

Building Constituencies for Big Cat Conservation:

Education and Evaluation in Jaguar and Tiger Range States

by **Nalini Mohan** INTERNATIONAL TEACHER TRAINER | WILDLIFE CONSERVATION SOCIETY and **Tom Naiman** WILDLIFE CONSERVATION SOCIETY¹ | US PARTNERSHIP FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT | USA

The Bronx Zoo's Education Department conducts educator training workshops around the world. *Jaguars Forever* and *Teachers for Tigers* are two programs designed to provide educators in jaguar and tiger range states with effective, low-cost materials for use with a wide range of audiences. This article describes our in-situ education program and evaluation efforts.

Jaguar (*Panthera onca*).



Photo © Julie Larsen / Wildlife Conservation Society

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JAGUARS FOREVER!

"I have never been so afraid!"

The first time I met a jaguar, I was walking alone in the mountains, far from anyone.

I made lots of noise and sang.

Then I remembered having heard that jaguars are scared off by people's urine!

So I drank lots of water from a creek, and left a urine trail, crying all the way!

Juan Carlos Hernández paused, and listeners laughed. It was a moment of comic relief in a serious and heartfelt story. Some of the participants in our *Jaguars Forever* workshop had experienced their own jaguar encounters, and the details shared by Juan Carlos enabled those who had not had such an encounter to imagine what it would feel like to be alone in the forest with a powerful predator.

Jameikärí, a remote indigenous community in Costa Rica, is one of the sites where *Jaguars Forever* is working to support coexistence between people and jaguars.



Juan Carlos teaches at a school in Jameikärí, a 40-person Costa Rican community. To the indigenous people who live there, jaguars are neighbors, usually unnoticed, but sometimes a problem. Everyone seems to know someone who has killed a jaguar due to conflict with domesticated animals. Some senior members of the community even say they have eaten jaguar long ago.

Juan Carlos shows a cast from a jaguar pugmark.



As educators at the Bronx Zoo, a unit of the Wildlife Conservation Society (WCS), which works to save jaguars throughout their wide range in Central and South America, it is important for us to listen to people who live in communities like Jameikärí, because their attitudes and behavior will help determine whether the largest of the American cats has a chance to survive. The workshop in which Juan Carlos told his story included 38 educators from villages, schools, and protected areas throughout Costa Rica. It was based on materials and methods designed by the Bronx Zoo's Education Department for its *Jaguars Forever* manual, a low-tech educator's toolkit to teach people in jaguar range states about the biology and important ecological role of jaguars, their significance in Latin American cultures, how scientists study them, why they are in jeopardy, and what it will take to save them.

Despite the seriousness of these subjects, the workshop was fun and exciting. To encourage empathy with jaguars and communicate important themes in a non-threatening way, participants performed short dramas explaining jaguar courtship, hunting and parental care, as well as the dangers of poaching. They used masks from the manual and natural materials to create props and costumes, and became animated and enthusiastic performers of their dramatic roles.

Workshop participants demonstrate jaguar behavior through drama.



To learn how and why scientists study jaguars, they examined photos taken of jaguars by remote cameras placed in the forest. These 'camera traps' are critical tools in censusing jaguars and their prey. In another activity, workshop participants assumed the roles of jaguar conservationists, using what they had learned in the workshop to prioritize the steps needed to protect jaguars in Costa Rica. Finally, before returning home to use *Jaguars Forever* in their own schools, communities and protected areas, each participant wrote a personal pledge: three things that he or she would do to promote jaguar conservation. Juan Carlos' pledged to learn more about jaguars and to pass the information on to his students and their community. We saw first-hand how he had kept his promise; during a follow-up visit to Jameikarí, the school was decorated with jaguar drawings, the students demonstrated new knowledge resulting from their *Jaguars Forever* lessons, and Juan Carlos had shared his materials and knowledge with his teaching partner and other schools.

Examining real camera trap photos of jaguars gives workshop participants a taste of what it is like to be a scientist.



In-Situ Conservation Education

In collaboration with its Latin America and Caribbean Program, the Bronx Zoo's Education Department has been conducting jaguar-based education workshops in Central America since 2006. But many of the materials and activities that are its centerpieces were developed in conjunction with an earlier Bronx Zoo education and outreach program, *Teachers for Tigers: An Educator's Tool Kit for Saving the World's Greatest Cat*. *Teachers for Tigers* was developed in the late 1990s and early 2000s in response to requests from WCS scientists working in Asia, who cited the need for materials and activities that could improve attitudes and build knowledge and support for tiger conservation among a variety of audiences in tiger range states.

In 2003, WCS partnered with Sally Walker and her Zoo Outreach Organisation (ZOO), based in India, to conduct the first of 18 collaborative workshops in South Asia. ZOO maintains an outstanding network of educators and scientists based largely at zoos and protected areas throughout India and other South Asian countries, as well as an excellent education staff of its own. Largely as a result of this model collaboration between the Bronx Zoo and ZOO, *Teachers for Tigers* has now been translated and into 12 Asian languages and has been implemented in eight of the 13 countries where tigers still survive in the wild: Bangladesh, Bhutan, China, India, Laos, Malaysia, Myanmar and Nepal. *Teachers for Tigers* has been used to train staff from almost all of the Project Tiger Reserves in India, to equip park rangers from throughout Painsular Malaysia, and to motivate schoolteachers and their students in northeast China. Perhaps most indicative of the program's impact is that ZOO and workshop participants have continued to conduct these workshops on their own, as well as using the methods as a model for new programs. In 2007, ZOO used many of the methods and materials as the basis for *Helping Hoolock Gibbons Hang On* and has also repurposed elements in new materials dedicated to bear conservation, human/elephant coexistence, and the amphibian crisis.

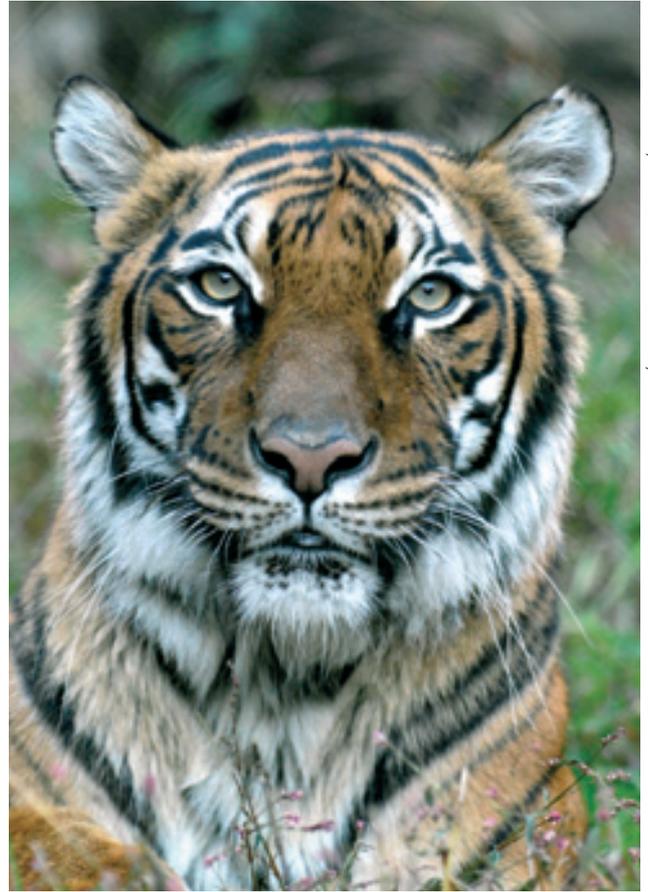
Evaluating the Impact

The translations and widespread use of *Teachers for Tigers*, along with surveys we have done with participants at the close of the workshops and several months later, testify to its effectiveness as an educational tool. However, despite this success, we have not been able to document if this impact on workshop participants leads to more widespread impact among the members of the communities where they work and, more impor-

Siberian tiger (*Panthera tigris altaica*).



Malayan tiger (*Panthera tigris jacksoni*).



tantly, whether it leads to meaningful support for conservation.

In recent years, education and outreach increasingly have played a role in conservation efforts and many conservation biologists feel they are critical tools in terms of developing local support for conservation efforts. Yet, as more resources are allocated to conservation education, there is a real need for studies that assess and document the impact of programs like *Teachers for Tigers*.

Thus, when WCS received funding for jaguar conservation from the U.S. Department of State, we saw an opportunity for more ambitious evaluation efforts. Working with Dr. John Fraser and Jessica Sickler of WCS's Public Research and Evaluation program, we designed a series of tools to examine attitudes, behaviors and knowledge among our participants and within their communities. We started in Guatemala, where we conducted two *Jaguars Forever* workshops, including one for educators from Petén, close to the Maya Biosphere Reserve, home to Central America's largest tropical rainforest. As part of our evaluation plan, workshop participants completed a variety of surveys, answered written journal questions, and were interviewed by program staff. Participants also were asked to write a letter to a jaguar describing how their community values or dislikes jaguars and why.

A key part of our evaluation also involved visiting villages where WCS is engaged in community-based conservation. In Paso Caballos, located in the Maya Biosphere Reserve, about 200 children and many adults gathered in the dirt-floor community center. After a warm-up activity using animal sounds and movements, three large groups were formed to perform short, wordless dramas from the *Jaguars Forever* manual. The children had great fun performing and afterwards they received a jaguar button, snacks and temporary jaguar tattoos. In addition to promoting enthusiasm about jaguars, the event had another serious purpose, bringing community members together so that they could be interviewed as part of our assessment of their knowledge and attitudes. This baseline information was compared to information gathered after the *Jaguars Forever* program was implemented in their communities.

When we returned to Uaxactún, just north of Tikal National Park, about six months after implementation, the forty students ages twelve to sixteen had covered almost the entire *Jaguars forever* manual. With the help of a jaguar costume and with the Uaxactún archeological site as a stage, they performed a jaguar drama they had written. Sixty interviews focusing on the implementation and impact of *Jaguars Forever* and

attitudes towards jaguars and nature were conducted with teachers, students, and adult community members.

Our evaluation is telling us a number of interesting things that will be useful to future work. The majority of our workshop participants confirmed that the students in their communities have minimal knowledge of jaguars; about half told us their students are afraid of them. We have found that participants from rural areas and small towns seem to have more compassion for animals and humans than those participants living in cities.

Our results also have shown that participants value jaguars most for their cultural importance and for their natural beauty. In future workshops, we will seek to address this lack of knowledge in rural communities of the important ecological role of jaguars and to use educational approaches that emphasize the cultural value many of our participants expressed.

An Urgent Need for Conservation Education

There are 36 species of wild cats in the world, and the majority of them are endangered. Beyond their role in healthy ecosystems, there is much we humans will lose if these cats disappear. There are few groups of animals that have been more intertwined with our lives and our belief systems through the ages. In the US, we need only look to our sports stadiums where we see Bengals in Cincinnati, Jaguars in Jacksonville, and Tigers in Detroit, to name just a few, or peruse the stacks at our closest children's library to see the hijinks of Tigger or the ambitions of the Dr. Seuss character who boasts, "I can Lick 30 Tigers Today."

Like wild cats and the conservation issues that follow them, these cultural roles and values transcend international boundaries. Juan Carlos, from the workshop in Costa Rica, told us, "We are always visited by jaguars, and have been for hundreds of years. They're part of us, Cabecar culture. We have the mythical Dinamá, the two-tailed jaguar of water, who protects us and drowns those who misbehave, leaving a big hole in their heads. Jaguars are special and beautiful. As artists, we always use the jaguar as inspiration."

Shortly after the close of a *Teachers for Tigers* workshop we conducted for protected area staff in the Himalayan kingdom of Bhutan, we visited one of that nation's most important cultural and religious sites, the Tiger's Nest Monastery. Led by Sonam Choden, a colleague

Bhutan's Tiger's Nest Monastery.



from the Nature Conservation Division of the Royal Government of Bhutan, we hiked for hours through thin air and under a beating sun to reach this amazing series of seven small temples, which clings to a sheer cliff face more than 10,000 feet above sea level. First constructed in the 17th Century, it was here, in the 8th Century AD that the Guru Rinpoche is said to have touched down, riding on the back of a tigress, when he brought Buddhism to Bhutan. There are still wild tigers not far from the Tiger's Nest Monastery. But standing there, it was easy to see the precarious nature of the buildings as a metaphor for the precarious status of tigers throughout their shrinking natural habitats, and of what we all stand to lose should they disappear. We hope that some day when the survival of tigers and jaguars is secure, we and other conservationists will be able to look back on our work with a sense of the achievement that we felt that day, after a long and tiring climb, looking down from The Tiger's Nest to the valley floor.

Author Contact Details: Nalini Mohan | nmohan@wcs.org

Collaborators:

Zoo Outreach Organisation, India; Wildlife Trust of Bangladesh; Nature Conservation Division, Department of Forest, Ministry of Agriculture, Bhutan; SINAC, Sistema Nacional de Áreas de Conservación, Ministry of Environment and Energy (MINEE), Costa Rica; WCS Guatemala, WCS China, WCS Malaysia, WCS Lao, PDR, WCS Myanmar; WCS Jaguar Conservation Program, WCS Latin America

Program Funders:

US Department of State, the Starr Foundation, the Robertson Foundation and National Fish and Wildlife Foundation's Save the Tiger Fund – funding for tiger program.

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ACKNOWLEDGEMENTS

¹¹ Former IZE Board Member Tom Naiman has recently left WCS/Bronx's Zoo to take up position with the New York City's Department of Education.