

## **Rays of Hope: Effectiveness of Local Conservation Efforts in Long Term Conservation of Endangered Vultures in Nepal Himalaya - The Provisional Vulture Safe Zone.**

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### **Abstract**

Nepal holds all the nine vulture species found in Indian sub-continent though she occupies trace landmass of the globe. The population of resident Gyps vultures have undergone dramatic decline (>97%) in numbers since the mid 1990s. The veterinary drug diclofenac has been identified as main cause of catastrophic decline of these naturally scavenging birds in 2004 which is widely used to treat livestock across its range and their production has been banned in Nepal in 2006. There are extensive studies on lowland vultures but a very little is known regarding highland species, Himalayan Vulture (*Gyps himalayensis*). Aiming to overcome this gap we have initiated participatory long term monitoring and conservation project for Himalayan species in Nepal Himalayas. We spent six walking days for preliminary presence absence survey and 10 days for extensive survey of vultures in the line transect from Muktinath to Pokhara of Annapurna region covering all potential sites starting from 7:30 am to 17:00 pm. We walked six to eight hours passing average 15 km trails per day. All the vultures sighted were recorded in data sheets and in Germin GPS units for distribution modeling. We repeated the same methods for succeeding years. We made collaboration with local government bodies, District Livestock Service Offices, vet-paravet practitioners and pharmaceutical drug traders to monitor banned veterinary drug diclofenac in all the veterinary retailers. We conducted capacity building workshops and trainings for dedicated students, farmers, amateur bird watchers, community-based organization members and local government staffs regarding bird identification

techniques, monitoring protocols, record keeping systems, report writing and conservation strategies. We launched conservation education and outreach programs in schools and community groups focusing importance of vultures for mankind and nature, their threats and conservation initiatives. We counted maximum 183 *G. himalayensis* and least two critically endangered *G. bengalensis* vultures. We recorded average 22.9 Himalayan Vulture per day and 1.525 per km line transect in 2013 which was almost twice as many recorded during surveys that were conducted between 2002 and 2006 where the mean number was 12.4 per day. Our results suggest a healthy population of Himalayan Vultures in the area after implementation of conservation programs. We encountered the animal poisoning targeting to large predators (like leopard, jackal, hawk) which is the emerging threats for the species. After continuous monitoring of veterinary drugs, the Manang and Mustang Districts have been successfully declared as Diclofenac Free Zones (DFZ). We spread the conservation messages to more than 2,500 people of remote areas and produced 18 young local conservationists for the long term monitoring and conservation of the species in Nepal Himalaya, the border line of Nepal and China. Similar efforts are highly recommended in Tibetan plateau to provide large safer landscape for the species.

Key words: Himalayan Vulture, veterinary drug, diclofenac, Diclofenac Free Zones, Nepal Himalaya