

Jaguars of the Pantanal



PANTHERA

Cover:

A jaguar in the Brazilian Pantanal



Jaguars of the Pantanal



A male jaguar on the bank
of the Cuiaba River in the
Northern Pantanal, Brazil

Contents

02

Beginning My
Jaguar Journey

04

Welcome to
the Pantanal

06

About the
Jaguar

08

Ecosystems
of the Pantanal

10

Panthera in
the Pantanal

12

Cattle and
Conservation

14

Counting
Spots

16

Saving Jaguars
of the Pantanal

Beginning My Jaguar Journey

My life with wild jaguars began on a dirt track in an abandoned timber camp in the newly independent country of Belize. Several months earlier, I had finished my dissertation on raccoons in the Great Smoky Mountains of Tennessee, when my professor asked me to take Dr. George Schaller on a hike. I had no idea then that George was considered the foremost field naturalist in the world, nor could I have imagined the major impact he would have on my life. Suddenly, I found myself immersed in the dense jungles of the tiny country of Belize, figuring out why so many jaguars seemed to occur here. My first face-to-face encounter with a jaguar was on that dirt road of the Belizean timber camp. I realized how little anyone knew about this species, and that I needed far more experience than I had at the time, if I was to study them in more depth. Schaller had already started the world's first jaguar study far to the south in Brazil. Soon, I was on my way with Dr. Howard Quigley, now Executive Director of Panthera's Jaguar Program, to that "vast primeval sponge" of the Brazilian Pantanal, home to the world's largest jaguars and hunting ground for notables such as Teddy Roosevelt. This was to be my training ground before I returned to Belize to conduct my own research.

The Pantanal was the perfect place to become initiated into the rigors of fieldwork and begin my own jaguar journey. The place is an assault on the senses: fluttering flashes and competing songs from more than 600 species of birds, the eyes of thousands of caimans bobbing in the waters, and the subtle but unmistakable musky smell of scent sprayed from jaguars wafting from the trees. My next encounter with a jaguar in the wild was at night in the Pantanal, when I found myself staring into those green piercing eyes that shone golden when the light from my torch hit them. It brought me back to my childhood of whispering into the jaguar cage at the Bronx Zoo. I grew up with a debilitating stutter and could only really talk to animals. I promised that caged jaguar that when I found my voice, I would use it to defend the animals that had no human voice yet were always there for me.

Although my career has taken me all over the world to protect big cats, the Pantanal remains one of my most favorite and special places. I envy anyone travelling to the Pantanal for the first time and experiencing that joyful anxiety boarding a boat

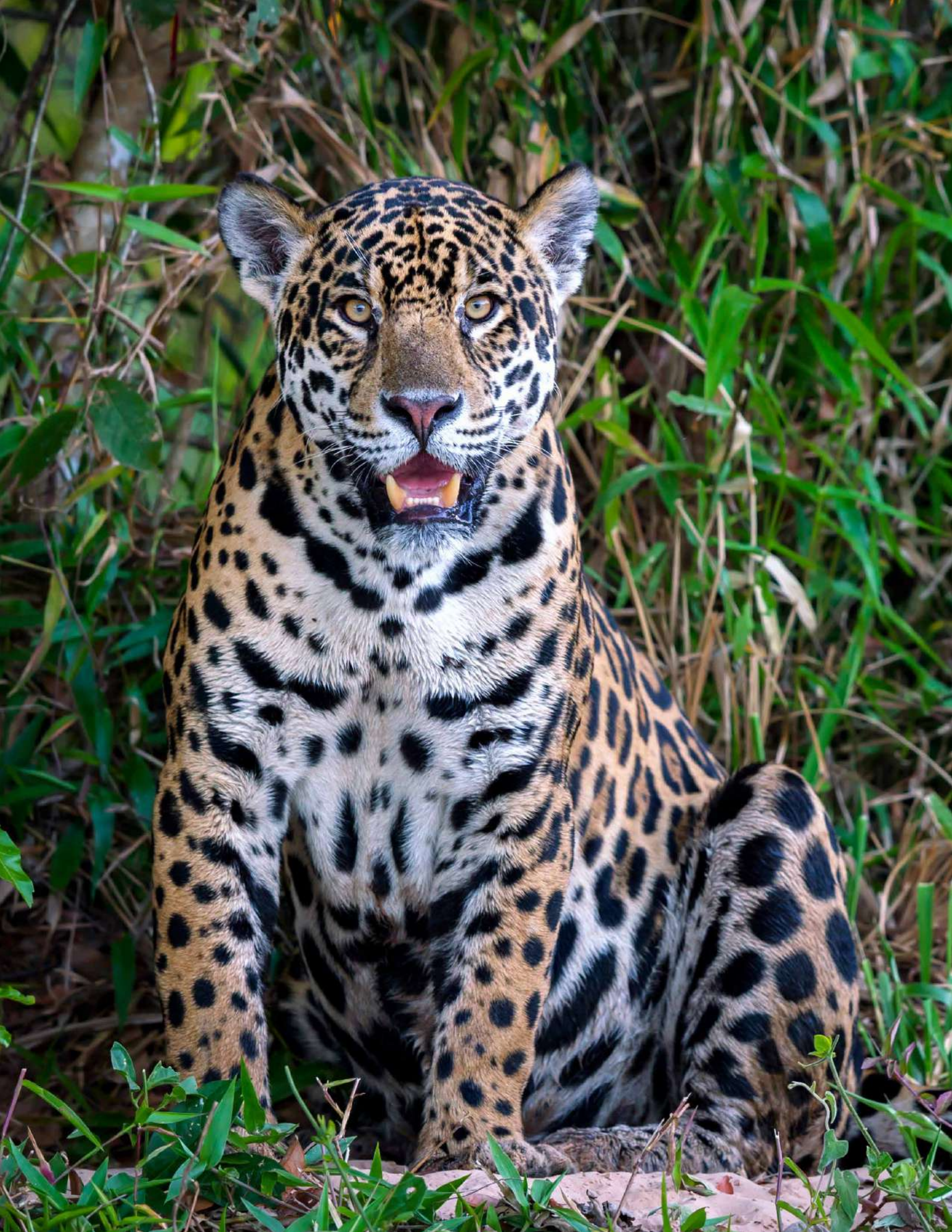
and wondering if this is the day you will see a jaguar. I envy that first millisecond you lock eyes with the largest cat in the Western Hemisphere, and the world around you melts away as you connect with the most primordial part of your being—your animal soul.

But not everybody is so excited to see jaguars, especially when their livelihood is threatened by the cats. Across jaguar range, jaguar-cattle conflict is a real and perceived threat to many ranchers, and, short of killing all the jaguars they see, the ranchers feel helpless to protect their cattle from depredation. That's why Panthera purchased the Jofre Velho Ranch in 2014 and established a demonstration ranch, both to create a jaguar-friendly environment and to show ranchers and farmers how to protect cattle from jaguars. We have created and tested a toolbox of solutions, from simple activities like putting bells on cattle to more long-term solutions like adding water buffalo to herds, which act to protect them from jaguar attacks. In addition, the Pantanal provides a world-class example of how communities can benefit from jaguars through ecotourism.

Whenever I travel to the Pantanal, I can't help but be continually amazed by the sights, sounds, and smells of all I had seen before and yet all that is new and different. Here I am, more than three decades after my first encounter with a wild jaguar, still in the Pantanal, still dodging cow dung, and still caught off guard whenever I see those spots ambushing a capybara or lazing on the riverfront. I welcome you to this extraordinary place; I wish you the best of luck in your quest to view jaguars, anacondas, giant anteaters, macaws, caimans, or any of the other spectacular wildlife here; and I hope you leave with a fuller appreciation for the few wild spaces remaining on this planet, and the fauna and flora they harbor.



Alan Rabinowitz
ALAN RABINOWITZ, Ph.D.
CEO, Panthera





Welcome to the Pantanal

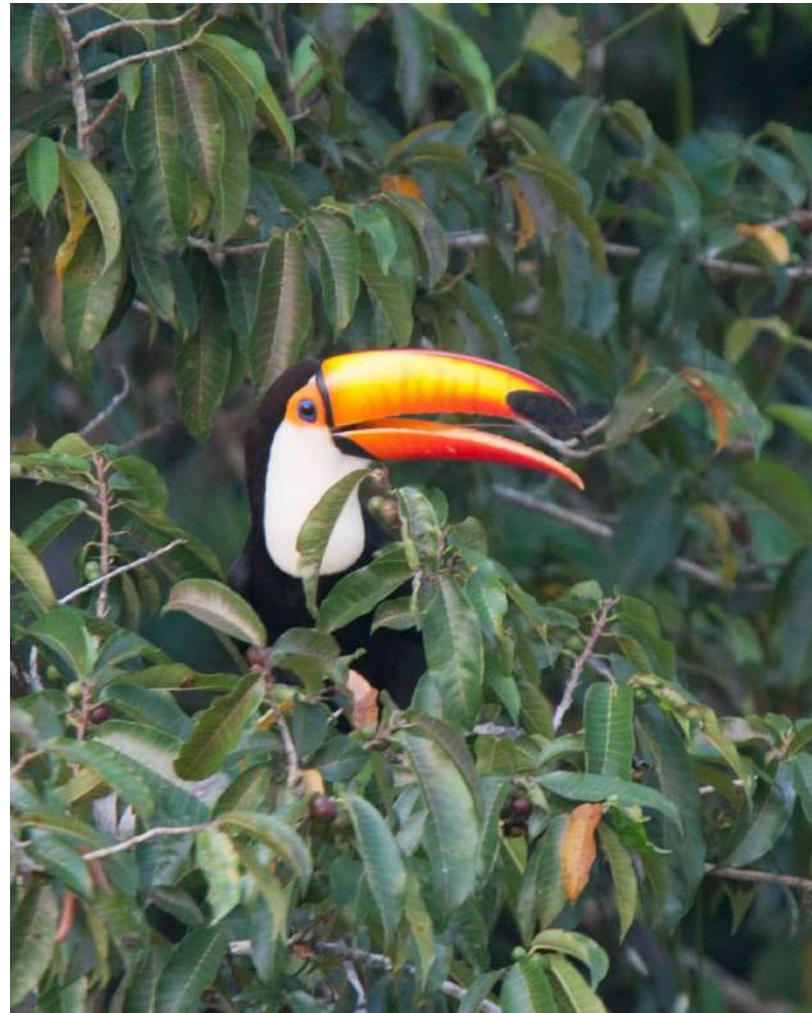
Above: Caimans lounge on the river bank in the Brazilian Pantanal.

Opposite: A Toco toucan perches in the Pantanal treetops.

According to myth, the jaguar showed his adopted human son the magic of fire. The boy told his village of this power, and they stole fire from the jaguar. Perhaps it is the jaguar's revenge, then, that water dominates the best place to see these flame-touched cats. Brazil's Pantanal is the world's largest continental wetland, with emphasis on the wet. Between December and March, torrential downpours fill the Pantanal's basin like a bathtub, as the Paraguay River and its tributaries flood over 80% of the land. This flooding cycle helps modify the severity and frequency of floods downstream along the Rio Paraguay. All that's left dry are strips of forest into which the ground-bound denizens of the Pantanal crowd—jaguars, ocelots, giant anteaters, and...cattle?

For hundreds of years, cattle ranchers have braved boots that will never dry, mud of every color and consistency, and jaguars hungering for filet mignon, in order to build a sustainable livelihood in the Pantanal. Every rainy season, Pantaneiros (cowboys) gather their herds to graze on the high ground, often braving floodwaters that reach their stirrups. It's a hard life that naturally limits the size of their herds, with only so much dry grazing land on each property. Ranchers will sell off a portion of the herd before the rains come in order to limit the grazing herd's size.

Come May, the landscape completely changes. Land appears



from water, and wading birds like the jabiru stork feast on the fish that the receding flood abandoned. Giant lakes turn into riverfront savannahs teeming with capybaras, caimans, and, of course, jaguars. It is a cycle that breeds creativity into its wildlife and has shielded the ecosystem from humans foolish enough to think they can fight the floods. It is a unique place on Earth, a biodiversity center rivaling and perhaps outdoing the more well-known Amazon rainforest.

Unfortunately, extensive infrastructure and agricultural development at the surrounding plateau and headwaters threaten this fragile ecosystem, as unearthed sediment and agricultural and mining products like pesticides, fertilizers, and heavy metals flow into the floodplain. In addition, the falling price of beef and the generational parceling of land have made the Pantaneiro lifestyle increasingly untenable—and have increased absentee owners who have little connection to the land. The jaguar's only home during the rainy season is being cut down to increase dry grazing land for cattle.

The Pantaneiros are the protectors of the Pantanal, and they are finding new ways to sustain their livelihoods and raise awareness of the power and fragility of this natural wonder. Ecotourism is bringing economic stability to the area and showing the value the Pantanal holds for the world. Panthera supports these efforts

by showing Pantaneiros how to protect their cattle from jaguar attacks and working with tour operators to ensure that jaguar viewings are safe for humans and wildlife, informative, and fun. Pantaneiros, tour operators, eco-tourists, and conservation organizations are all coming together to save the Pantanal, the thousands of plant and animal species it harbors, and the three million people that depend on the Paraguay River Basin. Humans may have stolen fire from the jaguar, but now we hope to repay our debt with clean water and plentiful fauna.

“Jaguar tourism motivates people to learn more about these animals, the complex ecology of the area, and the importance of its conservation. Tourism turns the presence of jaguars from a liability or threat into a source of sustainable income.”

RAFAEL HOOGESTEIJN, M.S., D.V.M.
Conflict Program Director, Panthera Jaguar Program

About the Jaguar

The jaguar has influenced the culture of the Americas for millennia, from Olmec statues of jaguars with human features to today's luxury cars and football helmets adorned with the jaguar's image. This powerful, mysterious creature is one of contradictions: comfortable on land and in water, feasting on caimans and hiding in trees from dogs, calling home both the arid shrublands of Mexico and the lush jungles of Brazil. Just as its distinct rosettes blend black with yellow and orange, the jaguar is both god and pacifist, both apex predator and threatened species. Read on to learn more about the creature known variously as jaguar, yaguareté, and *el tigre*.

SPECIES

Panthera onca

CONSERVATION STATUS

Near Threatened

LIFE SPAN

Up to 16 years in the wild

JAGUAR FACTS



Relative to its weight, jaguars have the strongest bite force of all big cats. They use these brawny chompers to crush the heads of their prey, and, in some regions, to bite through sea turtle shells.



The jaguar has very broad feet with distinctly stubby and splayed digits. These paws are perfect for navigating muddy ground and act as swimming paddles.



Jaguars' spots are known as rosettes because they have smaller spots inside. Like fingerprints, each jaguar has its own unique set of rosettes that scientists use for identification.



Jaguars are, for the most part, solitary creatures. Although their territories often overlap with other jaguars, they know to keep away through roars, scrapes, and urine markings. While not common, males sometimes do clash over territory and over females.



Melanistic jaguars, or black jaguars, have a genetic mutation, but are the same species. They occur more in very hot and humid closed forest habitats in various parts of Latin America.

RANGE



Jaguars range from northern Mexico to northern Argentina, covering a wide array of habitats from wetlands to mountainous scrublands. Though no breeding population exists in the United States, two individuals have been spotted in southern Arizona recently. There are no jaguar subspecies, so a jaguar in Mexico is the same genetically as a jaguar in the Pantanal.



Panthera CEO Dr. Alan Rabinowitz helped create the world's first jaguar preserve in Belize's Cockscomb Basin Wildlife Sanctuary in 1986. The Cockscomb Basin was his first field site, and he became determined to create the preserve after seeing so many jaguars killed for eating cattle.





The Pantanal Ecosystems

The Pantanal is around 195,000 square kilometers (75,000 square miles), bigger than the country of Senegal. The Pantanal is home to approximately



12

UNIQUE SUBREGIONAL ECOSYSTEMS



3,500

KNOWN PLANT SPECIES



9,000

INVERTEBRATE SPECIES



325

FISH SPECIES



53

AMPHIBIAN SPECIES



98

REPTILE SPECIES



656

BIRD SPECIES



159

MAMMAL SPECIES



HYACINTH MACAW

The hyacinth macaw (*Anodorhynchus hyacinthinus*) is longer than any other species of parrot. Hyacinth macaws, also called blue macaws, have been observed using pieces of wood or chewed leaf to prevent harder nuts from slipping while they open them, an example of tool use. The species is classified as Vulnerable due to habitat loss and trapping for the pet trade.



LOWLAND TAPIR

The lowland tapir (*Tapirus terrestris*) is distinguished by its long snout used to grab leaves, pick up fruit from the ground, find plants under water, and breathe while underwater (like a snorkel) while pursued by predators. The lowland tapir is listed as Vulnerable, threatened by deforestation and hunted for their meat.



JACARÉ CAIMAN

About 10 million jacaré caimans (*Caiman yacare*)—thought to be the largest single crocodilian population on Earth—exist within the Brazilian Pantanal. Although threatened by hunting, jacaré caimans reproduce quickly and are currently listed as Least Concern.



OCELOTS

Ocelots (*Leopardus pardalis*) travel one to five miles every night in their pursuit of prey. They are fond of leftovers, often hiding unfinished prey for later consumption. Rather than roar, ocelots “chuckle” when excited and may produce a muttering noise when communicating to each other.



GIANT OTTER

Giant otters (*Pteronura brasiliensis*) are an incredibly vocal species, using a system of perhaps 22 distinct sounds to communicate. The whole family is involved in rearing pups, as fathers and older siblings often lend a hand. The giant otter is listed as Endangered, as deforestation, infrastructure development, and climate change reduce suitable habitat, and pollution and overfishing threaten their prey.



CAPYBARA

The capybara (*Hydrochoerus hydrochaeris*) is the world’s largest rodent. An unusually social species, capybaras live in groups of 10 to 30 members with sometimes more than 100 members in the dry season. When a predator threatens, a capybara can hold its breath for five minutes under water. They are also one of the favorite prey of jaguars.



GIANT ANTEATER

With their two-foot-long tongue, giant anteaters (*Myrmecophaga tridactyla*) eat more than 35,000 ants and termites every day. Giant anteater mothers will carry their young on their back, the similar coloring making them look like one big animal, scaring off predators and “hiding” the young. The giant anteater is listed as Vulnerable due mostly to habitat loss.



JABIRU STORK

The jabiru stork’s (*Jabiru mycteria*) name comes from a Tupi-Guaraní language and means “blown out by the wind,” referring to the bird’s swollen neck. The jaguar’s name comes from the same language. The bird’s neck contains an inflatable pouch that swells during danger, anger, or courtship. Jabiru storks will sometimes help clean water sources by eating fresh carrion and dead fish.



YELLOW ANACONDA

Like all boas and pythons, the yellow anaconda (*Eunectes notaeus*) is non-venomous and uses constriction to kill its prey, including wading birds, fish, turtles, small caimans, lizards, bird eggs, and small mammals. Depending on the size of their last meal, yellow anacondas can go months without eating.



Panthera in the Pantanal

Above: Jofre Velho Ranch school with classrooms and library

Opposite: The school in Jofre Velho teaches children about the jaguar and the Pantanal environment.

Almost two decades ago, Panthera CEO Dr. Alan Rabinowitz helped make a profound discovery: The jaguar is genetically the same throughout its range and travels within a grand highway between northern Mexico and northern Argentina to live and breed. We dubbed this highway the Jaguar Corridor, and it crosses plenty of human-dominated landscapes like citrus groves, cattle ranches, palm oil plantations, and even the Panama Canal. It is in these mostly unprotected corridors that jaguars encounter the most danger. If jaguars are unable to safely travel the Jaguar Corridor, their habitats will become isolated and their gene pool more shallow. This will be the first step on the road to extinction, as isolated jaguar populations are less biologically fit and less resilient to environmental change, especially those generated by fluctuations in global climate.

In the Jaguar Corridor, Panthera is finding ways for jaguars and humans to coexist and to keep jaguar movement free. One of the biggest threats jaguars face is from ranchers seeking to protect their cattle from jaguar attacks. Ranchers will often kill jaguars in retaliation for attacks and to prevent future ones. Panthera works with ranchers across Latin America to protect their cattle from predators and prevent this retaliation, but we knew we needed our own laboratory to concoct new techniques.

In 2014, Panthera, with the support of Panthera Board of



Directors member Duncan McFarland and his wife, Ellen, purchased the Jofre Velho Ranch. Panthera Founder and Chairman of the Board Thomas S. Kaplan and Panthera Conservation Council member Edith McBean also contributed greatly to the development of the property. With this purchase, Panthera protected 25,000 acres of the Pantanal where less than 1% of the land is modified by humans. By implementing anti-predation techniques championed by our Conflict Program Director Rafael Hoogesteijn, we converted the Jofre Velho Ranch into our demonstration ranch where we can show ranchers how to protect their cattle.

But Panthera has much more happening in the Pantanal than just cattle ranching. At Panthera, we know one of the best ways to conserve animals is to make them a benefit to the community. Across the world, ecotourism is helping save iconic animals like big cats. Panthera works with ecotourism guides in the Pantanal to ensure their tours are safe to animals and humans while maximizing opportunities for tourists to see jaguars. We provided guidance on how many boats can be on the river at once, how to behave when near a jaguar, and how far away from a jaguar to stay. We also teach tour operators information about wildlife and give them language lessons to make tours more fun, informative, and accessible.

Finally, Panthera has operated a school in the Pantanal since 2012 for local children and adults. Without this school, children would either go without education or be separated from their families to attend distant schools. Our innovative curriculum incorporates information about local ecology and culture into basic elementary lessons. We also teach literacy to adults in a night school. The community appreciates that the jaguar is responsible for the Jofre Velho School and learns from the school how to better protect this resource.

With the Jofre Velho Ranch, Panthera has saved its own piece of this wild wetland, but we're not in it for the steak. In Porto Jofre, we're making a difference in the local community by providing education and supporting the eco-tourism industry. Meanwhile, the experiments we undertake on the ranch will help ranchers across Latin America save their livelihoods while sustaining the environment and wildlife that make jaguar range unique.



Jaguar tourism can support the natural and economic health of the Pantanal. Tourism brings \$84.30 per hectare of revenue versus \$28.10 from cattle ranching.¹



Cattle and Conservation

Above: A jaguar slips through a barbed wire fence.

Opposite (top to bottom): One of the schoolchildren helping his parents with cattle and buffalo chores in the Jofre Velho Ranch in Brazil

Combined management of cattle with Pantaneiro Creole bulls, tame Indian Water Buffalo, and night enclosures at Jofre Velho

With one of the highest densities of jaguars in the world, protecting cattle in the Pantanal is not always easy. But with over 1,000 cattle ranches across the Pantanal, jaguars won't survive if ranchers can't trust them to leave their cattle alone. Jaguars go after cattle because they won't fight back, so Panthera's scientists wondered what would happen if we found a breed that would stand its ground. On Jofre Velho, with the leadership of Rafael Hoogesteijn, we've mixed in water buffalo and tough Pantaneiro bulls with the normal herds. If a jaguar approaches, these breeds will take an aggressive stance against the cat and protect the rest of the herd. We have even witnessed a jaguar check out a herd and then flee when a Pantaneiro bull wouldn't stand down.

On Jofre Velho, we are also experimenting with simpler methods, like housing calves in protective corrals and keeping cattle away from dangerous areas, such as areas away from the homestead and near water. Perhaps the most effective way to keep jaguars from munching on cows, though, is to make sure they have plenty of prey. Cattle ranchers can help by banning the hunting of jaguar prey on their property. All of these methods, put together with a healthy prey base, have resulted in a low rate of jaguar-caused mortality, with no attacks occurring at all in 2016.²



Every morning during the dry season, our ranch hands wake up early to milk the cows and water buffalo. The buffalo and cow herds are released to a large pasture in an open, flooded savanna. The buffalo graze and open trails at the front of the cattle herd in the dense, tall-grass savanna. Buffalo and Pantaneiro bulls protect the herds grazing during the day. In the late afternoon, all of the cattle and buffalo are rounded up. The larger cattle herd is penned in a night enclosure near the pasture area. Pantaneiro bulls and the buffalo herd sleep with the larger herd. The milk cow herd is kept closer to the ranch headquarters with another Pantaneiro bull. Their calves stay in a closed, predator-proof night enclosure. In the rainy season, we must repeat these steps but move the herd to a higher pasture ground with another set of night enclosures.

We are hoping our success here can inspire more ranchers in the Pantanal and across Latin America to use non-lethal methods to protect their cattle from jaguars. The Jofre Velho Ranch is the flagship of a network of over 50 ranches we've partnered with across jaguar range to protect cattle, reduce prey hunting, and stop jaguar killing. Usually, some scientist telling a rancher how to raise cattle will merit a raised eyebrow and a polite request to leave. Now, Panthera's field staff can hold up their boots caked with Pantanal mud and the real conversation on saving jaguars and cattle can begin.



“While the Pantanal’s jaguars remain threatened, there’s cause for hope. We’re working to develop a local economy based on both cattle and jaguars, where landowners, communities, and tour guides all benefit from these charismatic cats.”

ALLISON DEVLIN

Panthera Postdoctoral Research Associate



Counting Spots

Above: Panthera staff in the field, from left to right: Fernando Tortato, Joares May Jr., Rafael Hoogesteijn, and Allison Devlin

Opposite: Female jaguar Noca, identifiable by her distinctive rosettes

Panthera Research Fellow Fernando Tortato and Postdoctoral Research Associate Allison Devlin study the jaguars and prey of the Pantanal. Together, they identify and track the jaguars who settle in or travel through Jofre Velho and Fazenda São Bento, the neighboring ranch. How do they do this? Jaguars don't know it, but they're leaving selfies all over the two properties. Fernando and Allison set camera traps, or motion-activated cameras, in jaguar-friendly areas. A jaguar passes by a set of camera traps (set up to capture both sides of the jaguar), click, and the cameras store the images. Fernando and Allison then travel back to the cameras to collect the images.

A jaguar's rosettes are like its fingerprints. If camera traps capture clear views of the jaguar's rosettes, we can identify the jaguar and track it through other camera traps it triggered. At any one time, between 13 and 16 individual jaguars live on Jofre Velho, a pretty phenomenal number for a solitary carnivore.

In addition, Fernando and Allison have to monitor jaguar prey on Jofre Velho and follow the ebb and flow of predator and prey levels. They walk lines every month on the property and count the animals they see. They then use scientific models to estimate the prey populations. Soon, Panthera will conduct flyovers with drones and count prey species captured by the drones' cameras.

As you can see, the job involves a lot of walking. Perhaps the



worst part of these walks is the parasites that join Fernando and Allison. Ticks and large biting flies come after them in the dry season, while clouds of mosquitos attack in the rainy season. A Pantaneiro once told Allison that mosquitos blacken her window screens with their swarm and block out the light.

Perhaps the most memorable moment of Allison's three-plus years in the Pantanal came as she was returning from a long day in the field during the peak of the dry season. Coming back to her room, she noticed a small group of about 20 capybaras lounging on the riverbank. As she was heading to the dinner hall, a great commotion came over the capybaras. From the dust emerged a jaguar with a juvenile capybara in its mouth. One crunch of the skull and the jaguar was off, prize in mouth, and back into the nearby forest.

The work can be tedious with a lot of counting (spots, capybaras, ticks), but it's moments like this that keep the thrill alive for Panthera's biologists. For Allison, consummate biologist that she is, the great excitement did not just come from witnessing one of the world's most iconic animals successfully complete a hunt. Seeing a jaguar hunt its natural prey in front of a busy ranch strengthened her resolve that humans and jaguars can coexist if jaguars are given the space and food they need. The Pantanal proves this every day, and Panthera's biologists across Latin America are creating that kind of world in their own backyards.



Spotting Noca

Noca was the first female jaguar Panthera collared in the Pantanal. She became world famous after being featured in a "60 Minutes" piece, but Panthera scientists know Noca by one of her distinctive rosettes circled above. The name Noca (pronounced "Nossa") is a play on the word "onca," Portuguese for jaguar, and was submitted and chosen by Panthera's online followers.

Save Jaguars in the Pantanal and Beyond with Panthera

Panthera is the only organization in the world that is devoted exclusively to the conservation of the world's 40 wild cat species and their ecosystems. Utilizing the expertise of the world's premier cat biologists, Panthera develops and implements global strategies for the most imperiled large cats: cheetahs, jaguars, leopards, lions, pumas, snow leopards, and tigers.

Please consider joining our movement to ensure future generations know the beauty and majesty of jaguars and other big cats. While jaguars are thriving in Porto Jofre, their population is declining overall. With your help, we can reverse this trajectory, uplift the human communities living in jaguar range, and create many more jaguar paradises like here in the Pantanal.

“No one is better positioned than Panthera’s world-class team to implement the innovative, collaborative solutions that are so urgently needed. We are proud to be associated with this sweeping effort to save the jaguar and the incredible biodiversity that hinges on its survival.”

ROSS J. BEATY

*Executive Chairman of Alterra Power Corp.
Panthera Board Member*

HOW TO GIVE ONLINE

To donate online, please visit us at panthera.org/savejaguars

HOW TO GIVE BY CHECK OR MONEY ORDER

To donate by check or money order, please make payable to 'Panthera' and mail to:

Panthera
8 West 40th Street, 18th Floor
New York, NY 10018
USA

To donate from outside of the United States, please visit our secure online donations page at panthera.org/savejaguars or reach us by phone at +1 646-786-0400.

HOW TO DONATE STOCK

To make a gift of stock, please use the information below. We ask that you copy Panthera on transfer instructions or otherwise alert us to your incoming gift so that we can track its arrival.

Morgan Stanley Smith Barney

DTC# 0015

For the account of: Panthera Corporation

Account # 398-203268014

MSSB Phone# +1 212-692-2367

MSSB Fax# +1 212-692-2373

DONATE LIFETIME PLANNED GIFTS AND BEQUESTS

We suggest that you meet with your financial or legal advisor to understand all of the implications of a planned gift or bequest.

During this process, we invite you to contact us at info@panthera.org or +1 646-786-0400 with any questions you may have.



A male jaguar sits on the edge of the Piquiri River in Northern Pantanal, Brazil

FOOTNOTES

1. F. Tortato, T. Izzo, R. Hoogesteijn, C. Peres. 2017. The numbers of the beast: Valuation of jaguar (*Panthera onca*) tourism and cattle depredation in the Brazilian Pantanal. *Global Ecology and Conservation* 11: 106-114.
2. R. Hoogesteijn, E. Payán-Garrido, C.A. Valderrama-Vásquez, F. Tortato, y A. L. Hoogesteijn. 2016. Comportamiento defensivo contra depredadores del ganado criollo Sanmartinero y Pantaneiro: la experiencia Brasileña y Colombiana. En: Carlos Castaño-Uribe, Carlos A. Lasso, Rafael Hoogesteijn, Angélica Díaz Pulido y Esteban Payán-Garrido (Editores) II, *Conflicto entre Felinos y Humanos en América Latina*. Serie Editorial Fauna Silvestre Neotropical. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Fundación Herencia Ambiental Caribe, Panthera. Bogotá, D.C. Capítulo 12: 193 – 209.

CREDITS

Writer: Jared J. Watkins

Designer: Danielle Garbouchian

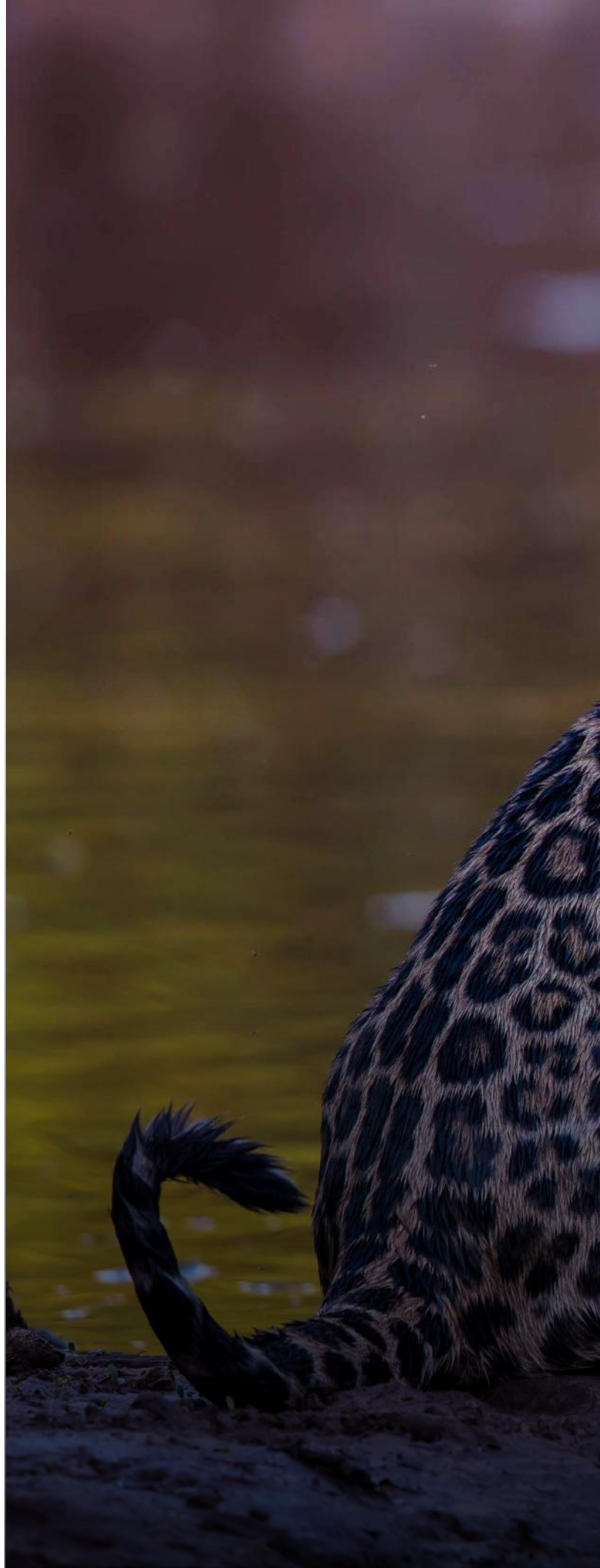
PHOTO CREDITS

Front Cover: Patrick Meier

Inside Cover: Nick Garbutt; **Page 3:** Patrick Meier; **Page 4:** Steve Winter/Panthera; **Page 5:** Steve Winter/Panthera; **Page 7:** Patrick Meier; **Page 8-9:** (from left to right) Steve Winter/Panthera, Rafael Hoogesteijn/Panthera, Steve Winter/Panthera, Rafael Hoogesteijn/Panthera; **Page 10:** Elizeu E. da Silva; **Page 11:** Rafael Hoogesteijn/Panthera; **Page 12:** Steve Winter/Panthera; **Page 13:** Rafael Hoogesteijn/Panthera; **Page 15:** Panthera; **Page 17:** Nick Garbutt; **Page 18:** Patrick Meier



Printed responsibly on certified recycled paper using low-VOC vegetable inks and renewable wind-powered energy.





JOURNEY of the JAGUAR

A close-up photograph of a jaguar standing in a natural setting. The jaguar is the central focus, looking directly at the camera with a serious expression. Its fur is covered in dark, irregular spots and stripes. The background is a soft, out-of-focus natural environment with green and brown tones. A dark, weathered log or branch is visible on the right side of the frame.

AN EPIC ENDEAVOR TO SAVE THE JAGUAR CORRIDOR

Join Dr. Alan Rabinowitz and the scientists of Panthera as they embark on a race against time to secure the path of the jaguar from Mexico to Argentina

Learn more at journeyofthejaguar.org

PANTHERA

**8 WEST 40TH STREET,
18TH FLOOR
NEW YORK, NY 10018
+1 (646) 786 0400**

WWW.PANTHERA.ORG