

HOW VOLUNTEERS CAN WITH BIG CAT CONSER

An overview of current trends in cat conservation by *Dr. Marcelo Mazzoli*



Puma

Conservation has become a serious business and one of the most controversial conservation subjects is biological conservation - what happens in the real world - the politics, laws, community participation and needs, human behaviour and beliefs - the practicalities.

What cat conservation leaders say

There is a good amount of information on the biology of cats. But what about conservation guidelines and effectiveness of measures taken? There has been a trend towards 'making choices', to protect only part of our biodiversity. This view

is mostly based on the use of limited resources by conservation institutions, which is legitimate. This view, however, does not take into account the existence of local funds.

The Florida puma recovery is a good example of a local effort financed with local funds. Many scientists would argue that it is a waste of money to save the Florida puma, as it is just a subspecies of a non-endangered species. But this was Florida's money. If they had not employed it to save the puma, they would not have used this money to save a cat species elsewhere! Nor would specific cat conservation technology have been developed (in this case, transfer of embryos). If we aim to save just the larger, more 'viable' populations, we'll lose all the others!

Conservationists from a scientific background find it a challenge to figure out real-world solutions. They argue that large cats can only be saved if people receive proper education. It makes sense, but there is no time for generic education. People need practical education in how to save species. Will our education have any positive effect? Consider also beliefs. In traditional Chinese medicine, for example, tiger bones and parts are strong medicine. Is there an alternative to guards holding machine guns to protect Sumatran tigers, as is done now? Sure there is. If you educate the decision-makers in China they can pass laws to enforce the prohibition in trade of tiger parts!

OK, then volunteering can make a difference?

The conservation success of a volunteering project depends on its implementation. The idea of having people from all over the world, with different backgrounds, working to collect information on an en-

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dangered species is in accordance with the conservation book: share responsibilities, cooperate, broadcast the conservation issue by reaching a worldwide audience, generate reliable and useful conservation information, produce reports with conservation guidelines, mobilize local people for the cause, create situations for capacity-building for local managers.

On the ground, however, how can we expect a group of people that have never performed tasks in the wild to produce something tangible in terms of conservation?

EXAMPLES OF VOLUNTEER EXPEDITIONS FOR CONSERVATION OF BIG CATS BRAZIL • OMAN • PERU

Brazil: My main experience with volunteer expeditions began in Brazil. This was a result of a joint project between the organisation I represent, 'Projeto Puma', and Biosphere Expeditions. The aim of the joint project is the conservation of jaguars in one of the most threatened ecosystems in the world and a top biodiversity hotspot, the Brazilian Atlantic Forest. Within this ecosystem, we targeted the largest remaining patch, the 'Serra do Mar' mountain range.

Considered near-threatened as a species in the IUCN Red List of threatened species, the jaguar is very rare in this ecosystem. This is a typical case requiring local effort to restore its populations. Jaguar conservation is also significant to the integrity of this endangered ecosystem, and to the genetic pool of the species as a whole. The species will not have a



Heading for base camp in search of jaguars, puma, and ocelots.

chance in this area unless it somehow manages to make a comeback. When the project began, I had already witnessed a recovery of the puma in southern Brazil, so I was optimistic. The study assessed habitat integrity for jaguars, and as a result revealed the core areas most important for their conservation. Our planned task was then to draw the attention of managers and decision-makers to the importance of conservation of these areas.

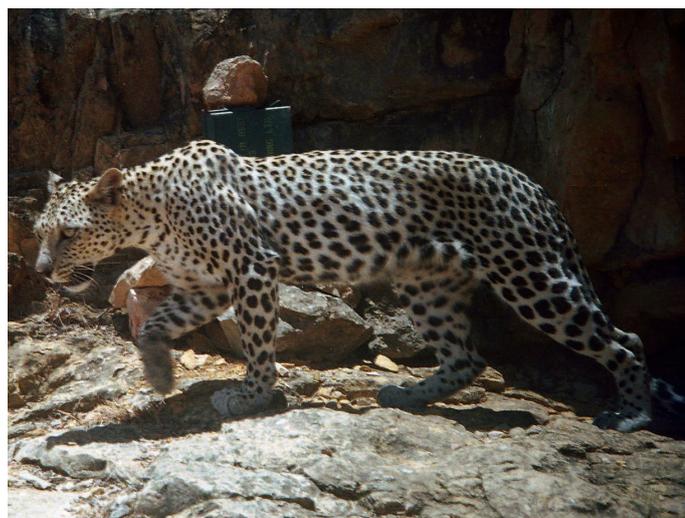
We have worked since 2006 to find out that much of what was judged jaguar habitat is, in fact, a border area around a core area, with low or no jaguar presence, despite apparently pristine forest. It was a typical case of an empty forest or perhaps half-empty forest.

Seen so far as 'generally threatened' or 'vulnerable' to extinction, local jaguar populations may in fact be critically endangered. We are the only organisation working in the area that has systematic information of the wildlife status over a wide geographical area. This information is now being requested for use by public environmental agencies, to prioritise management and conservation of key jaguar areas. We hope that the model may spread to other areas of the ecosystem. This has already started, as Projeto Puma has been requested by a local university to set up an expedition in another important area of the Atlantic Forest.

In partnership with Biosphere Expeditions, we are also advising local stakeholders on forest management issues and on other benefits from habitat conservation, such as reduced emissions from deforestation and degradation (REED) projects, management of non-timber products, and implementation of private protected areas.

Back to the low numbers of jaguars, what will volunteers see and experience during the expedition if the chance of seeing a jaguar is low?

We not only analyse jaguar presence, but also record all the mammals we can, mainly by tracks and camera-traps. Track records are as good as sightings in understanding patterns of occupation, recolonisation and extinction. This assessment gives a snapshot of the population of the forest in the areas we sample. For example, we found no evidence of tapirs in the National Park adjoining our current base camp, but we found tapir tracks on every trail we currently walk nearer to the core areas. Tapirs have disappeared from the National Park due to lack of protection and are present near our base camp because they have been protected by private initiative. Further from our base camp into the core areas, we find not only tapir, but also white-lipped peccary herds, one of the main 'dishes' on the jaguar menu. By knowing what wildlife exists in each site, we then know where the core areas are and which areas need the most attention. We are also able to provide targets for recovery of areas where species are missing.



Arabian leopard, critically endangered, camera-trapped in the mountains of Dhofar, Oman. Photo kindly provided by the Oman Office for Conservation of the Environment (Diwan of Royal Court).

Oman: The Arabian leopard is listed in the IUCN Red List of threatened species as critically endangered, the highest level of threat. Our Oman expedition found reduced evidence of the leopard, but we did record plenty of information on the presence of its prey and other indicator species. With that information we were able to deduce that the area, although only occasionally reached by monsoon rains, had a great deal of mammalian diversity, with species there that have become uncommon in many other areas.

Local herders reported that leopards used to attack their herds in the past, but not any more. According to them, herding practices and location have remained the same. Fewer losses combined with reduced evidence of leopard presence show that leopards have reduced in range. With plenty of records of prey species in the area, a suspicion arose that leopards may have been partially wiped out by herders. A gap in the knowledge about livestock depredation by Arabian leopards, however, needed to be addressed. The dataset collected by volunteers was so complete that I was able to convert it into a scientific publication in the journal 'Zoology in the Middle East', following the one-month survey.

One of the many tapirs camera-trapped in the Brazil study area. Young tapirs are jaguar prey. The species has been wiped out from vast areas of their previous range in southern Brazil, where it is now considered rare.

Peru: The Amazonian forests of Peru, in the Department of Madre de Dios, are located in the western Amazon, one of the most biodiversity-rich areas in the world.

Biosphere Expeditions has been working in the area for over eight years, and has accumulated a large dataset on densities of a variety of mammals. The study area, located by the Las Piedras River, had been subjected to selective logging up until 2002. Biosphere Expeditions has sampled precisely during this recovery period. Results show an increase in sightings of many species, such as spider monkeys, which seem to be more sensitive to selective logging, taking longer to recover.

My aim was to establish a preliminary study design for the larger cats (puma and jaguar), including which questions to address during future expeditions. I found out that the study area was currently a concession for ecotourism and for the sustainable harvest of Brazil nuts.

Results were quite surprising, as big cats were recorded on a daily basis. In one instance, team members went for a night walk and when they came back they spotted, in the middle of their path, a peccary that had just been killed!

Sustainable logging

The value of sustainable selective logging for conservation is yet to be recognised by countries,



A jaguar camera-trapped during the Peru survey.

which harbour the last of the world's rainforests. A forest left unmanaged will inevitably be invaded and logged unsustainably, and finally used for pasture or crops. But even stands of planted forest, when adequately managed, may be habitat for large cats and other sensitive species.

Expeditions to the concession forests of Peru may be the first initiative to unravelling the pros and cons of logging concessions for large cats, as it is conducted in-country. It will help spread management practices that are promising for the future of our forests. This is the type of information that managers and decision makers need. ■

PROJETO PUMA is a Brazilian-based, non-profit NGO, primarily aimed at the conservation of species and habitats. Besides organising expeditions and being a partner organisation of Biosphere Expeditions, it provides environmental consultancy for forest certification, species and landscape management, and implementation and supervision of updated undergraduate and higher education courses in Biological Sciences.

Dr. Marcelo Mazzolli, founder and Director of the institution, has been an advisor for the IUCN Cat Specialist Group since 1997 and a member of the High Conservation Value (HCV) Network's advisory board for forest management. He coordinates a post-graduate course in Sustainable Development and Environmental Management and has taught zoology, ecology, biodiversity monitoring and management, evolution and paleontology. Major publications include articles on Arabian leopard, jaguar and puma.

More information on Dr. Mazzolli's work and on Projeto Puma is at www.projeto-puma.org.



This article is an excerpt out of the Biosphere Expeditions Magazine 2011, packed with stories from the field, achievements, looks behind the scenes and an overview over our expeditions, projects, taster days and other activities. Access the full magazine at www.biosphere-expeditions.org/magazine.