



All photo by the conservation organization Yaguará

A jaguar on the prowl

Cameras are stalking the feline stalkers on the Osa Peninsula

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Special to A.M. Costa Rica

Research on big cats in the Osa Peninsula is not limited to the large protected areas which are the last strongholds of jaguar in Costa Rica. Areas outside Parque Nacional Corcovado are the focus of Yaguará, which studies use of altered habitats and the interaction of jaguars and pumas with human activities.

Conservationists hope to recover enough forest to eventually link Corcovado with the Parque Nacional Peñas Blancas and even the highland Parque Internacional La Amistad. Charismatic large predators like jaguar can become flagships for this effort.

Established cat researcher Ricardo Moreno leads the scientific side of the project. Much of his previous work on ocelot, puma, and jaguar diets was conducted in Panamá.

The present studies of cat use of fragmented landscapes on the Osa relies heavily on camera traps, which use motion sensors to take a picture of what passes by, usually on a trail. As cats, especially ocelots, often use regular latrines, those are a focus of attention.

There are about 175 cameras scattered on trails around the area between the east boundary of the Corcovado park and the southeastern tip of the peninsula, an area of about 15 by 5 kilometers. Photographs show that the large cat species are out both by day and night, with puma slightly more diurnal than the others. In general the cameras can capture shy and elusive species unlikely to be



An ocelot is the smaller of the three cats

two species of raccoons, lots of *coatis* and peccaries, curassow, right up to one nude human “not worried about the snakes,” as researcher Aida Bustamante put it.

Mostly the traps wait on an empty trail, with coatis accounting for seven records per 100 trap/nights. Only collared peccary, *agouti*, and great curassow appear more than one day in a hundred.

Sampling feces has produced a database of prey species for the three large cats, with preferred food animals varying as might be expected. For ocelots, 10 species were identified but the main prey is iguanas and rodents up to the size of the agouti. Pumas eat the white-collared peccary and coatis heavily. Jaguars also eat many coatis, generally the most numerous

observed by humans.

Spotted cats have unique patterns, meaning individuals can be identified when they appear at more than one camera sampling point. This requires two cameras to get both sides of the animal. Pumas are more difficult, but scars and other marks can be used. One female with an injured tail has been photographed at enough points to give a fair approximation of her range.

From individuals that have been identified the researchers calculate that ocelots have a home range of about 6.6 square kilometers and pumas 9 square kilometers on the Osa. Male puma ranges in Canada have been estimated as high as 1,000 square kilometers, with females much less.

GPS monitoring devices are also fitted to several ocelots and white-lipped peccaries for more accurate tracking, with no results analyzed yet.

If the camera flash is towards the eyes of the more nocturnal species, an impressive eye-shine results. It is not known how long it takes the animal to recover from this and be able to see in the dark again.

More than 20 other species appear on the photos, including two smaller cats, the jaguarundi and margay. Also tayra,

large animal in the area, but can also tackle the larger white-lipped peccary and even tapirs. All three eat sloths regularly. Both pumas and jaguars have a slightly more varied diet with 15 species for each recorded.

At Cana in remote eastern Panamá, another study by Moreno found less difference between jaguar and puma prey selection, with a smaller sample. Human impact on the large cats and their prey is minimal there.

Deforestation and poaching affect the hunting patterns of the larger species and can lead to conflict with livestock. Ocelots are more tolerant of deforested conditions and human presence, so have some reputation as chicken eaters. A much more serious issue is jaguar and puma predation on cattle. While rare, it risks alienation of relatively powerful local interests.

It is also possible to tell if a jaguar was really responsible for a dead cow since its powerful jaws can crush the back of the skull of the unfortunate animal. Pumas are more likely to kill by strangulation so tooth marks will appear on other bones from an older carcass.

Education and compensation are two tools protecting cats

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Community relations is a big part of keeping wildlife and human residents on good terms when the wildlife is perceived as harmful or even dangerous, the way big predators like jaguars are.

The program run by Yaguará in the Osa Peninsula area relies on two facets, education projects to convince local people that large predators are not bad or dangerous and need protection and direct compensation for livestock losses.

Aida Bustamante meets with groups of people anywhere they accumulate and records more than 450 chats in the area. She talks to locals at schools, community meetings, and arranges activities for adults and children. At hotels both visitors and staff are targeted. She says the effort must be constant, and that many visiting researchers make little effort to reach local inhabitants. She added:



Aida Bustamante meets with residents

“You have to understand the reality of these people and show them that it’s possible to coexist with wildlife and not have to choose between their activities and the animals.”

Commercial poaching of prey species and habitat destruction are the main issues at hand to bring these large felines and people into close contact. Deforestation, while still spotty on the Osa and largely controlled, breaks up the cats’ large home ranges and makes it more likely for them to view cattle as food. Most deforestation is by definition for pasture.

Prey species of interest to human hunters are mostly the *tepezcuintle*, a highly sought-after large rodent. Two species of wild pigs, the collared and white-lipped peccaries, are also eaten. Tapirs are hunted by people but are too large for most cats to tackle.

Subsistence poaching is another issue but is more related to the cost of living in a remote place with a tourist presence, says Ms. Bustamante. Also some hunting is related to resentment of the government authorities and various outsiders, " . . . who prohibit something without

offering any alternatives.” Often the positive aspects of conservation like income from tourism does not reach local people.

Poaching for pelts is another risk to the populations of the spotted cats, with commercial outlets in Panamá not understood by the authorities, said Bustamante.

Usually following an incident of lost livestock, the offending animal might be hunted down and shot. Dogs track the cats, and there is still an element of hunting for the thrill of the chase itself in the rural society as well as sport hunters from San José and Panama City.

Compensation for ranchers’ losses is a strategy little tried outside of North America where it is usually related to wolves. But given that even one individual of a rare species is a huge loss from such a small population and gene pool as is present on the Osa Peninsula, if it avoids other needed conservation efforts by keeping the offending animal from being killed then it is highly cost-effective, the association says.