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### **Ensuring the Mysterious Jaguar's Survival in the Brazilian Pantanal**

With its spectacular spotted coat, muscular body, and jaws powerful enough to crack a deer's skull, the jaguar (*Panthera onca*) is a formidable feline. It inspired ancient cultures such as the Maya, who depicted the cat in jewelry and ceramics, but the species has received little reverence from modern man. In the past century, hunting and agricultural expansion have eliminated the jaguar from half of its original range, and they continue to be killed, or confined to ever-shrinking islands of wilderness.

The good news is that a group of conservationists in Brazil -- home to more than half the world's remaining jaguars -- is studying the cat and working with rural communities for its protection. The [Jaguar Conservation Fund \(JCF\)](#) is completing a national jaguar distribution study, and using radio telemetry and other methods to gain insight on the species' ecology, demography, genetics, epidemiology, and other information needed to develop effective conservation strategies.

According to JCF's president, [Leandro Silveira](#), the jaguar is one of the world's least understood wildcats, despite the fact that it is found in 19 countries ranging from the southwest United States to northern Argentina. Silveira explains that the cats are extremely shy and hard to study, living solitarily, roaming over large areas, and avoiding human beings as much as possible. He notes that Brazil is a vital country for the species' survival, since it comprises 48 percent of its range, and is home to between 60 and 70 percent of the world's jaguar population, which he estimates to be around 60,000.



Brazil's jaguars grow to between 160 and 220 pounds; they're fast runners, climbers, and swimmers, which helps them to hunt everything from tapirs to giant anteaters, and even anacondas. Their teeth are sharp enough to pierce the tough skin of a caiman, and a mature jaguar can kill an 800-pound bull, but there are no records of jaguars attacking human beings without provocation. The jaguar's reputation for eating livestock has led ranchers to shoot them on sight, and to hire jaguar hunters -- despite the fact that killing them was outlawed in Brazil in 1967 -- who they compensate with one cow (worth about \$200) for each wildcat

killed. Silveira is consequently working with ranchers to put an end to jaguar hunting in the Pantanal, the world's largest wetland, which has the highest concentration of jaguars in the world.

With support from the [U.S. Fish Wildlife Service Division of International Affairs](#), Monsanto, the [Memphis Zoo](#) and the [Disney Wildlife Conservation Fund](#), JCF compensates ranchers for cattle killed by jaguars. Silveira explains that ranchers have to prove a cat killed their cow to collect funds, and in the process of doing so, they've discovered that they lose more livestock to disease and accidents than they'd assumed. "The compensation program turned out to be much cheaper than we thought it would be," notes Silveira. "It also showed the ranchers that they have other problems than jaguars, and that they could take better care of their cattle."

The JCF also arranges for doctors and dentists from the Brazilian university [UNIDERP](#) to visit ranches and provide free healthcare to workers and their families, a program that has become more popular with the ranchers than compensation for lost livestock. Some ranchers have also opened nature lodges on their property, which provides another incentive to let the jaguar be, as JCF's biologists tell the lodge administrators where their guests are most likely to see jaguars.

According to [Márcia Cota](#), the director of [Conservation International's Brazil program](#), JCF's work has yielded amazing results in a short period of time. "Leandro has worked tirelessly over the past decade to understand the jaguar's ecological needs, and to change the attitudes of Brazilian landowners."

Silveira is working with ranchers to establish a 1.2 million-acre (500,000 hectare) private jaguar reserve in the Pantanal, only one percent of which is currently protected within national parks and reserves. He plans to start a similar project with ranchers along the Araguaia River, on the eastern edge of the Amazon basin. He's also working with farmers to create biological corridors between protected areas in the country's "cerrado" -- a savannah covering an area about the size of Mexico -- where booms in sugarcane and soy farming are driving animals into increasingly isolated patches of wilderness. As Silveira points out, "Protected areas alone won't save the cat in the long run. If we don't work on coexistence alternatives with ranchers, and corridors between populations, the jaguar doesn't have much of a future."



Silveira explains that he's been interested in jaguars since his adolescence, when he watched a documentary on jaguar research in Brazil by United States conservationist George Schaller and decided that was what he wanted to do. He now has a PhD in wildlife biology from the University of Brasilia and has been studying the cats for 14 years, but he admits that there is much about the jaguar that remains a mystery. His research has revealed that, contrary to popular wisdom, jaguars territories can overlap 100 percent and biologists working with JCF have documented the cats preying on freshwater dolphins, as well as cases of jaguars killing each other, though they don't know why.

"We still have a lot to learn about the jaguar," notes Silveira, who is trying to create an international network of biologists who study jaguars to facilitate the exchange of information. JCF publishes an email bulletin called *Jaguar News* with updates on their research and news from other countries.

Studying such elusive animals requires creative field biology such as placing camera traps on game paths and using specially trained dogs to find jaguar scat, from which they take DNA samples. The job demands plenty of time in the field, sometimes running in torrid heat to catch up with a cat, but Silveira says the toughest thing has been convincing ranchers and farmers to let the jaguar live. "As a wildlife biologist, working with the communities has been a big challenge. There's a lot of politics involved. It's more complex than anything my biology training in college prepared me for."

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