

Andean Bear Research in the Intag, cont'd.



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program, focused primarily on the poorest farmers.

As part of our partnership with local communities, we are supporting their desire to give the next generation a chance to escape poverty by sending volunteer teachers to three local schools. Communities have been overwhelmingly appreciative, the children are enthusiastic learners, and the volunteers have enjoyed warm welcomes. In addition to giving children an opportunity to learn and continue their education past the elementary level, this has also provided a secondary benefit to the bear research. Communities have become very supportive of our goals and are joining our efforts to prevent further deforestation of the area and help save this endangered species.

We hope to present further results of this project at the 2005 Sixteenth IBA international conference in Italy.

This project was made possible with the help of my field assistants **Gustavo Tapia**, **Alberto Tabango** and over 20 FUNDEBO volunteers. My field research has received financial support from the Wildlife Conservation Society-Ecuador, International Association for Bear Research and Management (IBA) and volunteers.

Solar Electric Fencing to Prevent Andean Bear-Human Conflicts in the Venezuelan Andes

Travis G. Vineyard
Cleveland Metroparks Zoo
3900 Wildlife Way
Cleveland, OH 44109, USA
Email tgvt@clevelandmetroparks.com
&
Denis A. Torres
Fundacion AndigenA
Apdo. Postal 210
Merida 5101-A
Edo. Merida, Venezuela
Email fundacion_andigena@yahoo.com

Worldwide there is a long history of conflicts between humans and natural resources. Notably, bear-human conflicts are a common focus at the intersection of conservation and regional economics. The complex threats to South America's Andean bear (*Tremarctos ornatus*) are closely linked to peoples' everyday activities and cultural philosophies. Undisturbed habitat has been reduced and fragmented causing bear populations to come into conflict with humans. One such conflict was identified in early 2003 between Audelino Delgado, a Venezuelan cattle rancher, and a suspected "cattle killer" inhabiting his property and the neighboring Sierra de la Culata National Park.

Electric fences have long been used to secure livestock and exclude predators, but have been unavailable in remote and undeveloped areas. Electric fencing as a ranching tool combined with the success of its use in zoos (i.e. bear exhibits) will hopefully provide a practical solution to curtail bear-human conflicts. In turn, conflict avoidance will modify the human response, influence attitudes, and build a foundation for successful conservation.

Our primary objective was to provide material and technical support to construct and maintain a solar-powered electric fence to protect Delgado's vulnerable calves. We also

monitored the fence's effectiveness using four camera traps. The process of constructing the fence created an avenue for conservation education. Lastly, we desired to strengthen conservation partnerships between Cleveland Metroparks Zoo, Aquarium and Zoo Facilities Association (AZFA), Foundation AndigenA, and INPARQUES.

Built in August 2003, the three-strand, 3,000 volt solar-powered fence was 1616.9 feet long and enclosed about 3.75 acres in prime bear habitat at 10,600 feet in the transition between the paramo (high altitude grassland) and the cloud forest.

Four 35 mm motion-activated camera traps which could capture up to 6 frames per disturbance were installed in strategic locations. Unfortunately, dense fog drastically limited the cameras' depth of field.

Fog may also limit the solar fence charger. As electric fencing is more a psychological than a physical barrier, diligent maintenance is important to its success.

We believe this project will separate bears and cattle, but the question remains whether Andean bears are true predators or opportunistic carrion feeders. Free-ranging cattle with little husbandry provide frequent carcasses, and the feral dogs we observed undoubtedly contribute to cattle deaths. Andean bears could be blamed for these and other deaths. Identifying the role of bears as predators is key information for successful management plans to conserve both Andean bears and the livelihood of Andean ranchers.

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