The Role of Private Forest Reserves in Biodiversity Conservation in Brazilian Amazon

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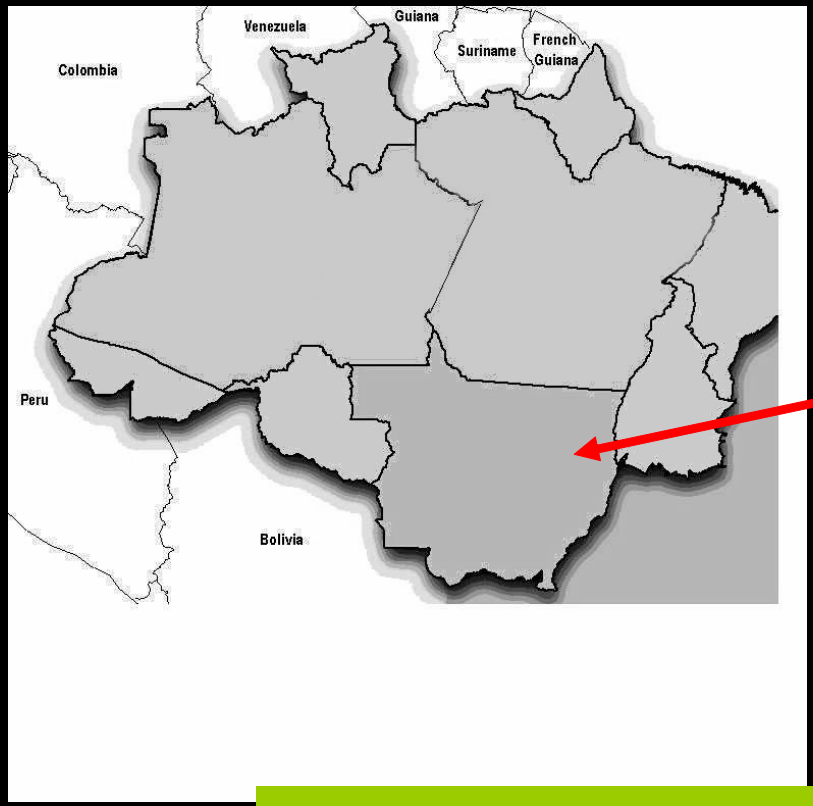
MOTIVATIONS

- *High deforestation & degradation rate*
- *600,000 km2 of private-land forest reserves (3 times larger than the Amazon park system)*



Tanguro Site

- *82,000 hectares*
- *Transitional Forest*
- *Fire eliminated*
- *Recuperating streams & riparian zones*
- *Owner: Grupo AMaggi*

Forested areas

- *Size & human activity in the surrounding matrix*
- *Degradation intensity*

Private Riparian Reserve (APP) Project

Regeneration Processes

WITHOUT INTERFERENCE

- Monitoring of natural regeneration processes

WITH INTERFERENCE

- eliminating grasses (fire, shade)
- introduce seedlings & saplings
- eliminating dams

APP Project

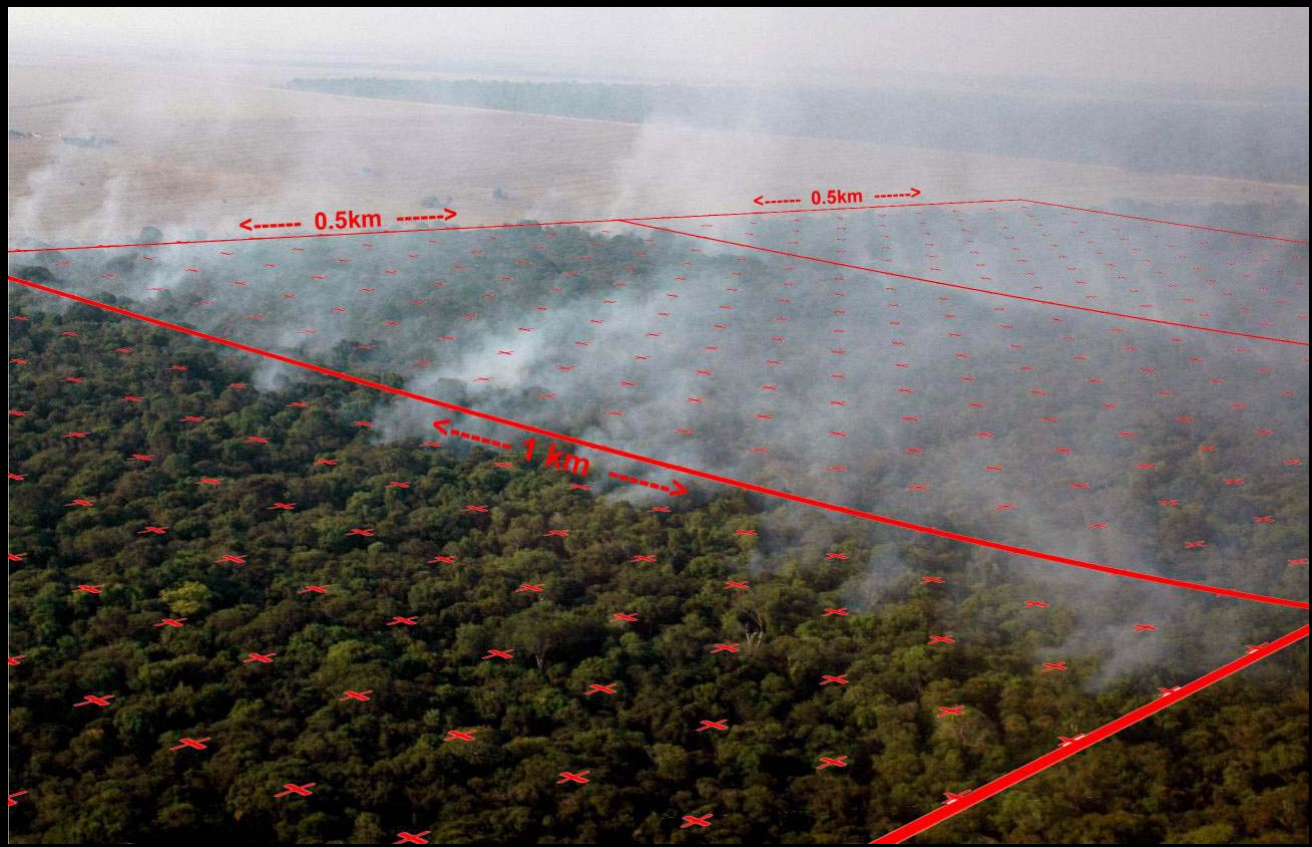
What we are/will monitor

WATER
- temperature
- turbidity
- conductivity
- pH
- dissolved oxygen
- agro-chemicals

VEGETATION
- Species Composition
- Species Abundance
- Regeneration processes

FAUNA
- Species Composition & Abundance of:
- Mammals, Birds, Fish, Amphibians, Reptiles and Butterflies
- Role of these animal groups in regeneration processes

Experimental Fire Project

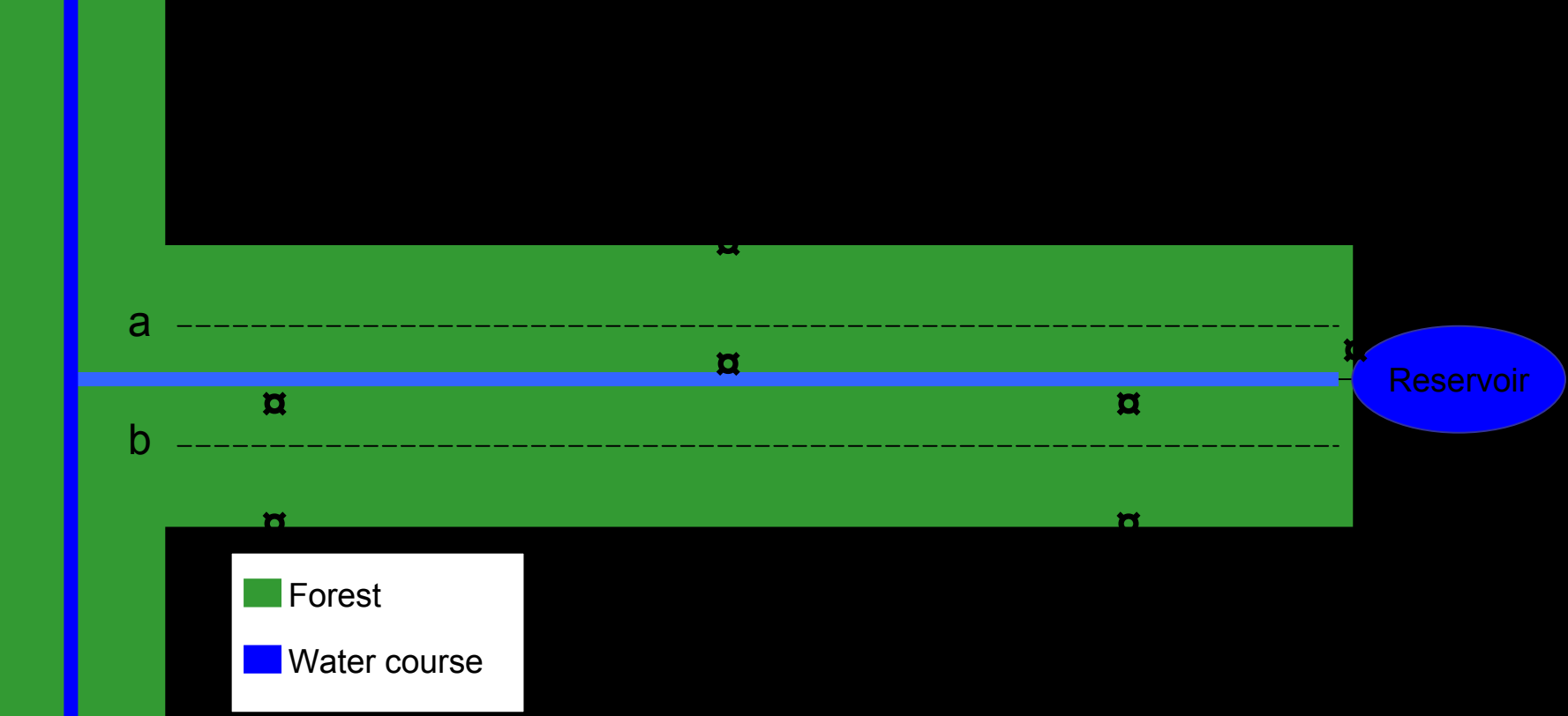


Intact control

Moderate degradation

Heavy degradation

Mammal Sampling Sites



1) Diurnal animal census on trails
2) Nocturnal mammals
   - CameraTrakkers (¤) in each APP, baited weekly with fruit or sardines/tuna
3) Other evidences:
   - tracks observed in the forest&reservoir border
   - *ad libitum* observations

PRELIMINARY RESULTS

Mammal

Sample Size & Registration Index

120 NIGHT/TRAPS
10 recordings
(0,08)

→ Intact control

240 NIGHT/TRAPS
28 recordings
(0,12)

→ Moderate degradation

90 NIGHT/TRAPS
16 recordings
(0,18)

→ Heavy degradation

Number of species

07	Intact control
08	Moderate degradation
06	Heavy degradation

0,016	0,008	30% →	Intact control
0,06	0,029	50% →	Moderate degradation
0,01	0,07	82% →	Heavy degradation

Large Mammals at Tanguro

Order	Expected	Observed	Animal
Artiodactyla	4	4	Deer, Peccary
Carnivora	14	9	Cats, Dog, Fox
Didelphimorphia	4	4	Opossum
Lagomorpha	1	0	Tapeti
Perissodactyla	1	1	Tapir
Primates	**2**	**3**	Monkeys
Rodentia	4	4	Capybara, Paca
Xenarthra	7	5	Armadillos
Total	**37**	**30**	**~80%**

Results from census, tracks and other evidences

Summary Results to Date

- ***~80% of expected species***
- ***Species composition is similar among degraded sites***
- ***Somes species seems to be favoured by riparian forest isolation and degradation, specially*** **Tapirus terrestris** ***(tapir) and probably for*** **Agouti paca** ***(paca)***
- ***Reservoir is an important factor to species abundance, specially for Tapir***

Next Steps

- **Evaluate impacts of forest fire on mammals**
- **Include other animal groups (birds, reptiles, insects..)**
- **Simulation modeling of mammals in agricultural landscapes**

Crab eat fox

Armadillo

Peccary

Opossum

Tapir