



Fire at Caiman - September 2019

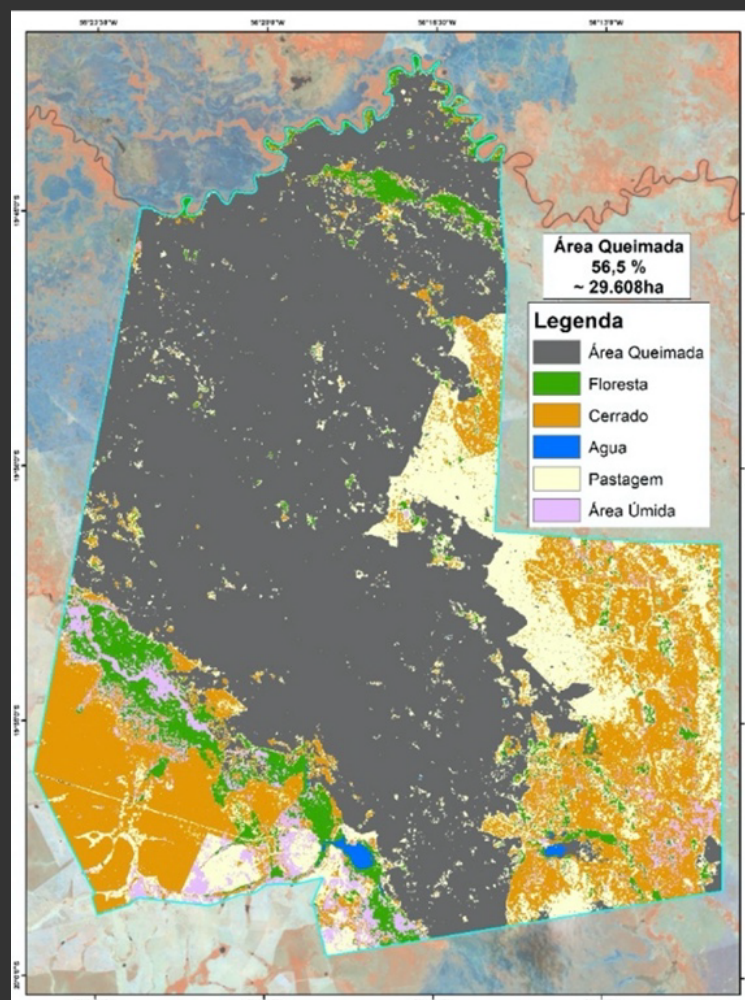
September  
2019

# 1st RESOURCE ALLOCATION REPORT

# CONTEXT

In September 2019, Caiman Ecological Refuge suffered with a wildfire of unprecedented proportions which devastated 60% of its area (approximately 30,000ha or 74,000 acres), largely affecting the rich local flora and fauna.

Through the help of many, we raised substantial funds to recuperate and improve structures which help local fauna to survive the post-fire hardships and prevent future wildfires. The present report describes the allocation of such resources.



Map of burnt vegetation - Satellite Image

# OBJECTIVES

All resources have been and will be used solely in actions towards preserving Caiman Ecological Refuge's Fauna and Flora. It's allocation includes:

1

Devices and infrastructure to aid in preventing and combating future wildfires (fire management plans, drones, water holes, dams and water-wells);

2

Costs derived from Onçafari's equipment losses during the fire;

3

Renovation of the Re-introduction Enclosure damaged by the fire;

4

scientific studies on the impacts caused to fauna and flora.

No resource shall be employed in infrastructure for the farming activity such as fences, power lines, lodges or even Onçafari's nor Caiman's personnel.



Aerial photos of the enclosure – Before and after the fire

# WATER HOLES AND WELLS

Water holes and wells are being renovated and new ones are being built in the Refuge's area with the following purposes:

1

Importance for Fauna;

Droughts have become more frequent in the Pantanal, and water holes end up being extremely important for local fauna, benefiting a diversity of water-dependent animals including mammals, fish, birds, reptiles, insects, amphibians etc. Hence, new water holes are being constructed taking into consideration a fauna friendly depth and declivity, as well as old water holes which are being renovated in order to maintain water for longer periods of time.

In many of these water holes, artesian wells are being created to maintain the water holes always full regardless of future drought's severity. These wells are built with water pumps fed by solar power to replenish the water holes in case it's levels lower below a predetermined limit.



Different species drinking from water holes.



Water holes and wells are being renovated and new ones are being built in the Refuge's area with the following purposes:

**2**

Fire prevention and suppression.

New wells and water holes are being built in strategic locations for future fire suppression activities, serving as water stations near potential fire lines for re-supply of tank-trucks, backpack pumps and related gear.



**Water hole in renovation**



**Renovated Water hole**

## SCIENTIFIC STUDIES

In partnership with the Federal University of Mato Grosso do Sul (UFMS) we've been carrying out studies to monitor the post-fire vegetation recovery in different vegetational formations occurring at Caiman Ecological Refuge. Identifying the different plant species and changes in their composition with time, we seek to understand the extension and nature of the impacts the fire has caused on the flora. This work will generate a species list, pointing species that are bioindicators, endemic or threatened with extinction. All specimens collected shall be available for future research at UFMS's herbarium.

Finally, the research aims at pointing specific measures for the conservation of the assessed environments, including future actions for efficient fire management that will prevent the occurrence of fire in such proportions. Such results and measures are of great interest not only for Caiman Ecological Refuge but for any institution engaged in Conservation of the Pantanal and the Cerrado.

# FIRE MANAGEMENT AND SUPPRESSION PLAN

The Operative Fire Management and Suppression Plan (POMCF in Portuguese) aims at consolidating data from Caiman Ecological Refuge to produce organic fuel and dry biomass control strategies, prevent forest fires and supply information for wildfire suppression operations.

The Plan includes:

- 1 Mapping soil cover, occupation and use at Caiman;
- 2 Assess vegetational types relating to fire occurrence;
- 3 Mapping burnt areas of the last 10 years inside and around Caiman's area (inside a 10 km radius);
- 4 Define vulnerable areas;
- 5 Elect priority areas for protection;
- 6 Demarcate areas for legally authorized controlled fires and building firebreaks (either by mechanical clearing or controlled burning);
- 7 Define local patterns of wet and dry seasons;
- 8 Train team to undertake daily monitoring during dry season;
- 9 Investigate weather stations in Caiman's vicinities;
- 10 Organize a plan of action for fire suppression, brigade organization and demobilization.

The 'POMCF' Plan is under supervision of a geographer specialized in fire monitoring in protected areas, experienced in projects of regional and national range together with IBAMA, ICMBio and INPE (renowned governmental environmental and research institutions) and environmental consultancy companies.

# RAISED FUNDS:

The crowdfunding campaign made through the [Kickante platform](#) in Brazil raised **R\$105,170.00**.

A second campaign was done with a similar international platform called [GoFundMe](#) and raised **R\$110,673.26**.

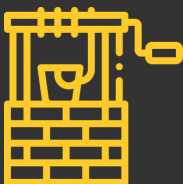
Additionally, we had direct donations made by independent donors from Brazil, United States and Europe, besides donations from companies which support our work such as ISA CTEEP and Bank of America.

The funds raised by the crowdfunding campaigns totaled: **R\$215,843.26**.

## Partial Report of Resource allocation:

Item A: Building and Renovation - **R\$74.736,50**

3



artesian wells

3



water holes

3



pre-existing water  
holes renovated

Resources in item A were employed in the following manner:

1. 1-day lease of truck;
2. 1-day lease of crane;
3. 132 hours lease of Hydraulic Excavator;
4. Salary of the heavy-machinery operators for the vehicles above;
5. Fuel for the heavy machinery;
6. Food the heavy machinery operators.



Item B: Replacement of Onçafari's equipment destroyed - R\$ 4.486.11

1



Spotlight

7



Camera traps, including batteries and memory cards



Camera traps destroyed by fire



Item C: Re-allocation of jaguar "Jatobazinho" from the enclosure to safe location during the fire and he's return after the fire - R\$9.160,00

3



hours of flight (Airplane model: Cessna 206)



Jaguar "Jatobazinho" being transferred by airplane

Item D: Scientific studies about post-fire resiliency of Pantanal's Fauna and Flora - **R\$15.143,11**

Resources in item D were employed in the following manner:

1. Equipment acquisitions – (HardDrives, Camera Traps, batteries, memory cards);
2. Budget aid for research team (gear, travel costs, food etc.).

Item E: Crowdfunding campaigns costs - **R\$20.901,05**

Resources in item E were employed in the following manners:

1. Fundraising platform fee (10% of resources);
2. Cost of products/rewards;
3. Mailing and labor cost for dispatching rewards.

Item F: Purchase of Drones to aid at Fire Suppression and fauna monitoring - **R\$12.064.65**

Os recursos do item E foram gastos da seguinte forma:

1. Porcentagem plataformas de captação (10%);
2. Custo dos produtos/recompensas;
3. Correios e mão de obra para envio de recompensas.

3



were donated



Drones donation: Fireman Department of Mato Grosso do Sul /Corpo de Bombeiros do Mato Grosso do Sul (for aid in fire suppression operations)



Drones donation: Hyacinth Macaw Institute / Instituto Arara Azul (Fauna monitoring).



Drones donation: IBAMA – PREVFOGO, fire prevention and suppression section of the Brazilian Institute of Environment (for aid in fire suppression operations);

# FINAL CONSIDERATIONS

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The employed resources at 6 months after the fires - until 9th March 2020 - totaled: R\$136,491.42, leaving a balance of R\$79,351.84 to be invested in the next stages.

There is still a lot to be done, and in our next steps, more water wholes and wells will be built, the Onçafari's Re-introduction Enclosure will be renovated, the flora recovery scientific studies continued and the Operative Fire Management and Suppression implemented.

Soon, we'll send more news in a new report.

Thank you for all your support,

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**Address**

R. Ferreira de Araújo, 221/225 – Cj.14Pinheiros – São Paulo/SP –  
CEP: 05428-000

**Contacts**

[info@oncafari.org](mailto:info@oncafari.org)  
(11) 3094-7050