

SCIENCE DIGEST



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Applying Domestic Animal Health and Husbandry for Conservation Purposes

By Erika Alandia, Robert Wallace, and Marcela Uhart

Erika Alandia is a veterinarian who has been working for the Greater Madidi-Tambopata Landscape Conservation Program since 2005. Currently she is the Country Coordinator of the Global Health Program and the PREDICT Program in Bolivia. Her work focuses on generating health information and creating local capacity in indigenous communities to reduce the risk of disease transmission at the interface between wildlife, people, and domestic animals.

Rob Wallace is a Conservationist and Director of the Greater Madidi-Tambopata Landscape Conservation Program. He received his PhD in Evolutionary Psychology and Behavioral Ecology at Liverpool University in 1998, and has volunteered, consulted, studied, and worked with WCS in Bolivia and Peru since January 1992.

Marcy Uhart is a wildlife veterinarian based in Argentina, and has led Global Health Program activities in Latin America since 1997. Her current work focuses on health issues at the interface between wildlife, people, and domestic animals, indigenous community livelihoods, wildlife trade, and species conservation.

Since 1999, WCS has developed a strong conservation program within the protected areas, indigenous territories, and surrounding wilderness of the Greater Madidi-Tambopata Landscape in Bolivia and Peru, including the Takana indigenous territory (Takana TCO) located immediately adjacent to and within the Madidi Integrated Management Natural Area and National Park. Since the beginning of our alliance to promote biodiversity conservation with the Takana Peoples Indigenous Council (CIPTA) in early 2000, our goal has been to provide technical and financial support to build governance capacity for their territorial management, while offering more specific assistance for a range of community-based sustainable natural resource management initiatives, among them an Animal Health Program focused on improving domestic animal health and husbandry.

In 2005, WCS and members of three Takana communities elaborated an Animal Husbandry and Health Strategy for the Takana TCO through participatory workshops. This strategy was based on (1) enhancing local husbandry and disease management capacity; (2) identifying and monitoring domestic animal diseases; (3) implementation of a local veterinary pharmacy and communal veterinary kits to improve livestock health; and (4) identifying and promoting alternative livestock management and handling techniques. The strategy intended to implement more appropriate husbandry and disease prevention measures for domestic animals to limit disease transmission between domestic and wild animals and people, while ensuring higher animal protein availability for people (both in quantity and quality), therefore decreasing their dependence on harvested wildlife.

By 2008, 12 Takana communities had requested to be included in the Animal Health Program. Over five years WCS trained 44 community members (25 women and 19 men) as Animal Health Promoters (AHP) whose role is to provide basic healthcare for animals in their communities, manage communal veterinary kits provided by the program in a counter-payment use system, collect diagnostic samples, and apply simple treatments such as antibiotics and deworming medicines.

Between 2005 and 2009, we tested for 27 different pathogens on 1,029 domestic animals belonging to 5 different species reared in 15 Takana communities. Exposure to six pathogens in poultry, four in swine, six in cattle, and two in dogs was documented during the four years of monitoring, many of which were reported in different countries to affect wildlife at domestic animal/wildlife interface, while others are known to be zoonotic. Meanwhile, the collection of fecal samples from wild animals hunted for subsistence purposes at three Takana communities provided the first health studies on wildlife consumed by Takana families.

Following diffusion of laboratory results in the Takana communities, CIPTA and WCS received requests from 12 Takana communities to implement corrective measures such as deworming of domestic animals to prevent zoonotic diseases and to avoid disease spreading to the wildlife they eat. Three general de-worming campaigns were carried out in 15 of 19 Takana communities, reaching more than 300 Takana families and 1,400 domestic animals

from five species. The Animal Health Promoters are now paid per treated animal by livestock owners in the communities.

In 2008, a Domestic Animal Surveillance Network was established with the participation of animal owners and AHPs, where communities report the occurrence of animal disease events to WCS veterinarians or the CIPTA Natural Resources Management Coordinator (one of our trainees), who then coordinate response actions with the community leaders and the WCS veterinary team. This network has allowed the collection of information on domestic animal disease types and frequency of occurrence in the Takana communities, which in turn has facilitated better targeting of veterinary interventions. While originally designed for domestic animal diseases, the network is also generating data on wildlife diseases, because people are now aware of potential diseases in the animals they hunt.

Based on traditional local knowledge, WCS tested a couple of medicinal plants on domestic animals with the aim of providing a sustainable and affordable alternative to pharmaceuticals, reducing the dependence of indigenous people on external technical advice and commercial medicinal products. Positive outcomes from these studies led to requests from Takana communities for similar research on additional local medicinal plants.

After five years, WCS's participative approach has demonstrated encouraging results which include baseline information on domestic and wild animal diseases, improved health care for domestic animals, an increased number of trained local technicians implementing treatments in their communities, increased demand for training and medicinal plant studies, and availability of information on disease outbreaks in remote areas. In addition, the program has contributed to the well-being of indigenous people by ensuring more steadily available protein supplies, particularly in communities where hunting success is low, as well as diversifying their income sources by applying a broad One Health approach.

The Animal Health Program is implemented in the Takana indigenous territory in tandem with other activities designed to ensure wildlife conservation, such as community natural resource management projects to improve livelihoods, territorial planning and construction of management capacity in the indigenous organization and communities, and subsistence hunting management initiatives.

Community-based Conservation on Mongolia's Eastern Steppe

By Ann M. Winters, Sanjaa Bolortsetseg, and Amanda E. Fine

Ann Winters was the Wildlife Conservation Technical Advisor for the WCS Mongolia Program from 2007 to 2009, and has been a regular consultant to the Program's Community Based Nature Conservation Project. Her primary interests are wildlife monitoring and working with local stakeholders.

Sanjaa Bolortsetseg has been a Conservation Biologist for the WCS Mongolia Program since 2005. She has worked closely with livestock herder communities to protect and monitor wildlife, and recently completed a Rare Pride Campaign to increase the awareness of hunting laws and the permit system in the Eastern Steppe.

Amanda Fine is the Country Director of the WCS Mongolia Program and oversees a wide variety of conservation projects in the country including WCS community-based conservation focused programming in the grasslands of Mongolia's Eastern Steppe. Amanda first traveled to Mongolia in 1998 as a Henry Luce Scholar and stayed for three years working in the veterinary sector.

In the northernmost corner of Mongolia's Eastern Steppe, just 60 kilometers south of the Russian border, nine livestock herder households have banded together to monitor and protect Siberian marmots. Under the leadership of Mr. B. Damdindorj, a retired teacher, the Daguuriin Shines community partnership has focused on protecting their natural resources, especially rare wildlife, and improving member livelihoods since 2004. This group of Buriad herdsman was given legal rights to protect and manage natural resources in their traditional gazing lands in 2007 when they became an official community partnership. Such legislation is