



101ST ANNUAL MEETING OF THE AMERICAN SOCIETY OF MAMMALOGISTS
17 – 21 JUNE 2022



UNIVERSIDADE
ESTADUAL DO
MARANHÃO



T.G. de Oliveira, L.A. Fox-Rosales, P.H.D. Marinho, D. Dias, A. Pereira, L.P. de Meira, F.H.G. Rodrigues

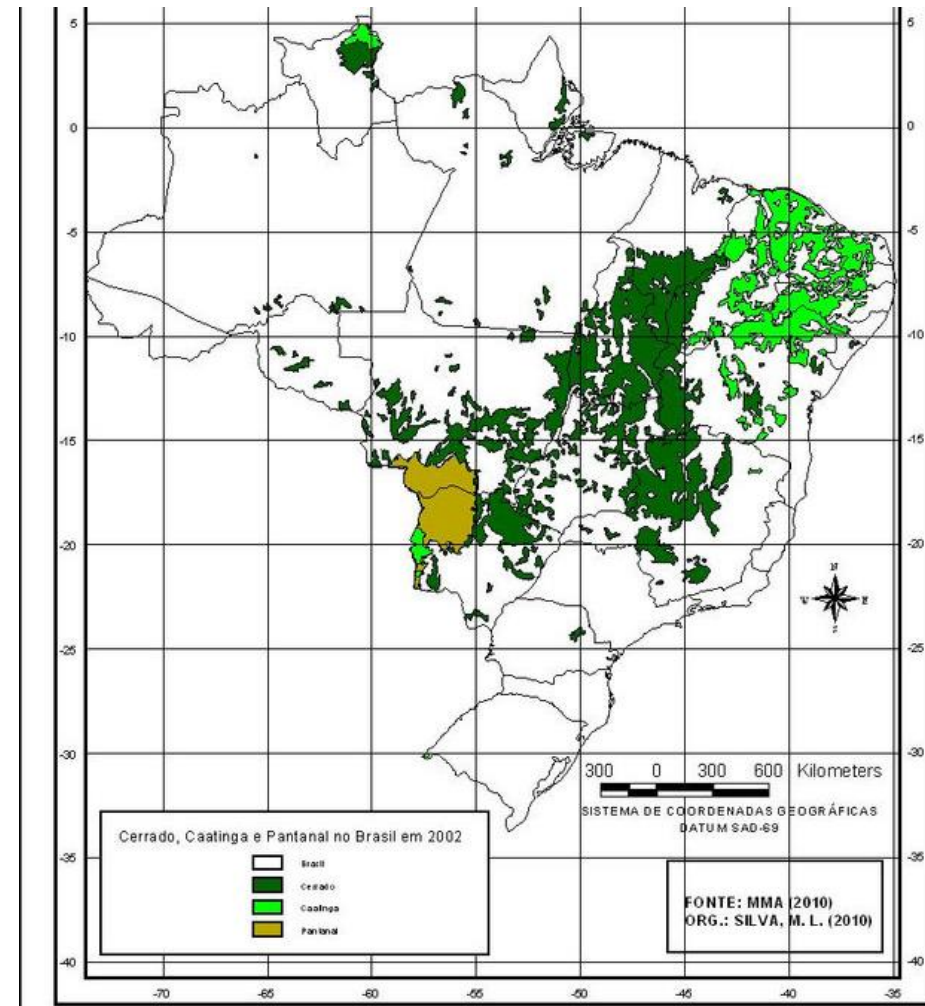
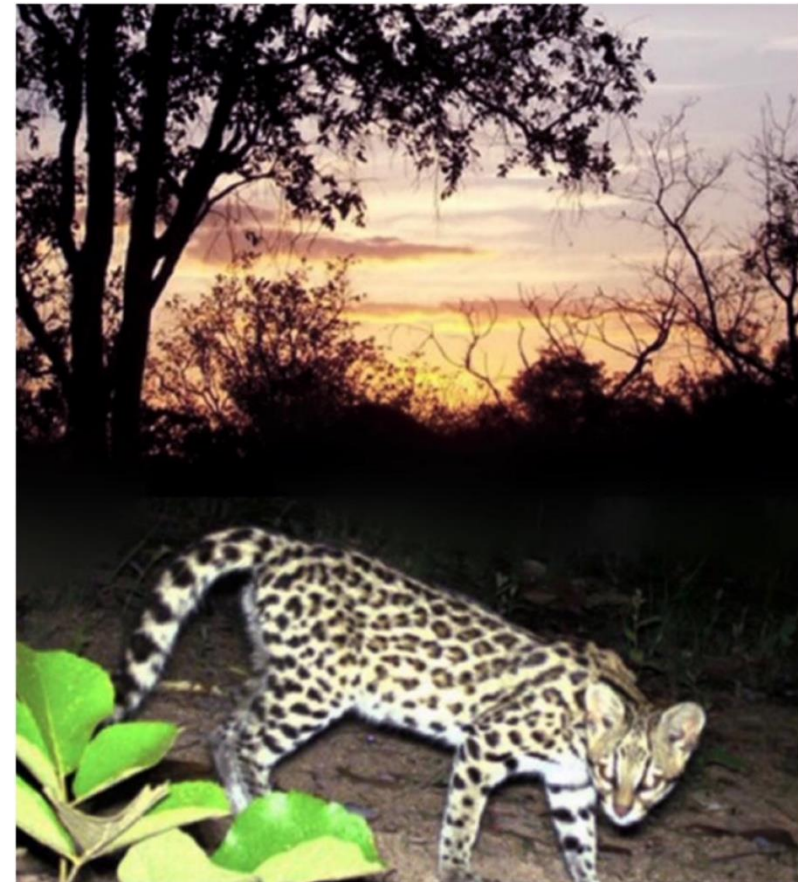
Population assessment of the three small cat specialists of the vanishing Brazilian drylands

INTRODUCTION

- **The Brazilian drylands comprise:**
 - **Savannas (Cerrado)**
 - **Semi-arid thorn shrub-woodland of the Caatinga**
- **These biomes are losing considerable tracts of land due to a series of developments and for being the country's new agricultural frontier**
- **> 50% of their original cover is gone**



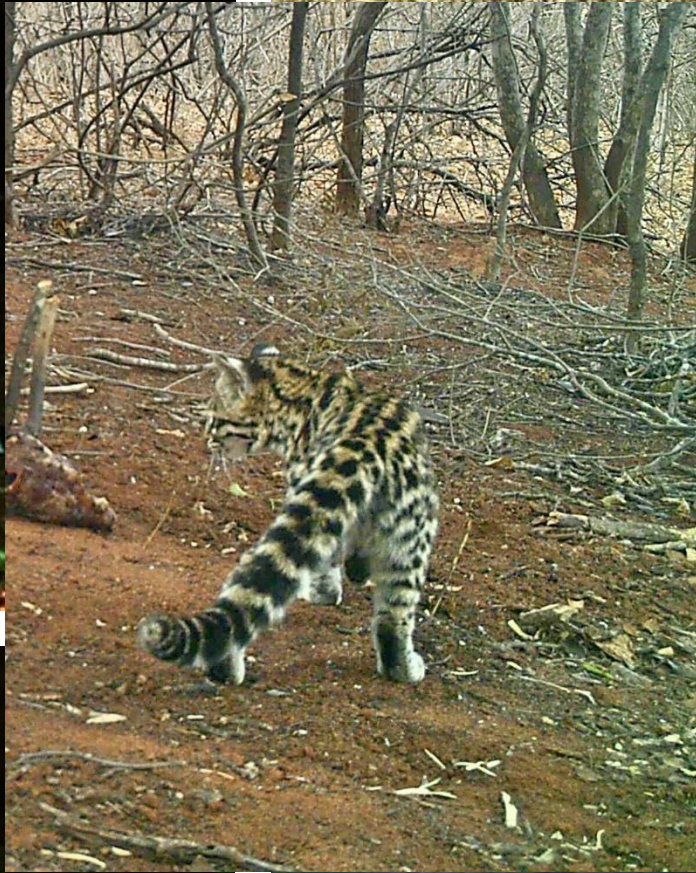
INTRODUCTION



INTRODUCTION

- They comprise the main habitat and range for three small Neotropical cats:
 - lowland northern tiger cat (*Leopardus tigrinus tigrinus*), Vu / En
 - Brazilian Pampas cat (*Leopardus colocola braccatus*), NT / Vu
 - jaguarundi (*Herpailurus yagouaroundi*): LC / Vu
 - → importance for multi-species management
 - → priority area for conservation action





OBJECTIVE

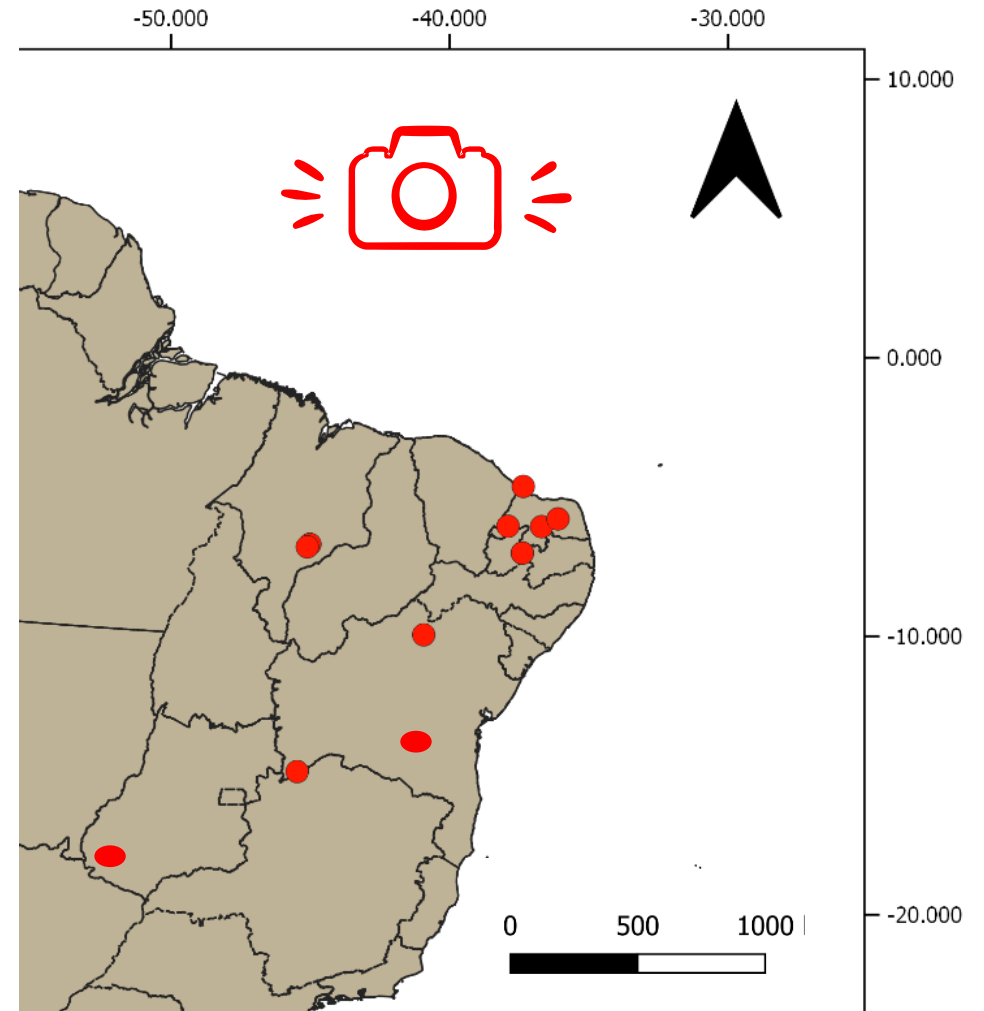
To understand the population patterns of northern tiger cats, Brazilian Pampas cats, and jaguarundis in some of their key, prime, and vanishing habitat types.



METHODS

Population Monitoring through camera trapping

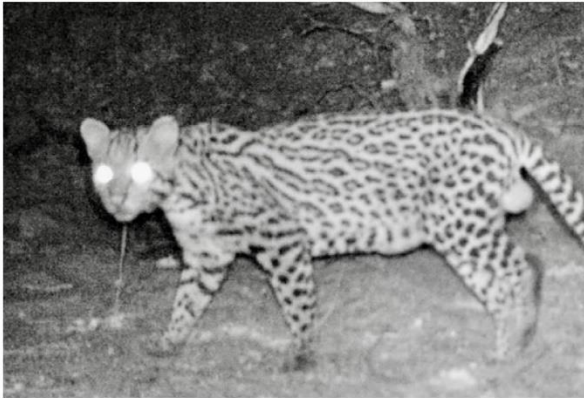
- **Small cat density: non spatial, buffer MMDM – 12 estimates**
- **Relative abundance index (RAI) - *Lcb***
- **Population change: predictions for 3 generations/15 years (IUCN workbook) – 6 estimates (more than 5 years)**



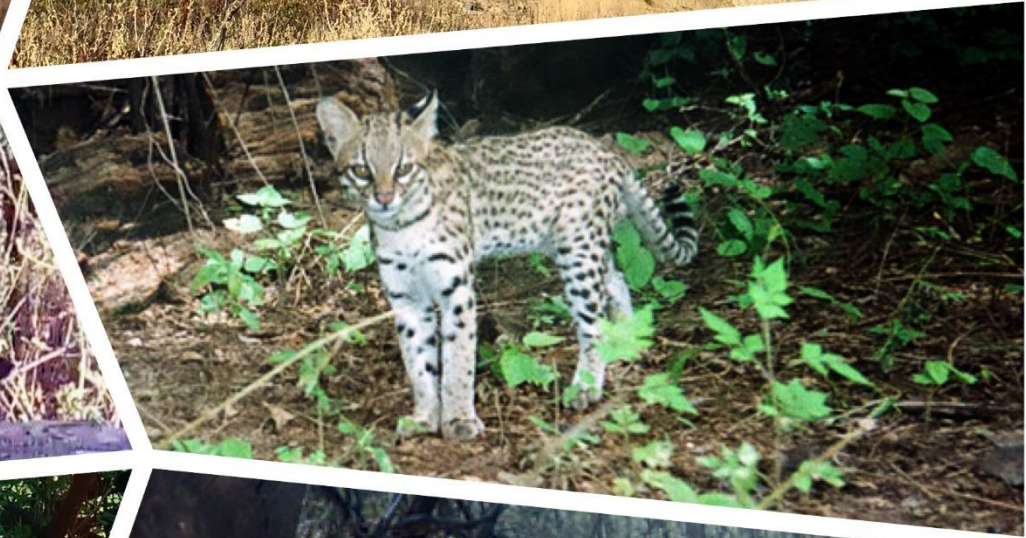
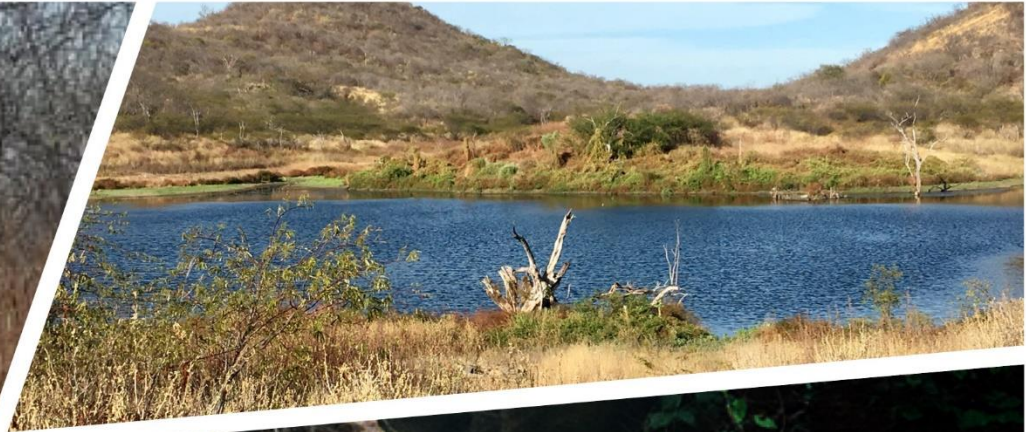
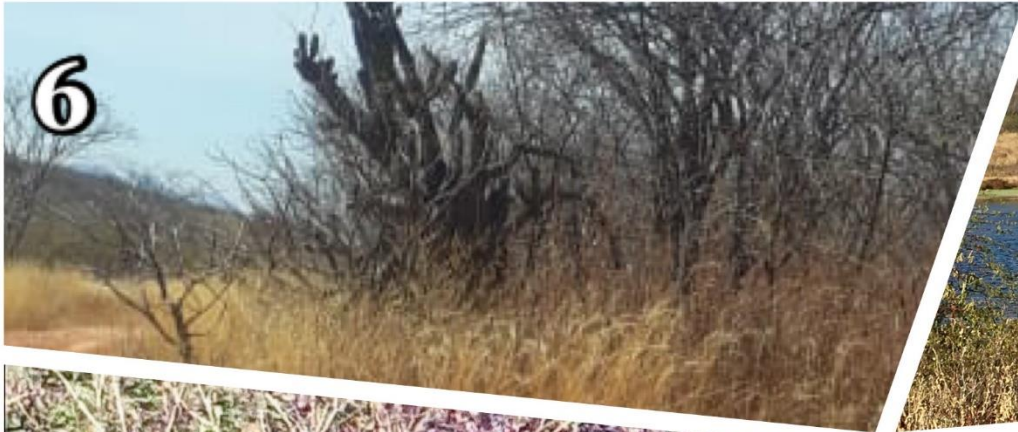
METHODS



METHODS



METHODS



METHODS



METHODS



DENSITY

Density estimation ranged from 0.001 ind/km² to 0.25 ind/km²,
median values at 0.04 ind/km²

Values are highly suggestive that they all possess low densities throughout,
only rarely reaching higher values (> 0.08/km²)

- **Northern tiger cat had higher densities in the dense savannas than in the semi-arid woodland/shrubland of the Caatinga.**
- **Jaguarundi presented very low estimates everywhere.**

Species	Minimum (ind/km²)	Maximum (ind/km²)	N
Northern tiger cat	0.001	0.25	9
Brazilian Pampas cat	0.11		1
Jaguarundi	0.005	0.05	3

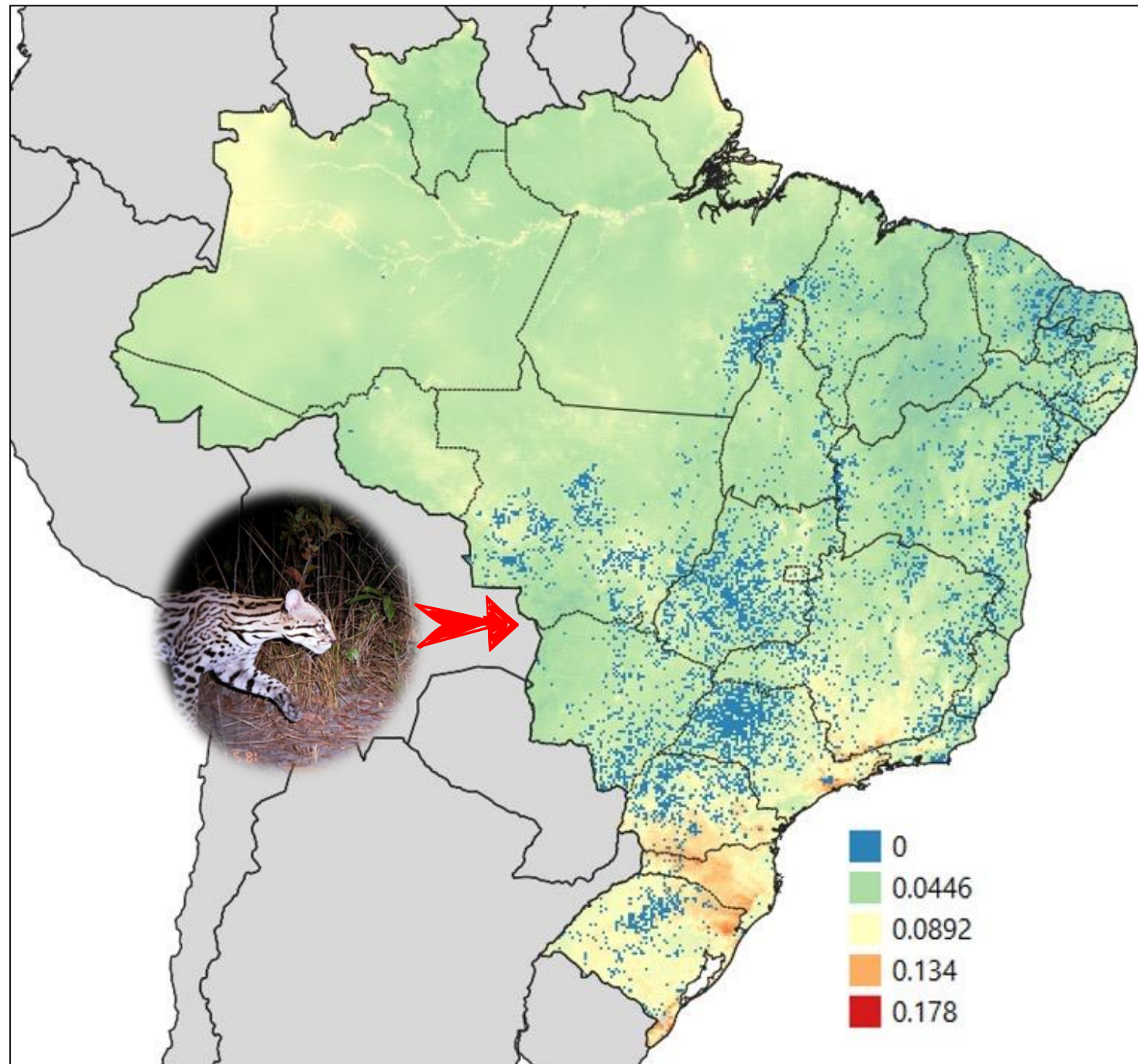
RAI - RELATIVE ABUNDANCE INDEX

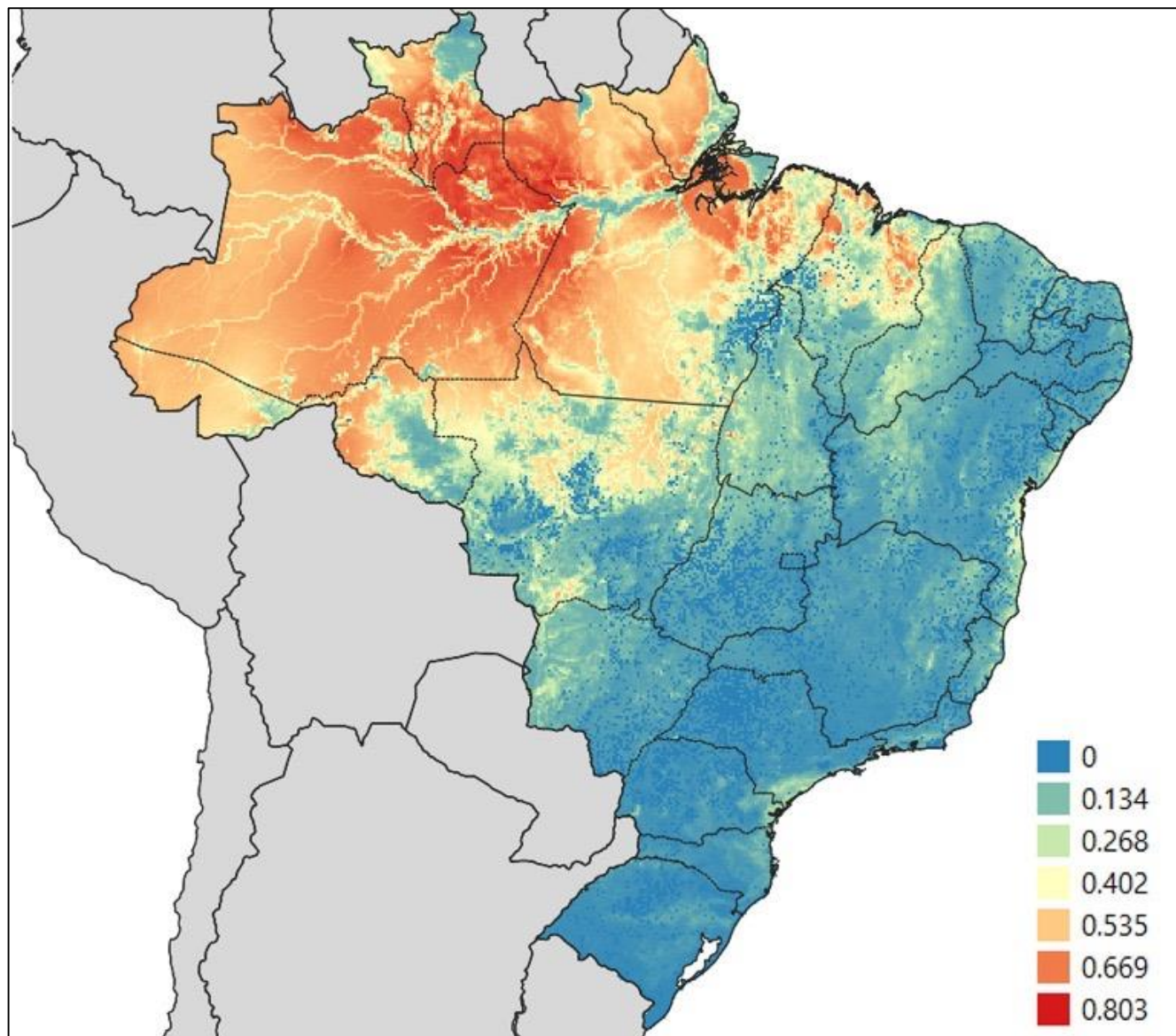
Relative abundance of Brazilian Pampas cat *Leopardus colocola braccatus* in Brazil



	Relative abundance (photos/100 trap-days)	Habitat
Mirador State Park-Cágados, MA	1.100	Savanna
Mirador State Park-Mel, MA	0.028	Savanna
Parnaíba River area, MA/PI	0.063	Savanna
*Emas National Park, GO	0.210	Savanna
*Pantanal	0.014	Marshlands
*Pantanal surrounding area	0.208	Marshlands/savanna
Mean ± standard deviation	0.241 ± 0.416	

Excluding Mirador-C and Emas, average abundance would be 0.078 ind/100 trap-days





PREDICTED OCELOT DENSITY

Ocelot densities were significantly higher in denser vegetation cover ($P < 0.001$) and warmer habitats ($P = 0.005$).

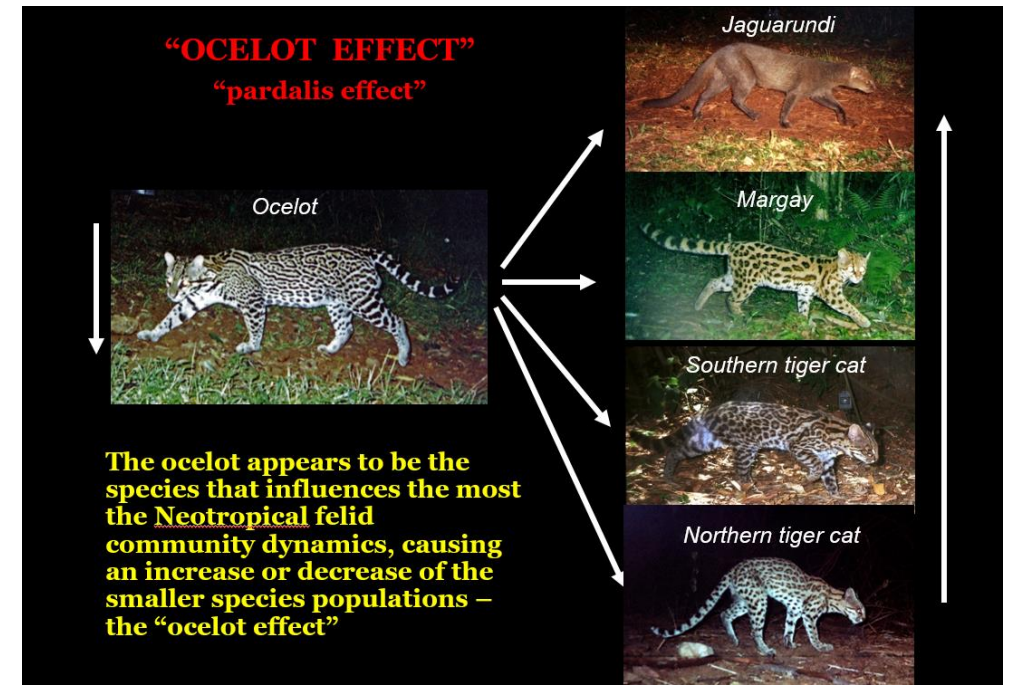


DENSITY



~93.2% of Brazil's territory is predicted to have low densities of small cats, including almost all its drylands.

In the Neotropics, ocelot abundance negatively impact those of smaller sympatric felid species through direct interspecific killing or behavioral/ecological changes by the smaller species to avoid it, the so called 'ocelot effect'



POPULATION TRENDS



Population trend monitoring

POPULATION TRENDS

Considerable population drops for a three generations time-period (15 years) of 39.5-77.7%

Jaguarundi (Patos; 2011 – 2019): -39.5% ↓



Brazilian Pampas Cat:



Mirador State Park (2005 – 2018): -64.3% ↓

Emas National Park (2001 – 2011; Giozza et al., 2018): -55.6% ↓

Northern tiger cat

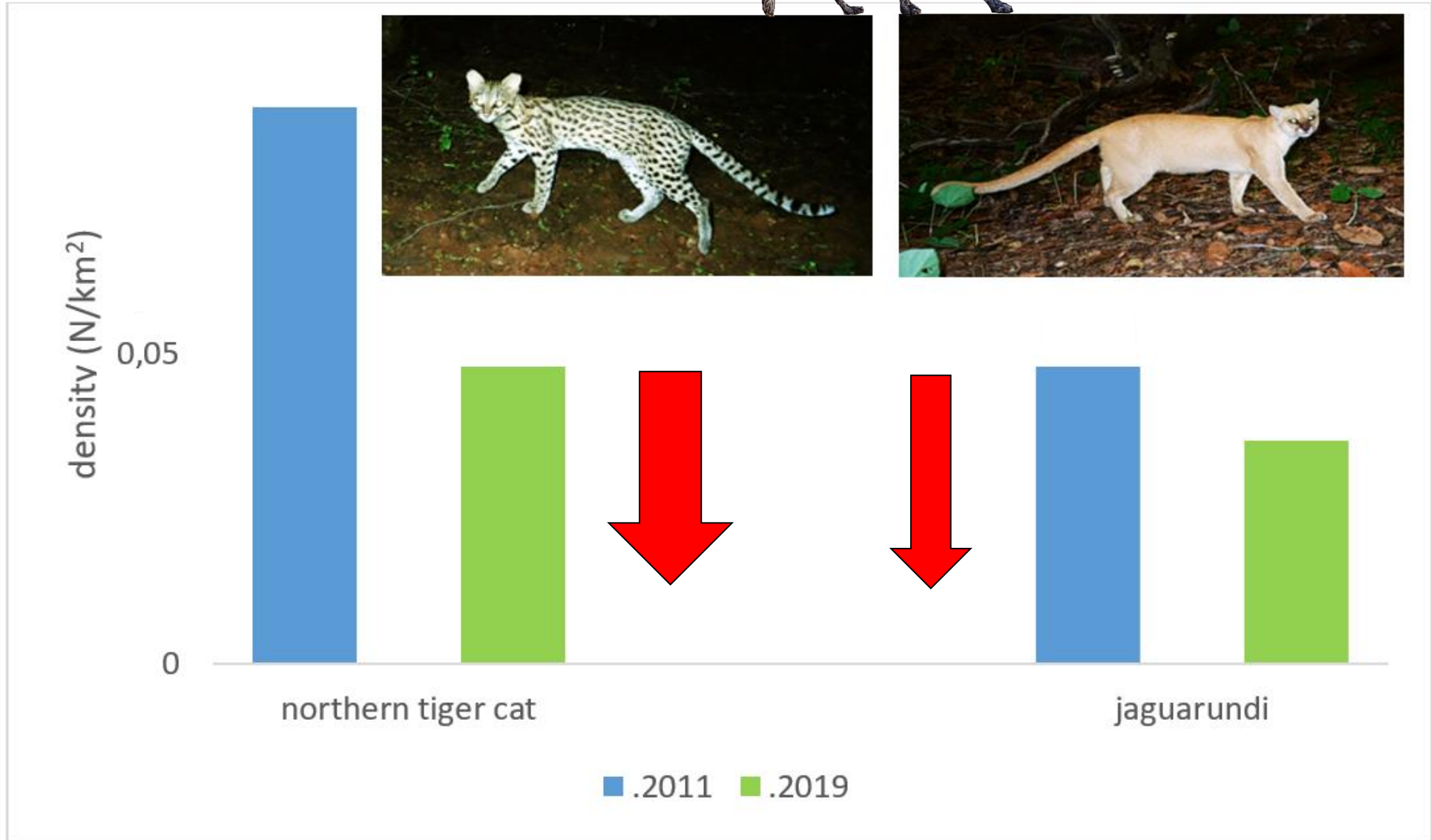
Mirador State Park (Mel; 2013 – 2019): stable ■

Tamanduá Ranch Private Reserve (2011 – 2019): -71.4% ↓

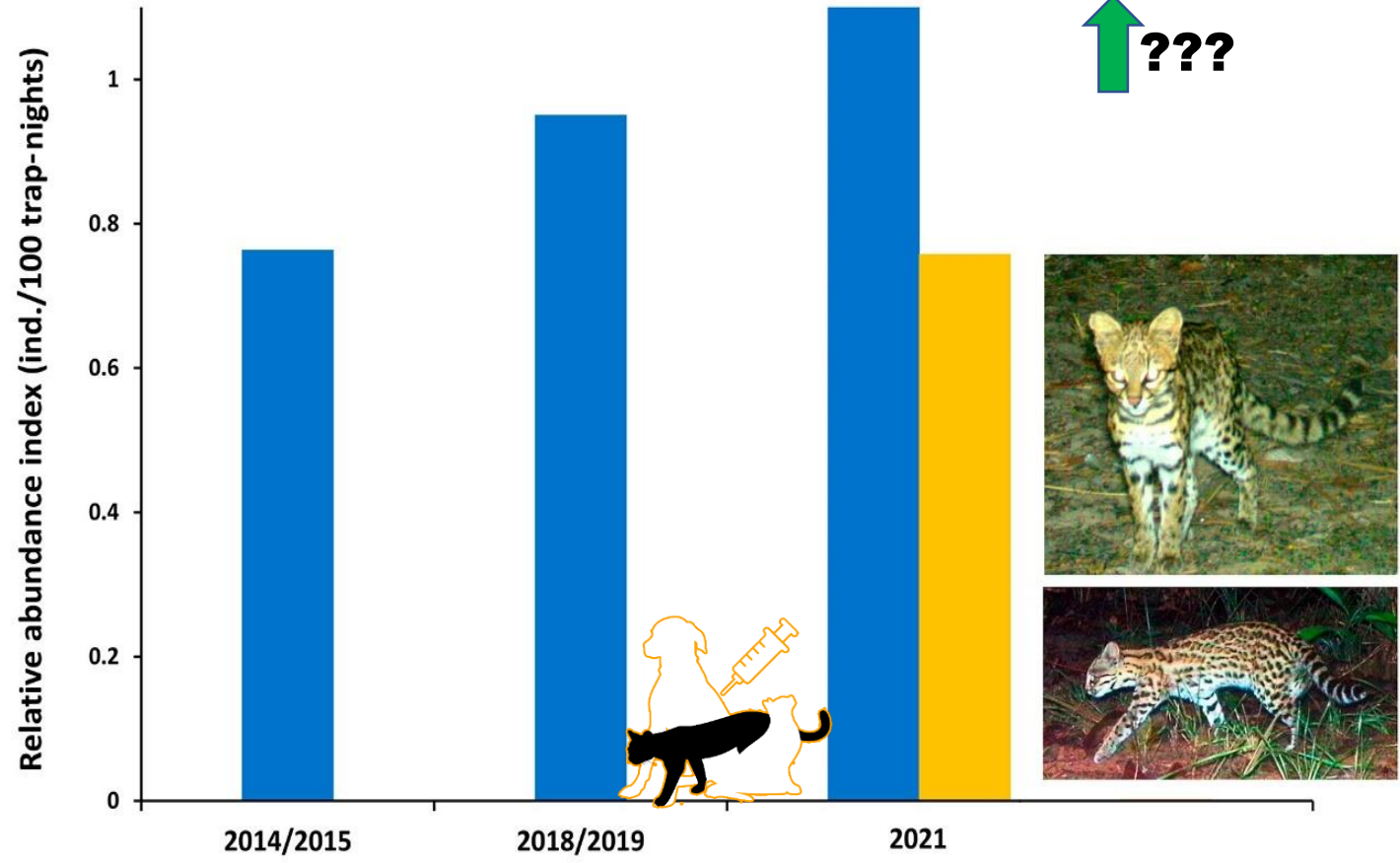
Caetité area (2012 – 2018): -77.7% ↓



POPULATION TRENDS



POPULATION TRENDS



CONCLUSIONS



- **All three small cats are predicted to have low densities in almost their entire range in the drylands and beyond.**
- **Other than Mirador State Park in the N-savannas, there is no other protected area capable of maintaining long-term viable populations of the species.**
- **Conservation strongly dependent upon private lands.**
- **With increasingly higher rates of habitat loss in the core of their range, low/very-low densities/abundance and population drops of significant magnitude, the future of all three species, especially tiger cat and Brazilian Pampas cat is quite worrisome.**

ACKNOWLEDGEMENTS



UNIVERSIDADE
ESTADUAL DO
MARANHÃO



biofaces
www.biofaces.com



صندوق محمد بن زايد



للمحافظة على الكائنات الحية

The Mohamed bin Zayed SPECIES CONSERVATION FUND



