



Community-Based Conservation of Andean bears through artisanal training

Samantha Young¹, Robyn Appleton², Jessica Appleton², Corrin LaCombe¹, James Danoff-Burg¹

¹San Diego Zoo Institute for Conservation Research ²Spectacled Bear Conservation - Peru

SAYoung@sandiegozoo.org

SAN DIEGO ZOO
INSTITUTE FOR
CONSERVATION
RESEARCH

ABSTRACT

The Andean (spectacled) bear (*Tremarctos ornatus*) lives throughout the Andes of South America, generally in humid montane forests relatively distant from centers of human population. However, in northwest Peru a population of bears lives in the low elevation Tropical Dry Forest, relatively close to humans and their activities. Because these villagers have few alternatives, they continue to generate income by converting habitat for agriculture and reduce expenditures by harvesting fuel-wood. The bottom line for bear conservation in this region is that the Tropical Dry Forest must be conserved, and the bottom line for local villagers is that they must increase their income relative to expenditures.

Zoos, including San Diego Zoo Global, have an obvious and recognized need for a revenue source that is consistent with its mission as a conservation organization, and an under-recognized need to offer a product line that is as unique as the experience of visiting the zoo. To address the needs of the dry forest bears, local villagers, and the zoo, we have developed a multi-faceted program of conservation education, income generation through peer-led production of unique high-quality handicrafts, and the use of fuel-efficient stoves and solar cookers to replace unsustainable fuel-wood harvest.

INTRODUCTION

A population of about 40 Andean bears (*Tremarctos ornatus*) has recently been described in the Tropical Dry Forest of the western foothills of the Andes by Spectacled Bear Conservation - Peru (SBC). San Diego Zoo Global (SDZG) joined SBC in a research collaboration in 2008. The SBC team consists almost entirely of Peruvian parabiologists, field technicians, artisans, research students, project coordinators, and a regional director who have dedicated their lives to Andean bear research and conservation.



This region encompasses the La Leche River watershed and is one of the most endangered lowland tropical ecosystems (Ektvedt, 2011), a global biodiversity hotspot (Myers et al., 2000), and contains high levels of endemism. Over-exploitation of forest resources, over-grazing, and soil erosion have resulted in deforestation, habitat degradation, and illegal hunting. SBC and SDZG have been working to develop programs that simultaneously preserve the ecosystem and increase human health and livelihood.



Among other efforts, an alternative livelihood program was started in the fall of 2011 and has successfully employed local women and sparked their interest in wildlife and conservation. Taking an integrated approach to wildlife conservation, including alternative, sustainable livelihoods and income sources, alleviates pressure on the ecosystem, ensures local stakeholder buy-in and connects local communities to wildlife (Salafsky and Wollenberg 2000, Peters 1998).

Objectives:

- 1) Build capacity for sustainable income in 10 communities.
- 2) Educate & engage the community by involving women in conservation.
- 3) Develop network of venues for sale and distribution of artisanal products.
- 4) Develop a stream of income to support livelihoods of artisans and Andean bear research.

Outcomes:

- 1) A decrease in forest extractive behaviors, such as clearing trees for use as firewood.
- 2) Increased income for families involved in the program.
- 3) Pro-environmental behaviors, such as recycling, reducing poaching, and interest in local conservation.

METHODS



10 women have been trained in Dry wool-felting by SDZG and SBC to create animals native to the Tropical Dry Forest and Peru out of unformed wool and a needle in a five-day workshop conducted at the Spectacled Bear Conservation Center. Artisans are paid a monthly salary to work for three hours, twice a week, ultimately creating one animal per session (two per week).



The "feltis" include labels with information about conservation of Andean bears and the Tropical Dry Forest, and capacity building efforts in the La Leche River watershed. Feltis are presently sold in gift shops at SDZG and other zoos in the US and Peru.

The 2nd cohort of women was surveyed prior and several months following training, covering knowledge and attitudes towards the forest, wildlife, & conservation.



Once initiated, program management was turned over to a local resident, who was trained in packaging and distribution, networking, oversight of hours and wages, and product quality control.



ACKNOWLEDGEMENTS

Disney Worldwide Conservation Fund
San Diego Zoo Institute for Conservation Research Staff
Spectacled Bear Conservation - Peru

PRELIMINARY RESULTS

Survey Responses

Learning experience

"I love to learn things I don't know"
"nobody has taught us this"

Work experience

"I am interested in this work"
"I love to work"
"I am grateful for this opportunity to work"

Income helps family

"This work allows me to purchase items for the kitchen"
"This is a great economic help for my husband & children"

Wildlife is important/beautiful

"animals are beautiful, I don't want them to be lost"
"animals have a right to live"
"the [Andean] bear is important"
"the forest provides us with air, shade, trees"



Capacity Building

- Most women did not have prior paid jobs. Women are paid same rate as that from comparable male jobs and at flexible hours.
- Six hours per week are consistently provided for all women, plus additional hours if necessary.
- Local coordinator has displayed exemplary behavior and responsibility in overseeing project.

LITERATURE CITED

- Cotler, H. and Maass, J.M. 1999. Tree Management in the Northwestern Andean Cordillera of Peru. *Mountain Research and Development*. 19(2):153-160
- Ektvedt, T.M. 2011. Firewood consumption amongst poor inhabitants in a semiarid tropical forest: A case study from Piura, northern Peru. *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*. 65(1):28-41
- Myers, J.H., Simberloff, D., Kuris, A.M., Carey, J.R. 2000. Eradication revisited: Dealing with exotic species. 15(8): 316-320
- Peters, Joe. 1998. Transforming the Integrated Conservation and Development Project (ICDP) Approach: Observations from the Ranomafana National Park Project, Madagascar. *Journal of Agricultural and Environmental Ethics*. 11(1): 17-47
- Salafsky, Nick and Wollenberg, Eva. 2000. Linking Livelihoods and Conservation: A Conceptual Framework and Scale for Assessing the Integration of Human Needs and Biodiversity. *World Development*. 28(8): 1421-1438