wildlife conservation, ecosystem management, and disease surveillance. The increasing threats posed by habitat destruction, climate change, poaching, and emerging zoonotic diseases highlight the need for effective health monitoring systems. Traditional methods, such as physical capture and manual observation, are often invasive, labor-intensive, and can cause stress to the animals. Recently, technological advancements in remote sensing, GPS tracking, wearable health monitors, and non-invasive sampling have provided novel and more efficient approaches for monitoring the health of wild animal populations. These tools allow researchers to collect real-time data on animals' physiological parameters, movements, behaviors, and environmental conditions, leading to better insights into the health status and ecological needs of species.

**Key words:** Wild animals; Diseases; Health; Conservation

### Introduction

Health monitoring in wild animals is an important component of the conservation of wild species. These wild animals like other domestic animals, birds and humans are susceptible to various infectious diseases that can cause morbidity and mortality resulting in significant impact on the dynamics and conservation status of these precious species. The health of wildlife is deeply interlinked with the health of other animals, the environment and even humans. Pathogens in wild animals may affect human health and can be direct sources of infection for people with pathogens that can cause disease in humans. According to research and recent studies there are hundreds of human diseases derived from pathogens in wild animals that became important to human health in the past so many years (Loftin, 1985). The survival of humans, animals, and plants depends on the health of their ecosystems so by protecting wildlife health, we safeguard biodiversity and invest in a healthier, more sustainable future. Wildlife is a valuable asset for many communities across the world, supporting livelihoods through the

provision of income, whether it is through tourism or as a source of food. Importantly wildlife has a positive effect on human well-being, contributing to education, physical and mental health, social values, culture and spirituality (Bexton & Robinson 2003). Wild animal health care aims to identify and promote solutions for more effective monitoring and early detection of diseases through animal regular health check control programs which is a key component of animal welfare.

Nowadays we find a need of introducing wildlife dentistry as it plays a crucial role in wildlife conservation and management. It is the art and science of prevention, diagnosis, and treatment diseases of conditions, and disorders of the oral cavity, the maxillofacial region, and its associated structures related to wild animals. Dental instruments and dentistry equipment's are mainly used to examine, manipulate, treat, restore, remove teeth and surrounding oral structures and provide dental treatment. Examination of the oral cavity should form basic part of every physical examination of all rescued

wild animals requiring oral health check-up and correction of any disease conditions and disorders of the oral cavity. Prior to initiation or planning of any treatment for disorders of oral cavity, radiographs (x-rays) may be needed to evaluate the health of the jaw and the tooth roots below the gum line as most dental disease occurs below the gum line and require radiograph for accurate visibility and correct diagnosis. Dental examination of the wild animals can help determine the age of animals, which is essential for population management and can provide valuable insights into the overall health of wildlife dental broader health issues, such as malnutrition or infection. Dentistry can also aid in distinguishing between different species based on dental features, helping in the accurate classification of animals. Further Injured or rescued wild animal may also require dental health check-up to enable their mastication mechanisms, dental caries or oral infections and overall dental health before release. Another aspect of introducing wild animal dentistry can be that it can contribute to our understanding of wildlife behavior, diet, and ecology, which can inform conservation strategies and habitat management and research (Grogan & Kelly 2013).

Apart from dentistry, there is a need of establishment of comprehensive diagnostics and imaging techniques in the form of ultrasonography (USG) and digital X-ray as a valuable tool to study about pregnancy state of any rescued female wild animal in Kashmir and to evaluate and monitor the reproductive health of wildlife species for providing better care and management to pregnant animals and its young one (Julie et.al 2020). USG can guide to detect tumours, injuries, or infections in internal organs, allowing for timely intervention and treatment. It can help us to diagnose injuries or illnesses, guiding treatment and rehabilitation efforts. Simultaneously digital X-rays (a non-invasive diagnostic tool) can also be used to monitor the health of populations, identifying diseases or conditions that may impact the overall well-being of a species. It can be used to diagnose injuries or illnesses in wildlife, helping in making informed decisions about treatment and rehabilitation. X-rays can reveal information about the age, growth, and reproductive status of individuals within a population, aiding in population management and conservation efforts (Mohsin Ali Gazi 2018).

Another aspect of upgrading health care of wild animals can be with the evaluation of Kidney health using kidney function tests, such as measuring blood urea nitrogen (BUN) and serum creatinine levels shall be helpful in assessment of the overall health of wild animals. Changes in kidney function can be indicative of an animal's hydration status, stress and body mechanics. Monitoring kidney function

in wildlife can help assess the impacts of environmental pollutants or toxins on a population (Kirkwood, 2003). In cases where kidney dysfunction is detected, (KFT) can guide in treatment plans, such as fluid therapy, dietary adjustments, or medication. Further estimation of Glucose levels in wild animals can also be a crucial part of health monitoring and can indicate underlying health issues such as diabetes, metabolic disorder, or stress. Monitoring glucose levels can help assess how animals are responding to capture, handling, or other stressors, which is vital for minimizing the impact of research or conservation efforts. Glucose levels can provide insights into an animal's nutritional status. Low glucose levels may indicate malnutrition or inadequate food availability in the animal's habitat. One more aspect of advances in diagnostics can be use of ECG to assess the overall cardiac health of wild animals. This is especially important when animals are captured or sedated for research or medical purposes and health monitoring of wild animals. It helps researchers understand the cardiac physiology and stress responses of these animals. ECG helps evaluate the stress levels of wild animals in response to various environmental factors or human interactions, which can be crucial for conservation efforts. Precisely, up gradation of wild animal healthcare can be a valuable thing in wildlife management and conservation, helping to ensure the well-being and preservation of various species in their natural habitats and can have a positive impact on overall management of wild animals.



**Figure 1:** Medication and followups in wild birds and captive wild animals at rescue and rehabilitation centre dachigam.



**Figure 2:** Health monitoring and follow-up in wild birds and wild animals in Kashmir.

## References

1. Bexton, S. & Robinson, I (2003). Hedgehogs. In: BSAVA Manual of Wildlife Casualties. Eds E. Mullineaux, D. Best and J. E. Cooper. BSAVA Publications, Gloucester, MA, USA. 49-66.
2. Grogan, A. & Kelly, A. (2013). A review of RSPCA research into wildlife rehabilitation. *Veterinary Record* 172: 211-215.
3. Julie, Alain Boussuges, Sarah Rives; Assessment of diaphragmatic function by ultrasonography: Current approach and perspectives *World Journal of Clinical Cases*. 2020 (12): 2408-2424.
4. Kirkwood, J. K. (2003). Introduction: wildlife casualties and the veterinary surgeon. In: BSAVA Manual of Wildlife Casualties. Eds E. Mullineaux, D. Best and J. E. Cooper. BSAVA Publications, Gloucester, MA, USA. pp 1-5.
5. Loftin, R. W. (1985). The medical treatment of wild animals. *Environmental Ethics* 7: 231-239
6. Mohsin Ali Gazi. (2018) Recent Advances of Ultrasonography in; *Approaches in Poultry Dairy & Vet Sci*. 3(2). APDV.000559.

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