

SECTION I:

Project Title: Ecology and Conservation of Neotropical River Otters (*Lontra longicaudis*) and Giant River Otters (*Pteronura brasiliensis*) in the Pantanal

Principal Investigator(s): Helen Waldemarin and Miguel Rico Barroeta

Position/Affiliations: Associação Ecológica Ecomarapendi

E-mail address: ecolontras@ecomarapendi.org.br

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Research Site(s) (geographic location, include coordinates if known, e.g. Lat/Long):

Fazenda Rio Negro (21K0578966/ 7835237), Pousada Barra Mansa (21K0595846/ 7833846) and Pousada Ararauna (21K0643959/ 7842449), Rio Negro River Basin, Mato Grosso do Sul State, Pantanal, Brazil.

Local Management Status of the Research Site(s) (e.g. National Park, RAMSAR Site, World Heritage Site, IBA etc.): Fazenda Rio Negro is a RPPN (Private Reserve of National Heritage), The Pousada Barra Mansa is a private propriety and Pousada Ararauna is a Research Center of the UNIDERP (University for the Development of the Pantanal Region)

Scientific names of primary species being studied: *Pteronura brasiliensis* and *Lontra longicaudis*

Key Research Objectives:

- to study habitat use in the different types of aquatic habitats in the Rio Negro watershed;
- to document the diet and feeding behavior of Neotropical river otters and giant otters;
- to measure the degree of resource overlap (space and diet) between Neotropical river otters and giant otters in the Rio Negro region;
- to document home range and group size of giant otters and abundance of giant and Neotropical otter.

I. Data Collection and Results

a) What progress have you made towards achieving your original research objectives and those of the Regional Initiative?

During the 5 years of project development we are having a huge progress achieving all the original objectives of the project. With the collected data we are being able to understand better how the otters use the habitat in the Rio Negro River Basin, to identify the diet of the otter species as well as the overlapping of the diet and habitat use by the two species and the behavior and population dynamics of the otters in the area.

b) Give a concise summary of the data you have collected during the past field season.

Habitat use

By documenting the use of river and oxbow lake habitats by the otters throughout the year, early results show a higher frequency of use of the river during dry season than during wet season. The frequency of use of riverbanks by each otter species according the year of study and the season can be seen in the Figure 1 and Figure 2.

Probably it is directly related with the higher availability of banks during dry season, and the concentration of the animals along river in the dry season in opposite of the dispersion of the animals in a broader area during flooding of wet season.

Diet of otters

During 2006 we collected, washed and dried a total of 21 Giant otter spraints and 259 Neotropical otter spraints: respectively 5 and 100 at Fazenda Rio Negro, 1 and 15 at Pousada Barra Mansa and 15 and 144 at Pousada Ararauna. The collected samples are being analyzed for items identification. By identification of prey items from the Neotropical river otter and the giant otter scats, we are determining the degree of dietary overlapping between the 2 species, and consequently are gaining an understanding of how the 2 species coexist in the Pantanal. Both species were highly piscivorous in the area, with a small proportion of their diets consisting of crustaceans.

Behavior and sociality of otters

Neotropical otter

a. Fazenda Rio Negro

During 2007 we had, at all, 34 sightings of Neotropical otters, totaling 162 minutes of observation of the species. 30 of these sightings were of solitary animals and 4 were of two animals together. Neotropical otters were observed for 20 minutes during 66 hours of stationary observations (0,5% of the total time). During canoe transects, Neotropical otters were observed for 86 minutes out of a total of 37 hours and 20 minutes of study time (4% of the total time).

Summarizing the Neotropical otter behavior when animals were first sighted: eating – 15% of the sightings; resting or moving out of the water (on the riverbank or on a log) – 20% of the sightings; swimming – 65% of the sightings.

b. Pousada Barra Mansa

During the field trip undertaken at Pousada Barra Mansa we had 7 sightings of Neotropical otters, totaling 7 minutes of animal observations. All these sightings were solitary animals.

Neotropical otters were observed for 4 minutes during 15 hours and 25 minutes of stationary observations (0,4% of the total time). During canoe transects Neotropical otters were observed for 1 minute during 16 hours and 39 minutes of study time (0,1% of the total time).

Summarizing the Neotropical otter behavior when animals were first sighted: resting or moving out of the water (on the riverbank or on a log) – 29% of the sightings; swimming – 71% of the sightings.

c. Pousada Ararauna

During the field trip undertaken at Pousada Ararauna we had 37 sightings of Neotropical otters, totaling 61 minutes of observation. 36 of the sightings were of solitary animals and only one two animals together.

During canoe transects Neotropical otters were observed for 7 minutes during 29 hours and 29 minutes of study time (0,4% of the total time).

Neotropical otters were observed for 10 minutes during 14 hours of stationary observations (1% of the total time).

Summarizing the Neotropical otter behavior when animals were first sighted: resting or moving out of the water (on the riverbank or on a log) – 13% of the sightings; swimming – 87% of the sightings.

Giant otter

During 2006, eleven different giant otter individuals have been identified using their distinctive throat markings:

- 8 individuals at Fazenda Rio Negro - one identified during 2003 field season and 7 identified during the 2005 field season (Figure 3)
- 2 new individuals at Pousada Barra Mansa (Figure 4)
- 3 new individuals at Pousada Ararauna (Figure 5)

Two groups of giant otter were observed during 2006 at Fazenda Rio Negro, one group at Pousada Barra Mansa and two groups at Pousada Ararauna.

a. Fazenda Rio Negro

During 2007 we had, at all, 44 sighting of Giant otters, totaling 457 minutes of observation of the species. 16 of these sightings were of solitary animals, 6 sightings of 2 individuals together, 10 sightings of 4 animals, 1 sightings of 6, 1 sightings of 9, 3 sightings of 5 and 3 sightings of 7 individuals together.

Giant otters were observed for 353 minutes during 66 hours of stationary observations (9% of the total time). During canoe transects, Giant otters were observed for 41 minutes out of a total of 37 hours and 20 minutes of study time (2% of the total time).

Summarizing the Giant otter behavior when animals were first sighted: eating – 2% of the sightings; resting or moving out of the water (on the riverbank or on a log) – 16% of the sightings; swimming – 82% of the sightings.

b. Pousada Barra Mansa

During the field trip undertaken at Pousada Barra Mansa we had 4 sighting of Giant otters and once the animals were only heard, totaling 8 minutes of animal observations. 2 of this sightings were of one solitary animal, 1 of four individuals together and one of five animals together.

Giant otters were only listened for 3 minutes during 15 hours and 25 minutes of stationary observations (0,3% of the total time). During canoe transects Giant otters were observed for 8 minute during 16 hours and 39 minutes of study time (0,8% of the total time).

Summarizing the Giant otter behavior when animals were first sighted: swimming – 100% of the sightings.

c. Pousada Ararauna

During the field trip undertaken at Pousada Ararauna we had 28 sightings of Giant otters and two times the animals were only heard, totaling 67 minutes of watching the animals and 2 minutes just listening to them. 18 of these sightings were solitary animals, three times a group of four animals, two times two animals together, four times 6 to 8 animals together, and one time 13 animals together.

During canoe transects Giant otters were observed for 6 minutes during 29 hours and 29 minutes of study time (0,3% of the total time).

Giant otters were observed for 24 minutes during 14 hours of stationary observations (3% of the total time).

Summarizing the Giant otter behavior when animals were first sighted: resting or moving out of the water (on the riverbank or on a log) – 20% of the sightings; swimming – 73% of the sightings; vocalizing, not being seen – 7%

II. Significance of Research (*Please provide specific examples wherever possible*)

a) What is the significance or benefit of your research at the following levels?

- **Local** - to acquire basic ecological data regarding the species in the area which will enable the development of management strategies for ecotourism and other types of land use in the area and offering information to local ecotourism ranches in order to improve the success of the correct ecotourism in the area.
- **National** - to acquire basic ecological data regarding two top predator species, one of them considered threatened in Brazil (giant otter) which will be useful for development of strategies for conservation of the studied species and aquatic biodiversity in Brazil and also for the development of strategies for management of ecotourism in Pantanal.
- **International** - to acquire ecological data regarding otter species poorly known in the world, in a unique habitat in the world, that will help on the development of conservation strategies for the species.

b) How do your findings contribute to issues of sustainability (economic, social, and environmental)?

Among the aquatic predators of the Pantanal, the otters (Neotropical river otter and Giant otter) have great potential for ecotourism, since they are playful and attractive animals. However, previous studies have shown that otters are sensitive to human disturbance, including poorly managed nature tourism, which can result in decreased habitat quality and reduced reproductive success of the species.

One of the broad goals of our research is to provide basic knowledge about the natural history and biology of Pantanal otters. This knowledge is crucial for the formulation of appropriate, scientifically-founded, regulations for ecotourism and the use of watercourses in the Pantanal. In addition, we will disseminate the results to local tourism operations and to the general public, with the goals of sustainable use of otters as focal species for ecotourism and the creation of viable and environmentally sustainable economic alternatives for local people.

III. Dissemination of Results

a) Have you provided details of results from your research to or within:

- Management plans, biodiversity conservation plans, and reports (indicate status, as well as author and users for plans)
 - Annual Report presented to IBAMA (national environmental agency) (completed)
 - Annual Report presented to SEMA (State Environmental Secretariat) (completed)
 - Annual Report presented to CI-Brazil (Conservação Internacional do Brasil) (completed)
- Presentations, including community meetings and workshops (Who was the audience? How many people attended?)
 - Workshop presentation - “Conservação e Manejo de Mustelídeos Aquáticos” (Conservation and management of aquatic mustelids.) during the “Final de Semana com os carnívoros” (Weekend with Carnivores) at Fundação Parque Zoológico de São Paulo, April 2006, São Paulo (SP), Brazil. – 120 participants.
 - Workshop presentation - “Conservação e Manejo de Mustelídeos Aquáticos” (Conservation and management of aquatic mustelids.) during the “Final de Semana com os carnívoros” (Weekend with Carnivores) at Fundação Zoobotânica de Belo Horizonte, September 2006, Belo Horizonte (MG), Brazil. – 80 participants.
 - Poster presentation - “Efeito da sazonalidade no uso do médio Rio Negro (Pantanal/MS) pela ariranha (*Pteronura brasiliensis*) e pela lontra neotropical (*Lontra longicaudis*)” (Effect of seasonality on the use of the middle portion of the Rio Negro (Pantanal/MS) by the giant otter (*Pteronura brasiliensis*) and the neotropical otter (*Lontra longicaudis*)). – during the 1st South-American Congress of Mastozoology, 5th to 8th October 2006, Gramado (RS), Brazil. – 150 participants.
 - Workshop presentation - “Ecologia e conservação de mustelídeos aquáticos.” (Ecology and conservation of aquatic mustelids.) – during the 1st South-American Congress of Mastozoology, 5th to 8th October 2006, Gramado (RS), Brazil. – 200 participants.
- Books, chapters, illustrations
 - Rosas, Fernando Weber; Waldemarin, Helen Francine; Matos, Gália Ely. *Pteronura brasiliensis*. In: Livro Vermelho da Fauna Brasileira Ameaçada de Extinção. Not released yet.

IV. Volunteer Tasks and Accomplishments

In 2006, a total of 50 volunteers and fellows have participated on the otter project, including corporate and community fellows (students and teachers). Volunteers collected data on general sightings and behavior of the otters, and took notes about how otters used the river and the oxbow lakes. They used GPS units during surveys for signs of otter activity, and helped us looking for otters during canoe transects and focal point observations. They washed, dried, and stored otter spraints found during the field trips. During this year, volunteers and project staff:

- checked the ten oxbow lakes located at Fazenda Rio Negro region three times, the eleven oxbows located at Pousada Barra Mansa once and the two lakes located at Pousada Ararauna three times.
- carried out stationary observations of otters for 95 hours and 25 minutes,
- paddled canoes for 83 hours and 28 minutes while looking for otters,
- observed otters for 762 minutes: 532 minutes of Giant otter observation and 230 minutes of Neotropical otter observation
- washed and dried 259 Neotropical river otter and 21 giant otter scats.

V. Partnerships

UniRio – Universidade Federal do Estado do Rio de Janeiro

Museu Nacional do Rio de Janeiro

UNIDERP – Universidade para o Desenvolvimento do Estado e da Região do Pantanal

CENAP – Centro Nacional de Pesquisas para Conservação dos Predadores Naturais

IUCN/SSC Otter Specialist Group

Conservation International (CI)

VI. Outcomes of Engagement

The collected data are being used for:

- the development of one Masters´ and one Bachalors´ theses
- the development of Management Plan of the Fazenda Rio Negro
- the local tourist guides to inform the visitors about the conservation of otters
- identification of main threats and impostant conservation strategies for otter conservation

VIII. Acknowledgements

We are very grateful to the EW volunteers and fellows that helped us collecting data. We would also like to thank all the workers at Fazenda Rio Negro, Pousada Barra Mansa and Pousada Ararauna, especially the managers for helping us to organize all logistics of the field trips, the cooks for waking up very early to make our breakfast, and the guides (Sr. Japão, Lico, Elias, Picolé, Luis, Sr. Arnaldo and others) for their patience and valuable help during the field work. We also would like to acknowledge the invaluable assistance of Ellen Wang and to the other PIs that shared the teams with us (staff of Peccaries, Frugivores, and Bats projects).

SECTION II: COVER LETTER TO VOLUNTEERS

Dear volunteers,

It is with an enormous satisfaction that we are presenting the results of our successful activities of the Pantanal Otter Project.

All the activities that were accomplished were very helpful to allow us have a better knowledge of the Pantanal otters and to elaborate the strategies to continue the project in the following years. It was only one more steep of a long process for helping the otters and Pantanal conservation. And you were an important piece in it.

Your help was incomparable and indispensable in helping us to complete the targets of the project. All the mornings waking up around 4 am, all the smelly hours washing scats and cleaning fish bones, all the sunny or rainy hours observing otters, all the muscle pains you got paddling through the river and pulling the boat, all the injuries in the legs and hands carrying canoes to the oxbows, all the wet socks and shoes, all the bites of mosquitoes and ticks, and all of it with an intense interest in helping with good humor and happiness... At the end, all these “difficulties” that we had together were only a small stone to overcome for this successful year.

Thank you very much and we hope see you again!!!

Helen Waldemarin

PI
Pantanal Otter Project

Miguel Rico

Co-PI
Pantanal Otter Project

Manoel Muanis

Field Assistant/Co-PI
Pantanal Otter Project

Vera de Ferran

Field and Lab Assistant
Pantanal Otter Project