

Deforestation



MUNICIPALITY	STATE	%
Chapadão do Céu	GO	79
Mineiros	GO	56
Portelândia	GO	74
Santa Rita do Araguaia	GO	62
Serranópolis	GO	96
Alcinópolis	MS	55
Aquidauana	MS	59
Corguinho	MS	72
Costa Rica	MS	72
Coxim	MS	60
Pedro Gomes	MS	58
Rio Verde	MS	61
Rio Negro	MS	63
Sonora	MS	56
Alto Araguaia	MT	51
Alto Garças	MT	57
Alto Taquari	MT	79

Deforestation

- In 2000: > 40% of natural habitats altered for cattle ranching and/or introduction of exotic grasses (12,182 Km²)

Source: Padovani *et al.* (2004)

In 2005:

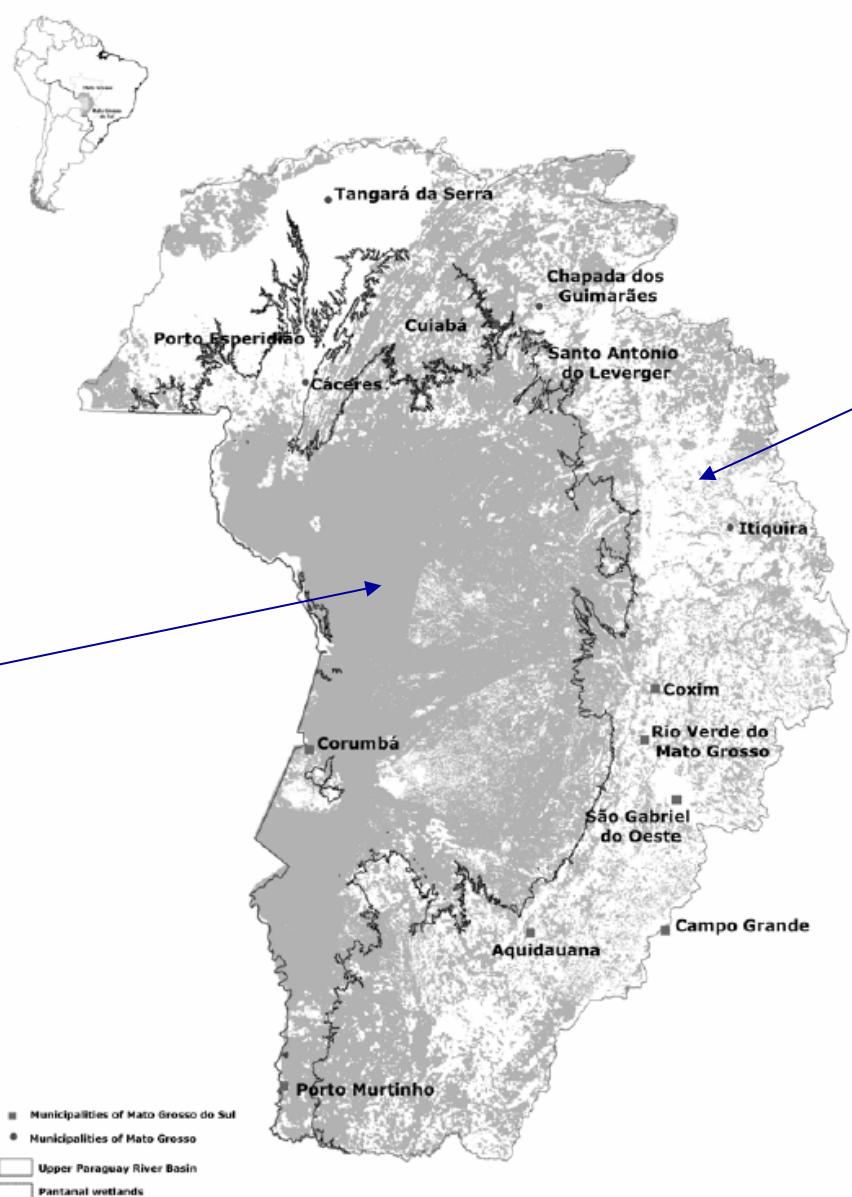
- Charcoal production in the floodplain and surrounding areas for steel plants in Minas Gerais state (3,111,630 MDC); 85% from natural vegetation (savana)

• Source: IEF (2006)



Deforestation

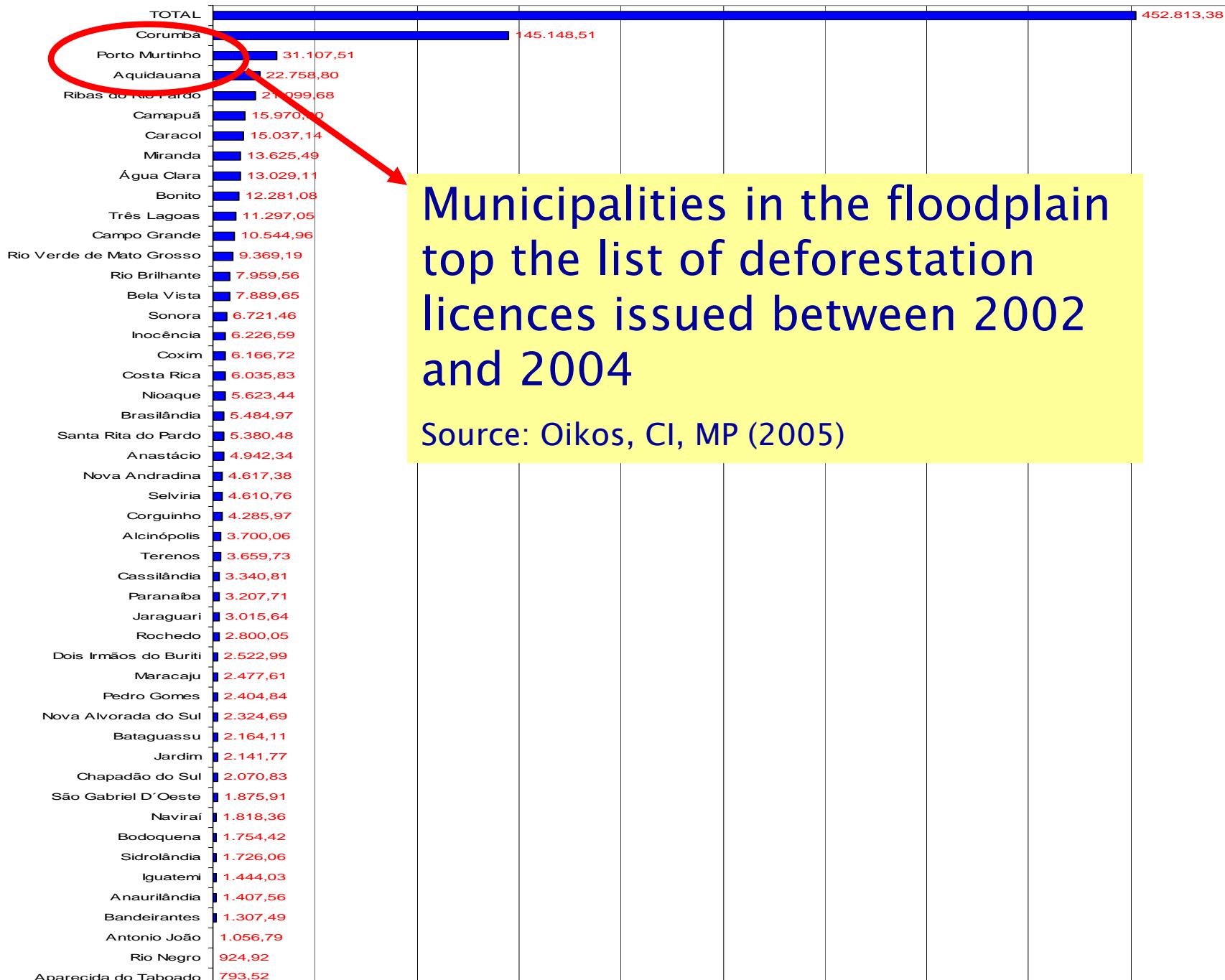
17%



63%

2,3 % / year
rate of deforestation

PEDIDOS DE AUTORIZAÇÕES DESMATAMENTO SEMA/IMAP EM MS
PERÍODO: 2002 / set de 2004



Municipalities in the floodplain top the list of deforestation licences issued between 2002 and 2004

Source: Oikos, CI, MP (2005)

Determining factors in land value

What are the variables which determine the value of land?

Location	Average value of land (per ha)	Land value with APP and RL (per ha)	Land value without APP nad RL + soya (per ha)	Land value with <i>Brachiaria</i> (por ha)
Plateau	R\$ 2.113,82	R\$ 1.522,55	R\$ 2.143,11	-
Transition	R\$ 1.326,12	R\$ 1.285,64	-	
Pantanal	R\$ 527,00*	-	-	R\$ 1.047,38

*with 100% of land dry (no flooding) and 0% cultivated pasture

Determining factors in land value

What are the variables which determine the value of land?

If soya production increases, for each 1% of farmland = > R\$ 29,29/hectare;

If Reserve area increases, for each 1% of farmland = < R\$ 40,48 / ha;

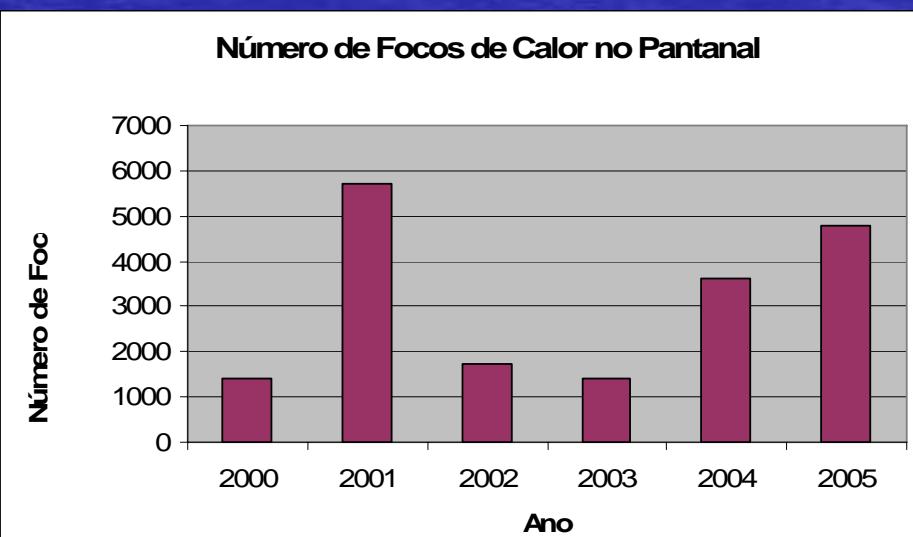
If pastureland increases, for each 1% of farmland = > R\$ 10,19/ha.

Source: Conservação Internacional, 2003



Fire

- It used to restore pastures and control cattle related pests;
- Despite the use of fire having been controlled, the Pantanal continues to burn;
- Uncontrolled fires do not restrict themselves to pastures but also burn across the savanas and riverine forests.



Infrastructure projects

- Hydroelectric power plants and PCH – impact on fish populations



- The alteration of hydrologic regime severely threatens the Pantanal's ecological balance

Infrastructure projects

- Hidrovia Paraguai – Paraná - severe threats related to flow alteration, changes of flood pulse and loss of aquatic biodiversity

Argentina:	.....	1.240 Km
Brasil:	.....	890 Km
Paraguay:	.....	557 Km
Paraguay – Argentina:	.....	375 Km
Brasil – Paraguay:	.....	332 Km
Bolivia – Brasil:	.....	48 Km
Total:	.....	3.442 Km



Infrastructure projects

- Hidrovia Paraguai – Paraná



Infrastructure projects

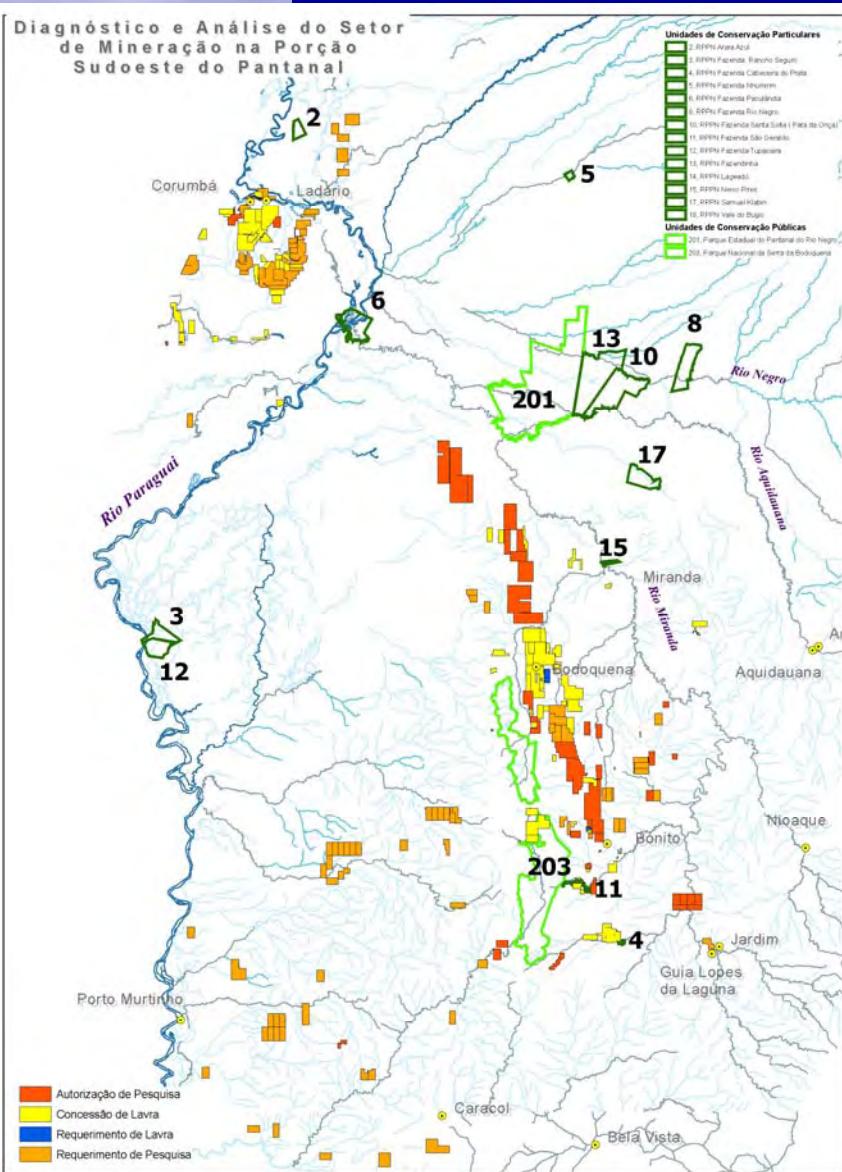
IIRSA - Iniciativa para a Integração das Infra-estruturas Regionais Sul-Americanas



Cenário futuro esperado

Agenda de Implementação Consensual 2005-2010

Mining



Main substances

- Iron ore and manganese
- Granites and *limestone*
- Sand and clay

Main impacts

- Erosion and siltation of water courses
- Pollution of water courses (Hg)
- Gas emission
- Vegetation suppression

Mining associated impacts

Brasil:

- Development of processing industries within the floodplain
- Pipeline Bolívia - Brasil
- Energy for steelplants: Biomass ?? and thermoelectric
- Transportation – by the river

Bolívia:

- Process replicated in Bolivia
- Puerto Busch and Otuques National Park
- Mutum – Indian company



Steel centre projects

- Steel plant projects, increase of mining and related infrastructure are threatening the Pantanal region and surrounding areas.





Exotic species

- Golden mussel (*Limnoperna fortunei*) and the giant african snail (*Achatina fulica*)
- Feral pigs, introduced a century ago, widely distributed and abundant; impacts still unknown
- Two fish species from the Amazon basin introduced via the Itiquira and São Lourenço rivers: **tucunaré** (*Cichla ocellaris*) and **tambaqui** (*Colossoma macropomum*)
- Buffalo introduced as an alternative to cattle

Polution

- Pesticide residues from soya encountered in several rivers;
- Raw sewage from all cities within the floodplain ;
- Heavy metals like mercury from old gold mines is still found in the food chain;
- Sugar cane residue, a potential threat to the floodplain



Hunting and Fishing

- Fishing – important economic activity. Direct and indirect benefits (from selling the fish to tourism...);
- Effort concentrated on very few species causing overfishing of some such as the Pacu *Piaractus mesopotamicus*;
- Isolated Policies;
- Illegal capture and sale of live baits;
- Hunting – not a major problem, attention to farmers / jaguar conflict and sport hunting!



NOME (Nome Científico)	Tamanho Mínimo
JAÚ (<i>Piaractus juestekii</i>)	95cm
PINTADO (<i>Pseudoplatystoma coruscans</i>)	80cm
CACHARA (<i>Pseudoplatystoma fasciatum</i>)	80cm
BARBADO (<i>Pinirampus pinnanus</i>)	60cm
DOURADO (<i>Salminus brasiliensis</i>)	55cm
PACU (<i>Piaractus mesopotamicus</i>)	45cm
CURIMBATÁ (<i>Prochilodus lineatus</i>)	38cm
PIAVUÇU (<i>Leporinus macrocephalus</i>)	38cm
PIRAPUTANGA (<i>Brycon macrostomus</i>)	30cm

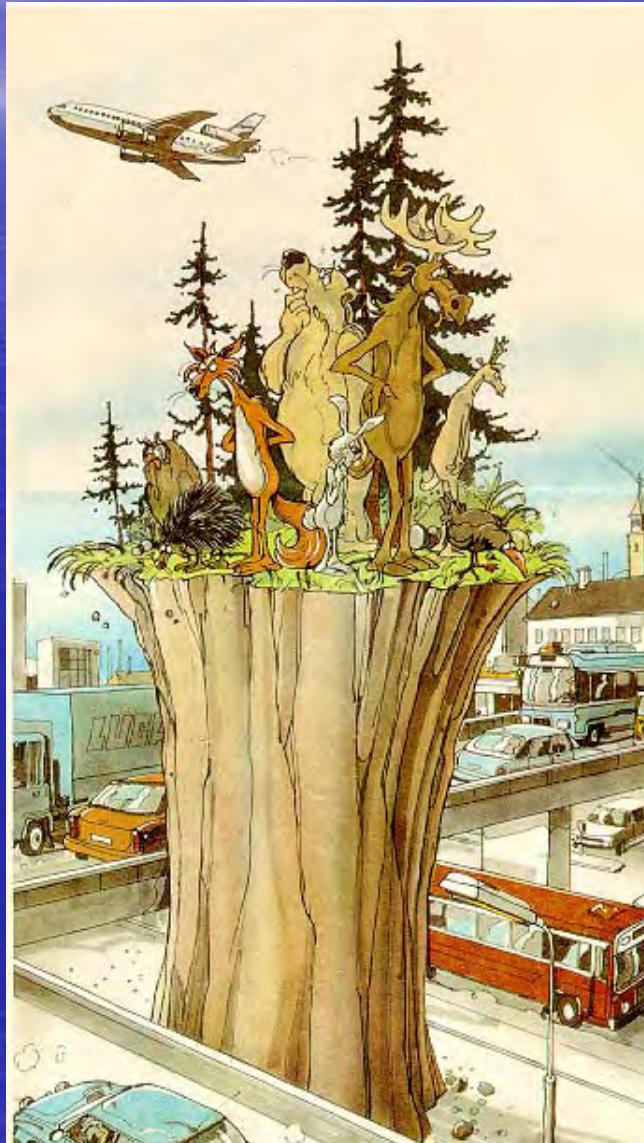
Lack of Protected Areas

- Only 2.5% of the UPRB is officially protected as parks and reserves (264,300 ha)
- Existing PA – created opportunistically and do not protect representative areas of the Pantanal
- Paper PA – Land tenure problems, no management plan or enforcement
- As demands for agriculture land grows, PA are curbed and even indigenous land are under threat

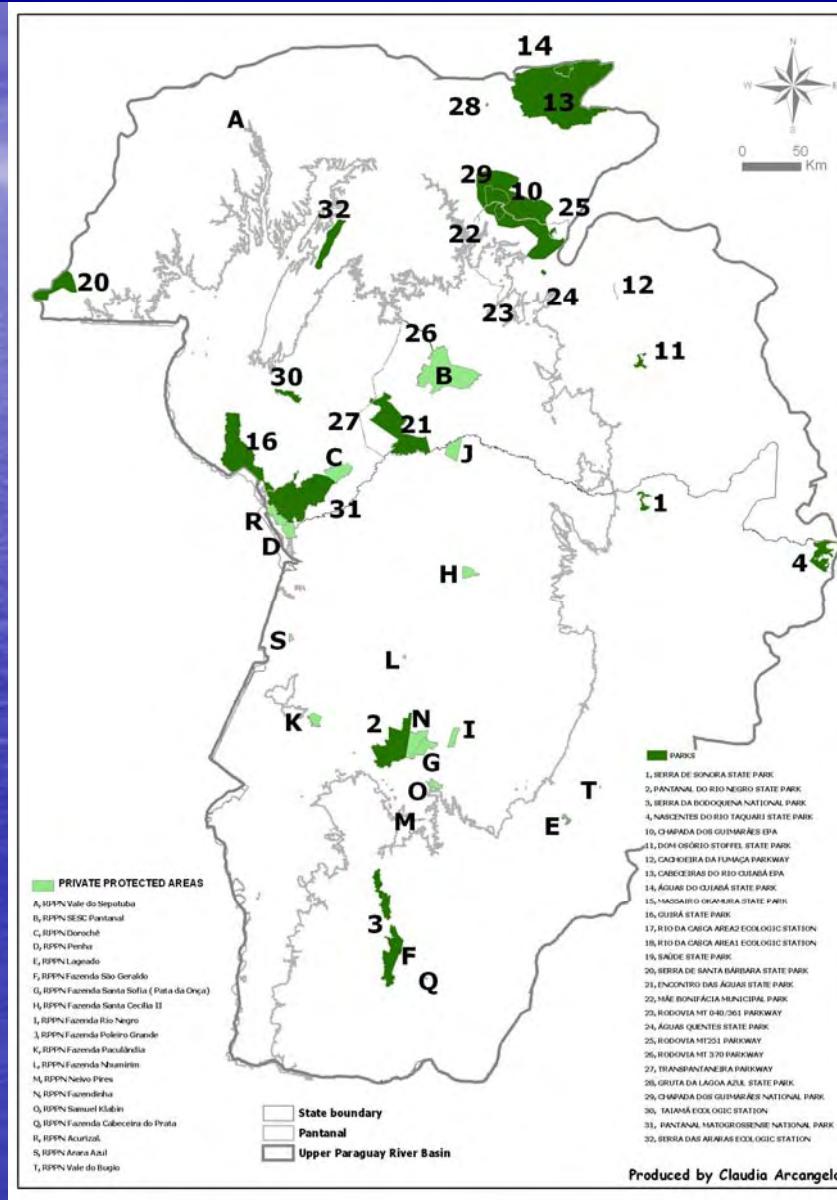


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- Only 2,5% of the UPRB is officially protected as parks and reserves (264,300 ha)
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- As demands for agriculture land grows, PA are curbed and even indigenous land are under threat.
- Private reserves are a good opportunity to protect Pantanal region; over 95% of the area is private property.



Lack of Protected Areas



Lack of appropriate public policy

- Need to integrate specific policies between states
- Need a sustainable development policy for the region, in order not to benefit one sector over another (Ex: hidrovia)
- Lack of incentive to maintain traditional low impact activities (extensive cattle ranching) and bureaucracy to work with ecotourism
- Strict analysis of infra-structure projects (steel plant, IIRSA, etc.)

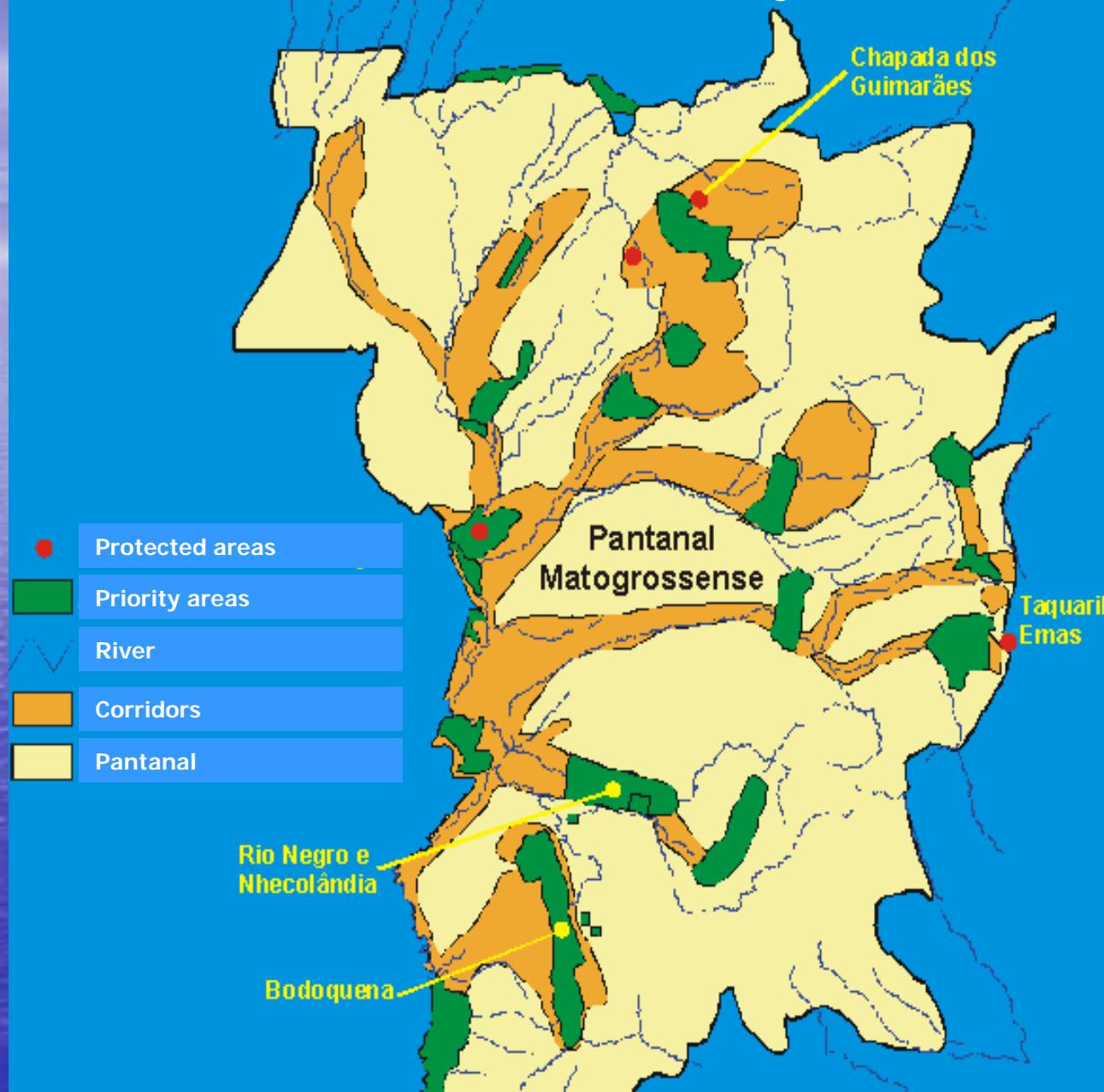


HOW DO CI ADDRESS THESE THREATS ?

- Supporting the increase of protected areas (public and private areas)
- Implementing the Biodiversity Corridors
- Building a large partners network
- Promoting biodiversity assessments
- Restoring damaged areas
- Promoting the engagement of the governments and the landowners

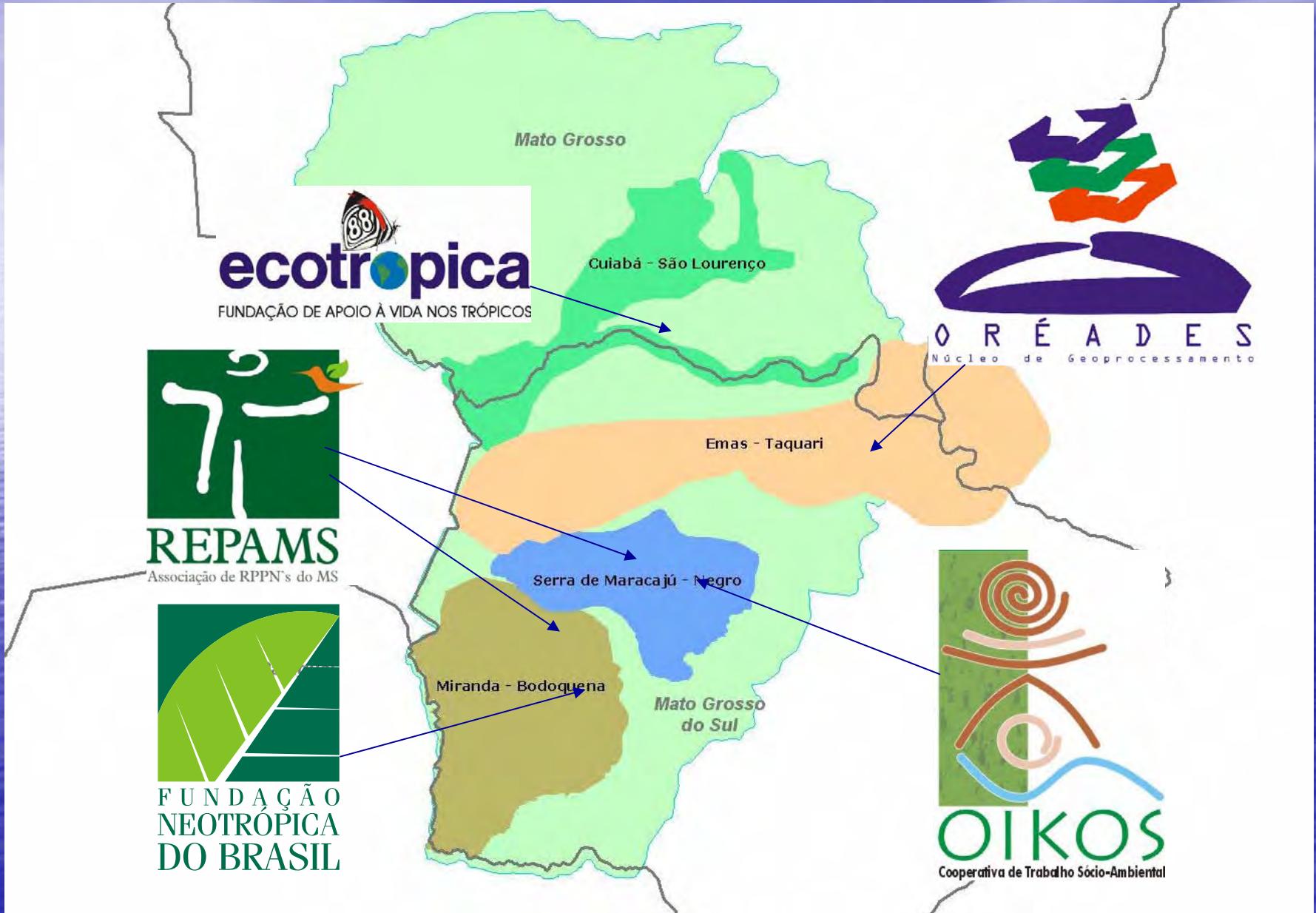
**We are working to avoid
species extinction !**

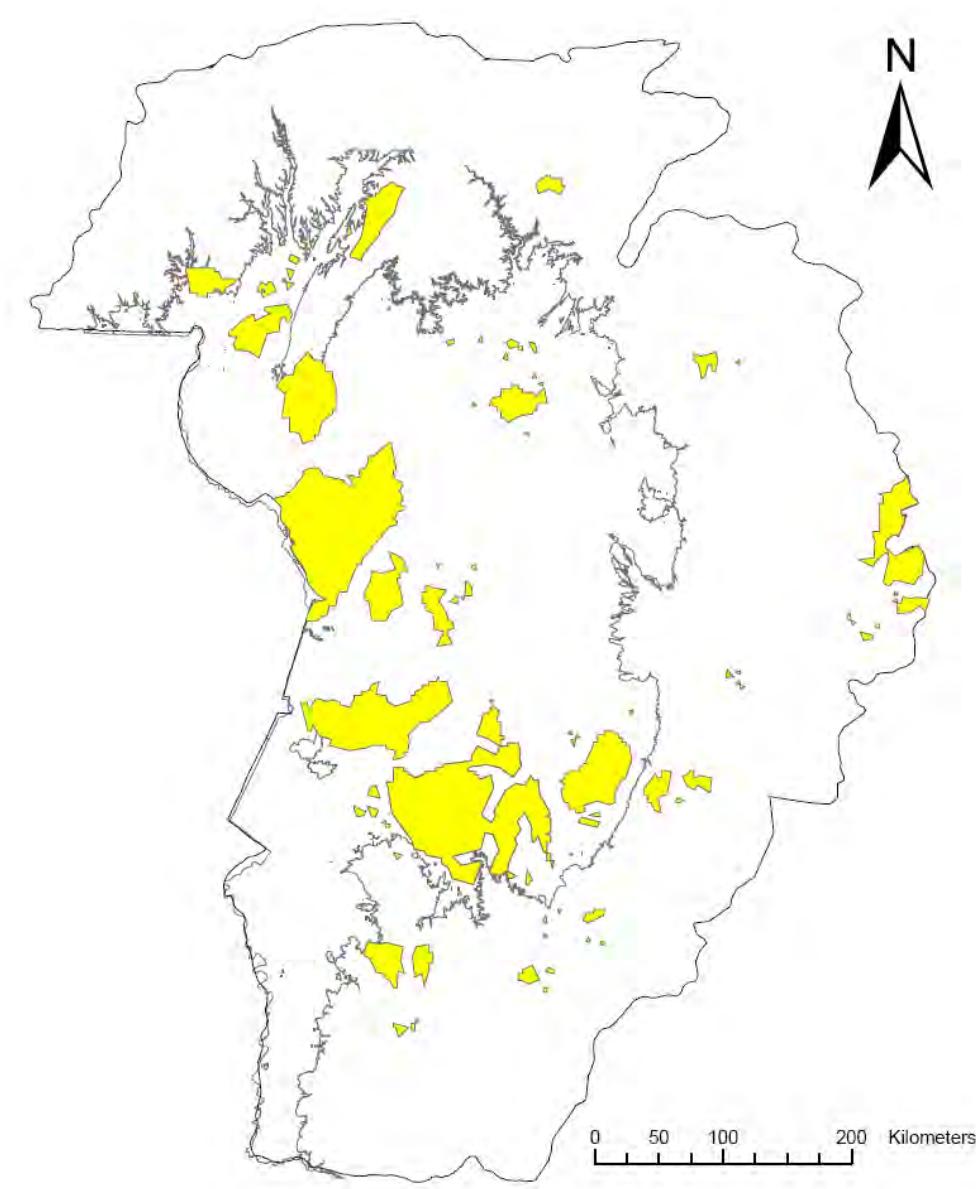
Cerrado-Pantanal Biodiversity Corridors



Priority areas for the conservation of Pantanal - Workshop 1998

Biodiversity Corridors=Partnerships





■ Key Biodiversity Areas for Threatened Species (KBAs)

■ Upper Paraguay River Basin (UPRB)

■ Pantanal Wetland

Key Biodiversity Areas

Upper Paraguay River Basin

● KBAs for the UPRB



CONSERVAÇÃO
INTERNACIONAL

BRASIL

Thank you!

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