



PROJECT DESIGN DOCUMENT
ZERO2NATURE - PREBIO

Version 1.0



PROJETO PONTAROLO - PREBIO



Scope	scope_17b
Project Title	PROJETO PONTAROLO - PREBIO
Project Proponent(s)	Frederico Pontarolo
Host Country	Brazil
Other Involved Countries	No other countries involved
Ex-Ante Annual Average Negative Emissions Reduction	23000

Goals & Description of Project Activity

The story of this project begins in the Brazilian state of Parana with Frederico Pontarolo, an adventurous farmer, who left his home with "a bag and a gourd", as Brazilian people use to say. With him he took his wife and seven children to find their place in the northern state of Maranhao. Frederico first instructed his eldest son Adam to "find a house to rent located on the same block as the school, so that the kids don't have to cross the street." Frederico, who during the invasion by bandits of his newly acquired lands warned, shotgun in hand: "this land has an owner!" And so it has! Since 1980 Frederico fights "tooth and nail" to preserve one of the largest private forests left in Maranhao. However, the story of Mr. Pontarolo begins well before, way back in 1542, in Padova, northern Italy, where Tommaso, son of Francesco Calegari was famous for making shoes and always carried an awl, which is the instrument used to pierce holes in leather. When somebody asked about him, his acquaintances would say: "Ah! Quello del Puntaruolo!"

Puntarolo means awl in Italian. Therefore, the symbol of the project is a cobbler in the shade of a tree. A mixed tribute to Tommaso and Frederico who, each in their own way conscientiously chose a life to live.

Frederico's farm is located on the penultimate longitudinal line of the Amazon region. With great difficulty he managed to keep over 6000 hectares of rainforest completely intact. And difficulty is the reality of the Amazon. Transportation is tough, distances are long, all sorts of tropical diseases are present and mosquitoes never give a break. Besides all natural factors, one must also consider the difficulty to preserve this important biome against the fierce exploitation of its riches. As a rule, human actions are devastating the Amazon regardless of the delicate and complex equilibrium of the forest, as if all the exuberance made it invulnerable.



In terms of the Amazon region, the following data is relevant:

- The Amazon River represents about 18% of all available fresh water on the planet;
- The mouth of the Amazon is so vast, that the island of Marajo, located at the river's exit to the ocean, is roughly the size of Switzerland;
- The muddy waters of the Amazon River produce a visible trail penetrating hundreds of miles into the Atlantic Ocean;
- Hundreds of millions of years ago, there was a single "protocontinent" known as Pangaea, which covered half of the Earth. During the Triassic Age, Pangaea divided into two continents: the northern part known as Laurasia and the southern part as Gondwana. About 90 million years ago, Gondwana split creating the continents of Africa, South America, Australia and Antarctica. This occurrence created the Indian peninsula and forced the South American mass to slide westward, reaching the Nazca plate. The collision between the two tectonic plates pushed the western coast of South America on top of the Nazca plate, forming the Andes Mountains.

Consequently, the newly formed mountain ridge extending from the southern tip of Chile to the northern tip of Colombia dramatically changed the weather pattern and the river system of South America.

Before the advent of the Andes, the Amazon River used to flow into the Pacific Ocean and there was no connection with the Atlantic. Following the rise of the Andes, the water route to the Pacific was blocked and during millions of years, the Amazon River became an inland sea, covering the center of the continent. Finally, during the Pleistocene Age, rising waters broke through the eastern barrier overflowing into the Atlantic, creating the largest river system of our planet. As a result, the soil of the former inland sea became a huge basin of sediments, compounded of rich and fertile plains supporting an incredible abundance of unique fauna and flora. Time has advanced and so has the negative impact of mankind on this very special region of our world. It is now up to us to stop further degradation and help restore the biome, by setting examples, making a difference and turning the world into a better place to live in. Frederico has already started and is showing us the way.

The main objective of the PONTAROLO PROJECT, is the monitored preservation of 6,262.60 ha. of Amazon forest. The Amazon has 6.9 million km², covering nine countries: Brazil, Bolivia, Colombia, Venezuela, Ecuador, Peru, Guyana, Suriname and French Guyana. From this total, 4.2 million km² or 61%, are in Brazil. The Amazon is home to half of all terrestrial species on the planet. The region has more than five thousand species of trees, in excess of three hundred kinds of mammals, over thirteen hundred types of birds and a countless number of insect species, reaching far over the millions. There are twenty-three thousand miles of inland waters, home to over three thousand species of fish.

Around 220,000 Indigenous people live in the Brazilian Amazon, divided into one hundred and eighty ethnic groups. Besides the Brazilian indigenous population, the Amazon is home to around 20 million people. Amongst them are the riparian people, maroons (African refugees that escaped slavery and formed independent settlements) and forest extractivists.

The Amazon possesses the largest watershed on the planet that has the capacity to influence



the global climate. This information alone should be more than enough to ensure the monitored preservation of this corner of the Earth. Yet, the Amazon unfortunately remains abandoned to its own fate.

Between the date of the Portuguese discovery of Brazil and 1970, deforestation of the Amazon forest represented only 1%. Over the last 40 years, there has been a detected deforestation of 17%. Paired with deforestation is the exponential increase of water and air pollution in addition to unregulated hunting/poaching/fishing/mining etc.

To ensure the accuracy of the data presented in this PDD, an expedition conducted to project site of PROJETO PONTAROLO occurred, the results of which are shown throughout this document.

The first expedition to the project site of PROJETO PONTAROLO took place between April 25 and 27, 2014. All negative emissions related to the expedition were accounted and will become deducted from the ecological credits generated by the project. Any action related to the implementation of PROJETO PONTAROLO shall be described in a DATABOOK which, once completed, will have the original, as well as the electronic version available to the public.

The objectives of the first expedition were the collecting of soil and water samples; determination of CO₂ levels, CH₄, luminosity (light incidence) and temperatures (air and water) at defined perimeters within the project site. The first expedition also aimed to assess the extent of anthropic activities within the region, with special emphasis on deforestation, as detailed in this PDD. The project site is virtually an intact portion of the Amazon biome and there is hard evidence of serious threatening human activity around the perimeter. A third goal of the expedition was to initially assess and establish the different points of the observation system which will permit the most effective monitoring plan for PROJETO PONTAROLO.

Below is the route traveled to the first expedition of PROJETO PONTAROLO:





Location of Project Activity

The total area of the project is 6,263 hectares. Please view map for location:



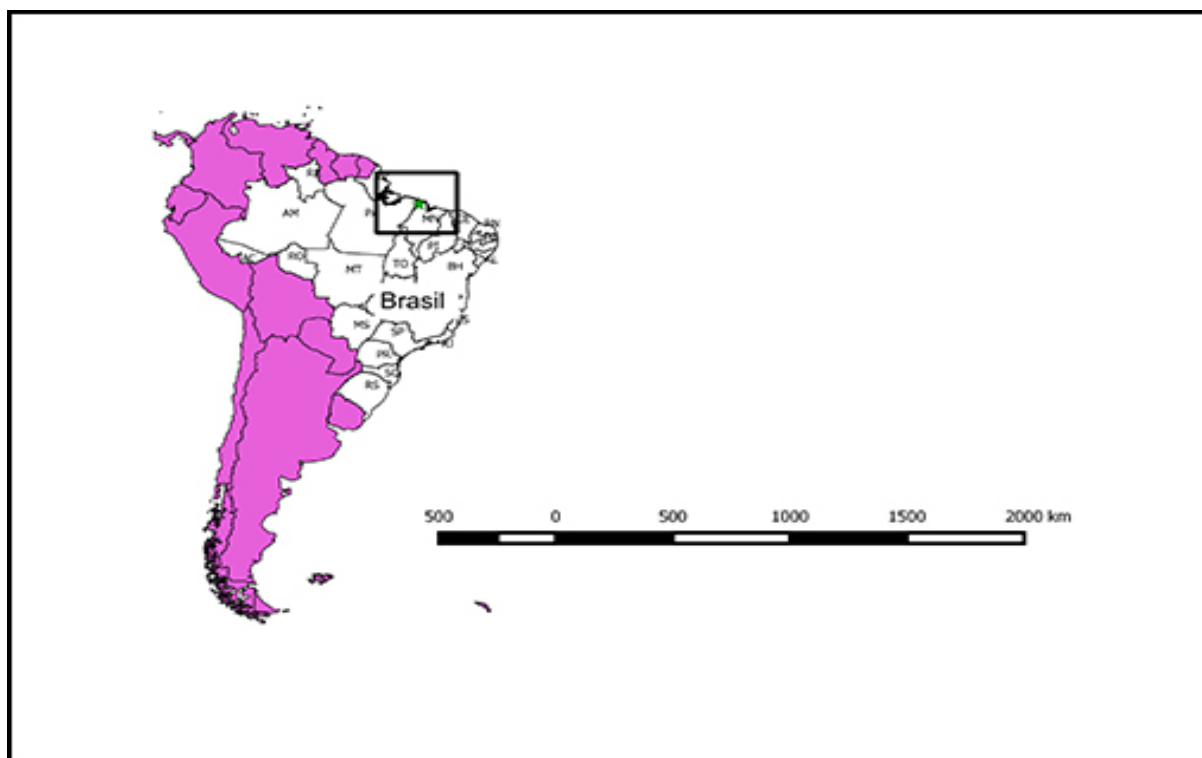


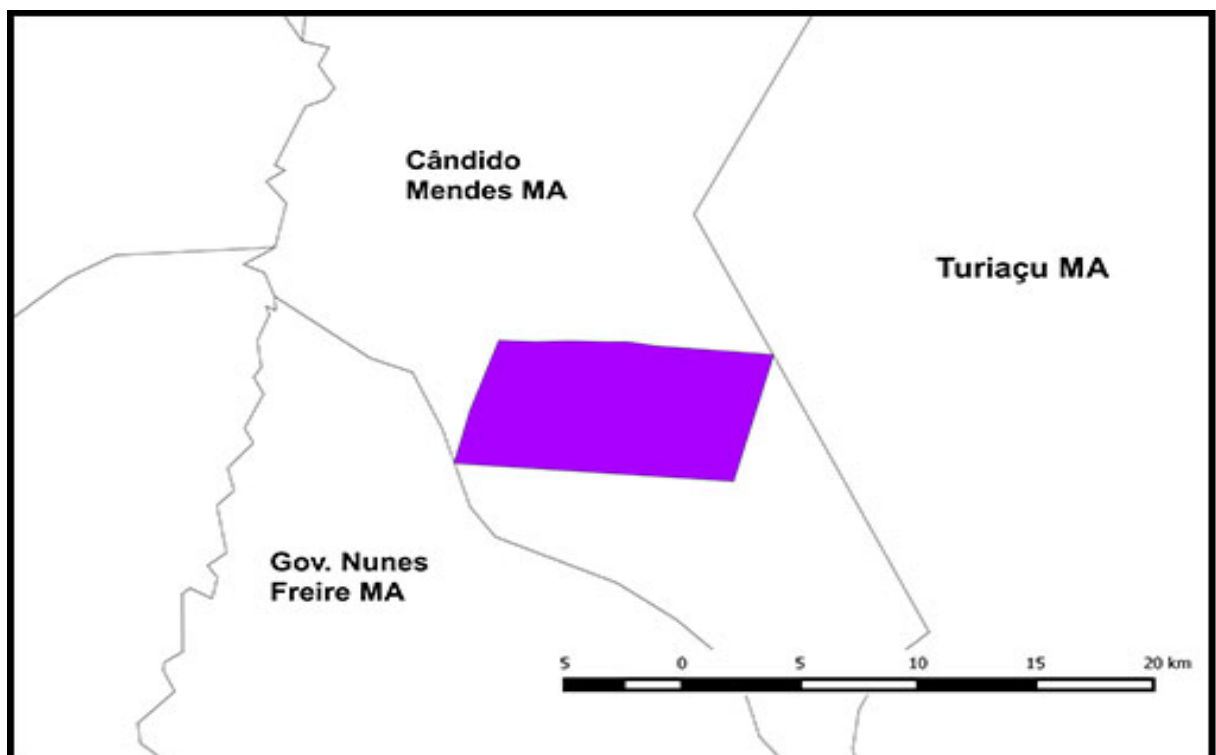
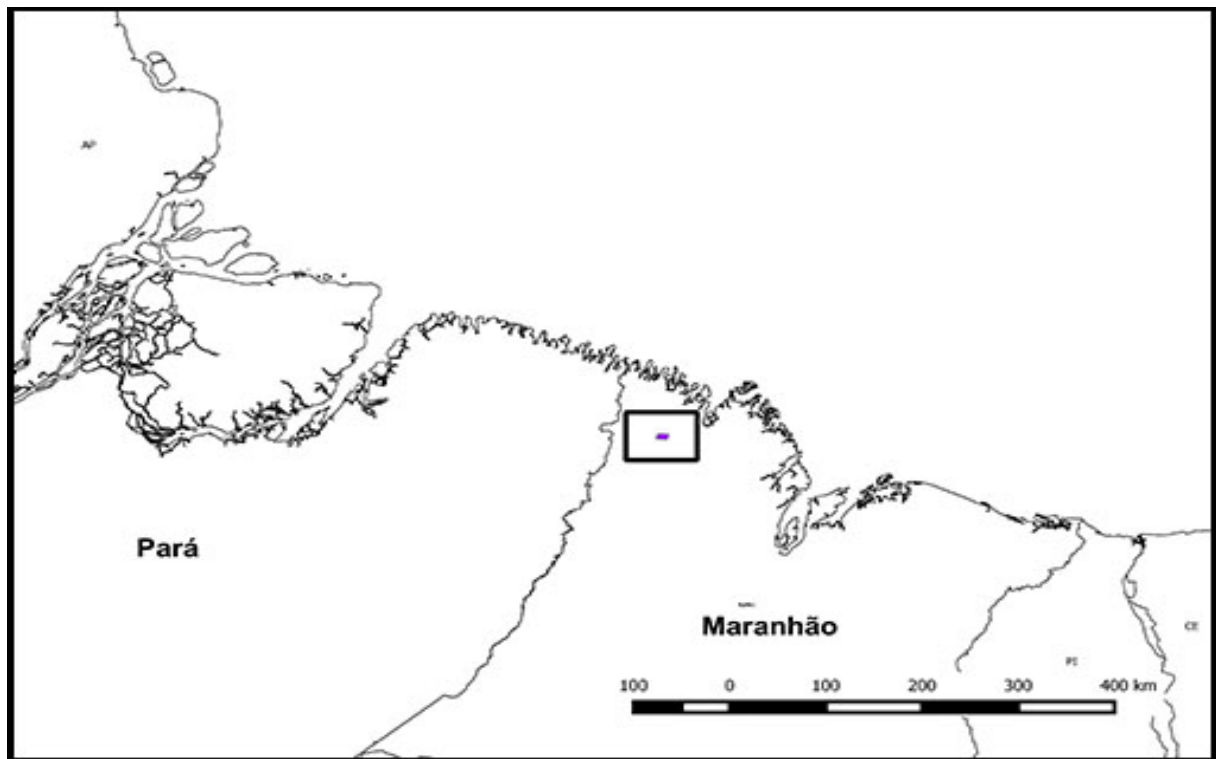
Complete Address

Street	Rua do Bec
Number	20
County	Maranhao
City	
Country	Brazil
Zip Code	65284-000
Telephone	+55 98 8303-3396

Geographical Location of PA

Area of project relative to host country







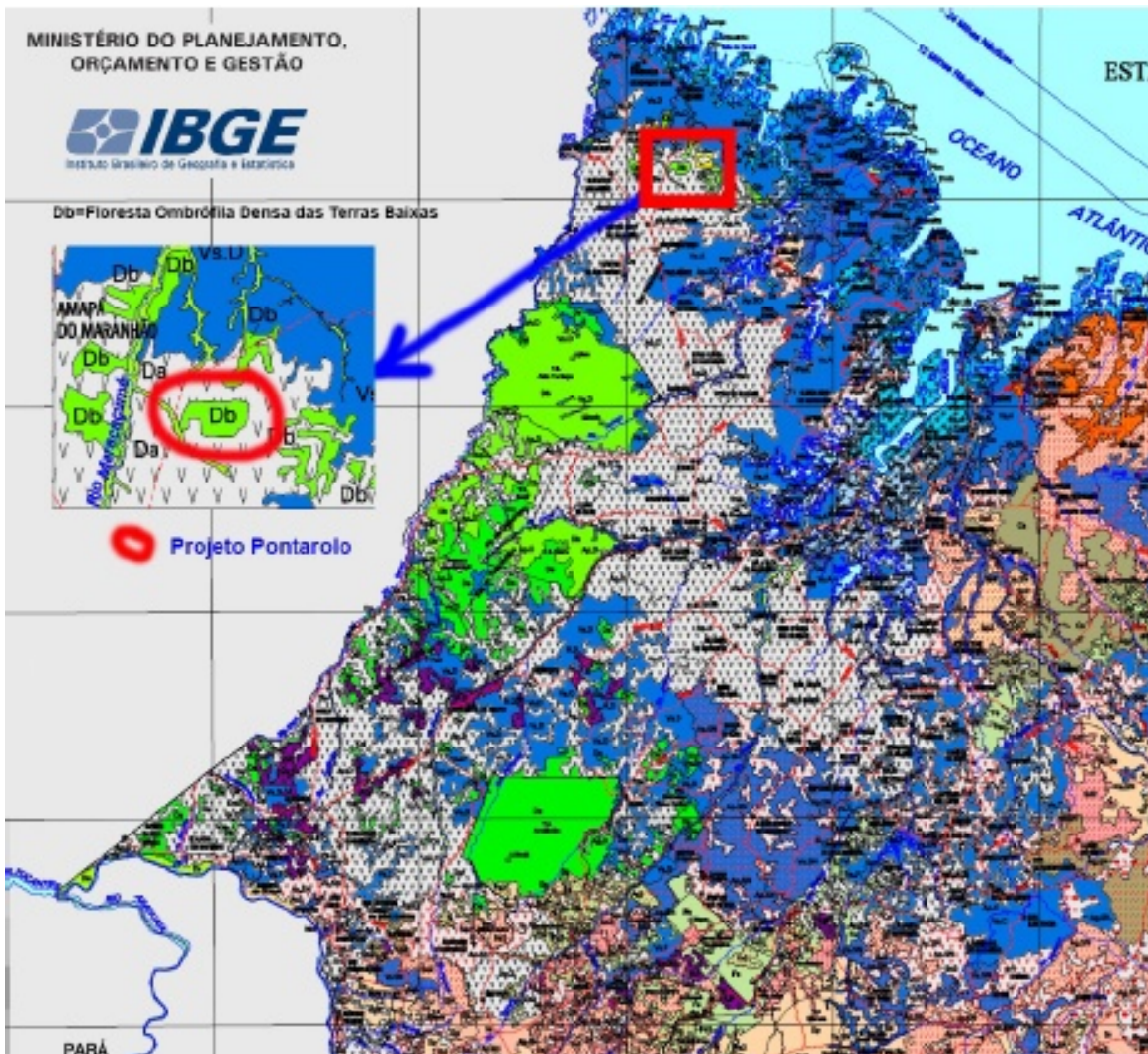
Geographical Boundaries of PA

The geographical boundaries of the land/property of PROJETO PONTAROLO project activity are established in the appendix of this PDD.

Environmental Conditions of PA

Project PONTAROLO represents a virtually untouched area of nature: an oasis in the middle of an aggressive stage of deforestation and consequent deterioration of the region's environment.

The map below shows the result of human action which, if not properly restrained through proper investment in effective monitored preservation, can lead to rapid deforestation of the area.



The map above shows that Brazil's agricultural frontier has been exerting a strong economic pressure on the entire state of Maranhão. Farming which has taken over about 25% of the



Cerrado biome (mainland plateaus), now heads in big steps into the forests, increasing illegal logging. Studies made by the IBGE (Brazilian Institute of Geography and Statistics) show that of the original dense forest area of Maranhao, only 31% or 19,707.6km² remain. Of the original semidecidual and decidual forests only between 45% and 25% remain, respectively. Of the original Open Forest (babassu palm trees), there remains a small area in the northwestern part of the state of only 27.5 km², corresponding to 0.09% of the original area. Moreover, according to the IBGE, the vegetation occurring in the state of Maranhao represents three Brazilian continental biomes: the Amazon biome, the Cerrado biome and the Caatinga biome. Furthermore, the biomes have six major vegetation types: 1. Rain Forest (with trees that do not lose their leaves in the dry season); 2. Open Evergreen Forest (dominated by babassu and/or vines); 3. Semideciduous forest (with trees that lose their leaves in the dry part of the season); 4. Deciduous forest (with trees that lose more than 50% of the dry leaves); 5. Savanna Cerrado and Savanna-Steppe (arid backlands); 6. Pioneer Formation Areas (floodplains and wetlands, mostly).

Região Fitoecológica / Outras Áreas	Área (km²) primitiva	Área (km²) remanescente	Percentual remanescente
Floresta Ombrófila Densa	63.562,05	19.707,61	31,01
Floresta Ombrófila Aberta	31.350,28	27,50	0,09
Floresta Estacional Semidecidual	12.418,43	5.571,90	44,87
Floresta Estacional Decidual	20.829,99	5.021,48	24,11
Savana (Cerrado)	74.288,57	57.130,04	76,90
Savana-Estépica (Caatinga)	199,30	199,30	100,00
Formações Pioneiras	14.388,25	13.900,67	96,61
Contato Savana / Floresta Ombrófila	1.300,37	-	-
Contato Savana / Floresta Estacional	99.818,01	57.807,83	57,91
Contato Savana / Formação Pioneira	2.836,64	2.836,64	100,00
Contato Savana-Estépica / Floresta Estacional	363,70	193,95	53,33
Contato Savana / Savana-Estépica	3.024,62	2.615,82	86,48
Duna	1.262,16	1.262,16	100,00
Total	325.642,4	166.274,9	50,1

Geology - The geology of the state of Maranhao indicates the presence of aquifers, ideal for the supply of good quality and low cost water. Located in the Parnaíba Structural Province (which occupies more than 90% of the state), on rock formations of the Cabeças, Serra Grande, Sambaíba, Corda, Grajaú Itapecuru, IPIXUNA and Barreiras, the aquifers contain an estimated volume of 17,500 km³, with flows that reach up to 1,000 m³/h, signifying great potential for future human supply.

The geology of the state also favors a great potential for tourism. The Structural Coast Province dominates the coast of Maranhao in the form of dunes and pools of marine deposits, which together form the Maranhao Lowland and the 'Lencol Maranhense', already a much visited location in the state.



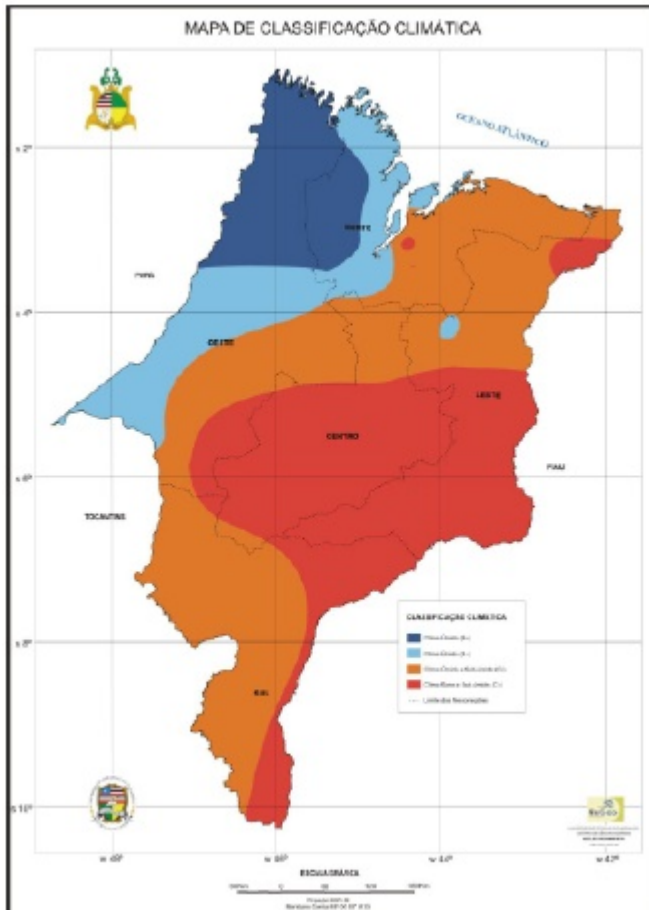
With respect to the plateau region of the state (Penitentes, Alpercatas and Espigão Mestre), a major concern relates to increasing farming activities, since these areas function as storage and supply of water to the river basins of the region. Farming activities, across the region (occupying much of the southern, western and southwestern parts of the state) produce incalculable negative environmental emissions, especially through the utilization of pesticides that infiltrate the soil and contaminate subterranean water channels.

The Gurupi Structural Province, located in the northwestern part of Maranhão, holds large mineral reserves of gold, already much explored in precarious and illegal manners. Moreover, carbonate deposits of the Cretaceous Age, in the formation known as Codo, contain significant reserves of limestone. Limestone is used in the production of cement at the plant in the city of Codo and as a corrective agent to regulate the acidity of the soils in the region and neighboring states such as Pará and Piauí.

The northwestern part of Maranhão has an important hydrocarbon concentration. Natural gas reserves were discovered there even recently (2010), in the municipality of North Capinzal (Grajau Basin). Furthermore, in the region close to the city of Balsas, named Tingua-Carolina, Brazil's oil company Petrobras, found natural gas during the 1960s.

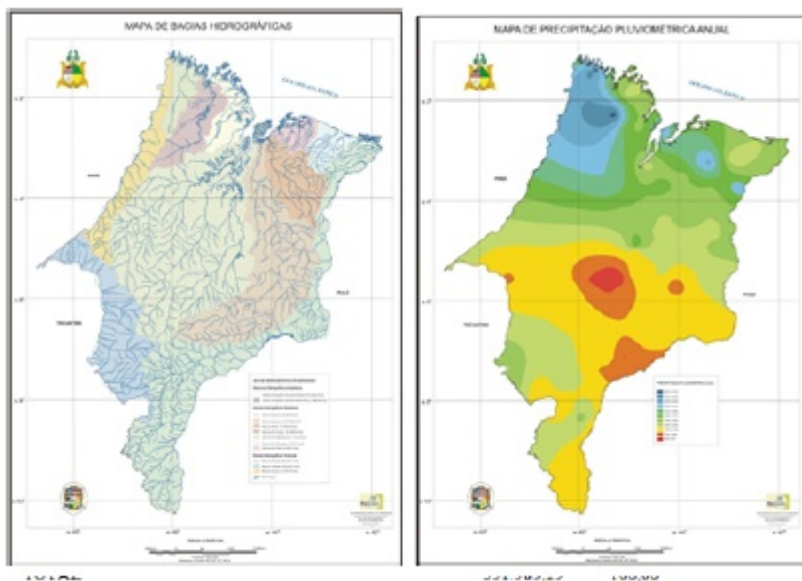
On January 2014, Maranhão was awarded the dubious honor of "poorest state in Brazil," a great irony if one considers the results of the IBGE studies presented above. PROJECT PONTAROLO serves as an example not only to Maranhão but also to Brazil as a whole, for despite all the natural riches available, the country suffers from incessant devastation caused mainly by incapacity, dishonesty or ignorance.

CLIMATE ? The site of PROJETO PONTAROLO is located in the tropical monsoon zone (Köppen climate classification and Geiger). During most of the year, the state has significant rainfall. The average annual temperature in the region is 27.6 °C. The average annual rainfall is 2,784mm.



HYDROLOGY - The state of Maranhao is nationally and internationally prominent for its large hydro potential. Studies show that 97.2% of the state's waters are underground and only 2.8% is surface water. In general, there is plenty of water supply with scarcity occurring only in areas of excessive demand. 74% of the municipalities are supplied solely by groundwater sources (wells), while 21% of municipalities are supplied with surface water with the remaining 5% are supplied by hybrid systems. Threats to the quality of the water are constant such as lack of sanitation, domestic sewage, untreated industrial effluents, pesticides, deforestation and soil erosion.

Nome da Região Hidrográfica	Bacia Hidrográfica	Área (km ²)	% sobre o Estado
Domínio Estadual		216.034,34	65,07
	Sistema hidrográfico do Litoral Ocidental	10.226,22	3,08
	Sistema hidrográfico das Ilhas Maranhenses	3.604,62	1,09
	Bacia Hidrográfica do Rio Mearim	99.058,68	29,84
	Bacia Hidrográfica do Rio Itapecuru	53.216,84	16,03
	Bacia hidrográfica do Rio Munim	15.918,04	4,79
	Bacia Hidrográfica do Rio Tuniaça	14.149,87	4,26
	Bacia Hidrográfica do Rio Maracapané	7.756,79	2,34
	Bacia Hidrográfica do Rio Preguiças	6.707,91	2,02
	Bacia Hidrográfica do Rio Perá	5.395,37	1,62
Domínio Federal		115.948,95	34,06
Parnaíba	Bacia Hidrográfica do Rio Parnaíba	66.449,09	20,02
Araguaia-Tocantins	Bacia Hidrográfica do Rio Tocantins	30.665,15	9,24
Atlântico Nordeste Ocidental	Bacia Hidrográfica do Rio Gurupi	15.953,91	4,80
----	Águas Limítrofes do Litoral	2.880,80	0,87
TOTAL		331.983,29	100,00



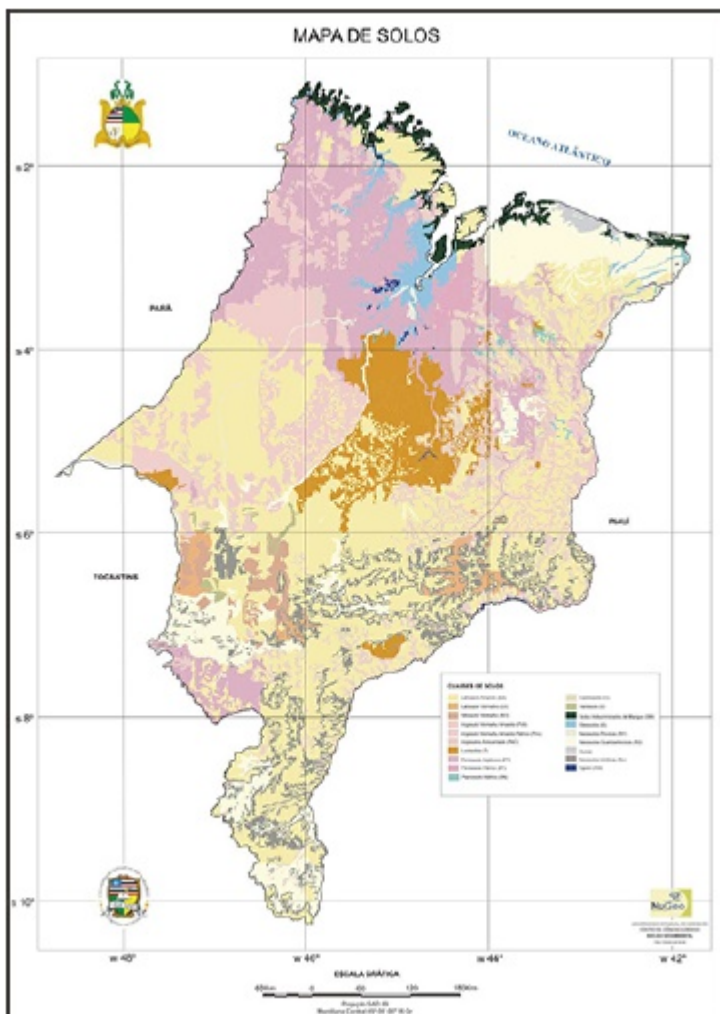
SOIL - The layer of the Earth's surface essential for plant life is sensitive to the action of rain, wind and heat which may culminate in erosion. Deforestation also damages the soil, removing its natural protection. The main soil types found in the state of Maranhão are:

Oxisol (33.87%),
 Plintossolo Argiluvic (13.67%),
 Paleudult-Yellow (9.54%),
 Red Yellow Argisol petroplintic (9.22%),
 Quartzipsamments (8.84%),

Entisols (6.98%), and
Chromic Luvisol (6.70%)

The seven aforementioned classes correspond to 88.82% of the state's soil. Classes of soils with lower cartographic expression are Gleysols (1.89%); Indiscriminate Mangrove soils (1.85%); UDULT (1.38%); Oxisol (1.20%); Fluvisols (1.07%); Plintossolo Petric (0.94%); Neossolos Eolic - Dunes (0.38%); Vertisol (0.34%); Planossolo Natric (0.27%); Ultisol 0.20%); and Cambisol (0.07%). These classes correspond to about 10% of the state.

The Yellow Oxisol soils are more relevant because they represent approximately 33.87% of the state's soil, occupying approximately 112,404.48 km². Noteworthy is the occurrence of this type of soil in the savanna area of Maranhão, mainly in the south-central region where there has been steady advance of soybean monoculture, in addition to the cultivation of maize, beans, cassava and planted pasture.





Technologies and/or Measures

The intensive observation of the site of PROJETO PONTAROLO will occur according to the monitoring plan, incorporated in this PDD. Video cameras will be strategically positioned on access points to the site, allowing control over any activity that may occur in the area. The employees of the Sete Irmaos Farm, where the project site is located, will have the opportunity to work on the project activity, with a salary increment. Activities to be performed by those employees and/or new hires, will range from maintenance of video cameras to patrolling of the area. In case of the observation of any illegal activity, project members will be instructed to exit the site, ensuring the safety to their physical integrity, and trigger the appropriate security channels and environmental protection within the Brazilian public service.

Eligibility of the Land

According to methodology ZNP0004, paragraph 2.2 (i.i): In case of a ZERO2NATURE-PREBIO project activity, the project area may include different types of forests, provided they meet the following criteria: 'area measuring more than 0.5 hectare with trees higher than 5m and a crown coverage larger than 10%, or trees with potential to achieve these parameters in situ, excluding land that is predominantly under agricultural or urban use.' Moreover, the ZERO2NATURE standard states that a PREBIO project activity is eligible for areas classified as a forest for a minimum period of 10 years.

As attested by various maps of the project location included in this PDD:

- a) The project area is 6,262.60 ha;
- b) The vegetation of the project area is typical of the Amazon forest, with trees higher than 5m and over 20% crown coverage;
- c) There is no agriculture or urbanization at the project site;
- d) The project site is composed of almost intact Amazonian biome.

Considering all the requirements of the ZERO2NATURE Standard and the 'Procedures to demonstrate the eligibility of lands for ZERO2NATURE-PREFOR/PREBIO project activities', the PROJETO PONTAROLO project site is eligible as a ZERO2NATURE-PREBIO monitored preservation project activity.

Reference of Methodology

The 'Methodology for developing ZERO2NATURE projects to reduce negative emissions through monitored preservation of the biodiversity -ZERO2NATURE-PREBIO- was employed in this project. As required by the methodology, the following tools, guidelines, references and documents were also used:

- (a) Tool to identify the baseline scenario and demonstration of additionality in the ZERO2NATURE-PREBIO project activities;
- (b) ZERO2NATURE Glossary of terms;



- (c) ZERO2NATURE Standard;
- (d) Harvard Atmospheric Chemistry Modeling Group - www.acmg.seas.harvard.edu;
- (e) IPCC Guidelines for LULUCF, 2003;
- (f) Procedures to demonstrate the eligibility of lands for ZERO2NATURE-PREFOR/PREBIO project activities;
- (g) Tool for identification of living species that compose the IUCN red list and the list of 'Brazilian Threatened and Endangered Species' published by the Brazilian Environmental Ministry, applied to ZERO2NATURE-PREBIO project activities.

Applicability of Methodology

The proposed ZERO2NATURE-PREBIO project activity meets the requirements of the chosen methodology for the following reasons:

- a) The PDD is generated through the ZERO2NATURE project design platform;
- b) The area of the ZERO2NATURE-PREBIO project activity harbors living species with various degrees of imminent possibility of extinction as per the IUCN Red list;
- c) The proposed ZERO2NATURE-PREBIO project activity will not alter more than 3% of the contemplated baseline scenario;



List of Endangered or Threatened Species Possibly Inhabiting the Project Site

Category	Scientific Name	Common Name	Family Name	Threat Category
Flora	<i>Aspilia paraensis</i>	NA	Asteraceae	Endangered
Flora	<i>Digomphia densicoma</i>	NA	Bignoniaceae	Threatened
Flora	<i>Jacaranda carajasensis</i>	NA	Bignoniaceae	Endangered
Flora	<i>Bursera simaruba</i>	NA	Burseraceae	Threatened
Flora	<i>Licania aracaensis</i>	NA	Chrysobalanaceae	Threatened
Flora	<i>Licania bellingtonii</i>	NA	Chrysobalanaceae	Threatened
Flora	<i>Ipomoea carajasensis</i>	NA	Convolvulaceae	Endangered
Flora	<i>Ipomoea cavalcantei</i>	NA	Convolvulaceae	Endangered
Flora	<i>Costus fragilis</i>	NA	Costaceae	Threatened
Flora	<i>Costus fusiformis</i>	NA	Costaceae	Threatened
Flora	<i>Amburana cearensis</i> var	Cerejeira, cumaru-de-cheiro	Fabaceae	Threatened
Flora	<i>Peltogyne maranhensis</i>	Pau-roxo	Fabaceae	Endangered
Flora	<i>Aniba rosaeodora</i>	Pau-rosa ou itauba	Lauraceae	Endangered
Flora	<i>Dicypellium</i>	Cravo-do-maranhao,	Lauraceae	Endangered
Flora	<i>Bertholletia excelsa</i>	Castanheira,	Lecythidaceae	Endangered
Flora	<i>Eschweilera piresii</i>	Mata-mata	Lecythidaceae	Endangered
Flora	<i>Eschweilera rabeliana</i>	NA	Lecythidaceae	Threatened
Flora	<i>Swietenia macrophylla</i>	Mogno	Meliaceae	In extinction
Flora	<i>Euterpe Edulis</i>	Palmeira Jussara	Arecaceae	Endangered
Flora	<i>Galeandra curvifolia</i>	NA	Orchidaceae	Endangered
Flora	<i>Axonopus carajasensis</i>	NA	Poaceae	Endangered
Flora	<i>Mourera fluvialilis</i>	NA	Podostemaceae	Threatened
Flora	<i>Euxylophora paraensis</i>	Pau-amarelo, paucetin,	Rutaceae	Endangered
Flora	<i>Nycticalanthus speciosus</i>	NA	Rutaceae	Threatened
Flora	<i>Pilocarpus alatus</i>	Jaborandi	Rutaceae	Endangered
Flora	<i>Hohenbergia castellanosi</i>	NA	Bromeliaceae	Threatened
Flora	<i>Hohenbergia correia-araujo</i>	NA	Bromeliaceae	Threatened
Flora	<i>Hohenbergia littoralis</i>	NA	Bromeliaceae	Threatened
Flora	<i>Neoregelia binotti*</i>	NA	Bromeliaceae	Threatened
Flora	<i>Nidularium bocainensis</i>	NA	Bromeliaceae	Threatened
Flora	<i>Nidularium utriculosum*</i>	NA	Bromeliaceae	Threatened
Flora	<i>Orthophytum amoenum</i>	NA	Bromeliaceae	Threatened
Flora	<i>Portea grandiflora</i>	NA	Bromeliaceae	Threatened
Flora	<i>Portea kermesina</i>	NA	Bromeliaceae	Threatened
Flora	<i>Vriesea cearensis</i>	NA	Bromeliaceae	Threatened
Flora	<i>Campylocentrum</i>	NA	Orchidaceae	Threatened
Flora	<i>Catasetum uncatum</i>	NA	Orchidaceae	Threatened
Flora	<i>Cattleya dormaniana</i>	NA	Orchidaceae	Threatened
Flora	<i>Cattleya granulosa</i>	NA	Orchidaceae	Threatened
Flora	<i>Cattleya labiata</i>	NA	Orchidaceae	Threatened



List of Endangered or Threatened Species Possibly Inhabiting the Project Site

Category	Scientific Name	Common Name	Family Name	Threat Category
Flora	<i>Cattleya schilleriana</i>	NA	Orchidaceae	Threatened
Flora	<i>Cattleya tenuis</i>	NA	Orchidaceae	Threatened
Flora	<i>Cattleya velutina</i>	NA	Orchidaceae	Threatened
Flora	<i>Cattleya warneri</i>	NA	Orchidaceae	Threatened
Flora	<i>Chaubardia heloisae</i>	NA	Orchidaceae	Threatened
Flora	<i>Cleistes caratae</i>	NA	Orchidaceae	Threatened
Flora	<i>Constantia cipoensis</i>	NA	Orchidaceae	Threatened
Flora	<i>Constantia microscopica</i>	NA	Orchidaceae	Threatened
Flora	<i>Habenaria itacolumbia</i>	NA	Orchidaceae	Threatened
Flora	<i>Masdevallia</i>	NA	Orchidaceae	Threatened
Flora	<i>Pabstia schunkiana</i>	NA	Orchidaceae	Threatened
Flora	<i>Phragmipedium</i>	NA	Orchidaceae	Threatened
Flora	<i>Phragmipedium vittatum</i>	NA	Orchidaceae	Threatened
Flora	<i>Pleurothallis</i>	NA	Orchidaceae	Threatened
Flora	<i>Pseudolaelia cipoensis</i>	NA	Orchidaceae	Threatened
Flora	<i>Pseudolaelia citrina</i>	NA	Orchidaceae	Threatened
Flora	<i>Scuticaria itirapinensis</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis endsfeldzii</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis fidelensis</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis jongheana</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis kautskyi</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis lobata</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis perrinii</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis tenebrosa</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis virens</i>	NA	Orchidaceae	Threatened
Flora	<i>Sophronitis xanthina</i>	NA	Orchidaceae	Threatened
Flora	<i>Thelyschista ghillanyi</i>	NA	Orchidaceae	Threatened
Fauna	<i>Harpyhaliaetus coronatus</i>	Grey Eagle or Aguia		Endangered
Fauna	<i>Pteroglossus bitorquatus</i>	Aracari de pescoco		Endangered
Fauna	<i>Dendrexetastes rufigula</i>	Arapaçu canela de		Threatened
Fauna	<i>Dendrocincla merula badia</i>	Arapaçu da taoca		Threatened
Fauna	<i>Dendrocolaptes certhia</i>	Arapaçu barrado do		Threatened
Fauna	<i>Procnias averano averano</i>	Araponga de barbela		Threatened
Fauna	<i>Taczanowskia trilobata</i>	Spider		Rare
Fauna	<i>Anodorhynchus</i>	Arara azul grande		Endangered
Fauna	<i>Ara chloropterus</i>	Arara vermelha		Threatened
Fauna	<i>Guaruba guarouba</i>	Ararajuba		Endangered
Fauna	<i>Cyanopsitta spixii</i>	Ararinha Azul		In extinction
Fauna	<i>Pteronura brasiliensis</i>	Ariranha		Endangered



List of Endangered or Threatened Species Possibly Inhabiting the Project Site

Category	Scientific Name	Common Name	Family Name	Threat Category
Fauna	<i>Oryzoborus maximiliani</i>	Bicudo verdadeiro		Endangered
Fauna	<i>Parides lysander</i>	Borboleta		Threatened
Fauna	<i>Pontoporia blainvillei</i>	Boto Cachimbo		Endangered
Fauna	<i>Physeter macrocephalus</i>	Cachalote		In extinction
Fauna	<i>Cerdocyon thous</i>	Cachorro do Mato		Endangered
Fauna	<i>Speothos venaticus</i>	Cachorro vinagre		Endangered
Fauna	<i>Blastocerus dichotomus</i>	Cervo do pantanal		Endangered
Fauna	<i>Cercomacra ferdinandi</i>	Chororã ³ tocaninense		Endangered
Fauna	<i>Dipsas albifrons cavaleiroi</i>	Cobra-dormideira-		Endangered
Fauna	<i>Caluromysiops irrupta</i>	Cuã-ca de colete		Endangered
Fauna	<i>Chiropotes utahicki</i>	Cuxiã ^o		Endangered
Fauna	<i>Chiropotes satanas</i>	Cuxiã ^o preto		Endangered
Fauna	<i>Mustela africana</i>	Doninha Amazã'nica		In extinction
Fauna	<i>Leopardus tigrinus</i>	Gato do mato		Endangered
Fauna	<i>Leopardus wiedii</i>	Gato maracajã _i		Threatened
Fauna	<i>Oncifelis colocolo</i>	Gato palheiro		Threatened
Fauna	<i>Alouatta belzebul ululata</i>	Guariba-de- mãẽo-ruiva		Endangered
Fauna	<i>Taoniscus nanus</i>	Inhambã ^o carapã©		Endangered
Fauna	<i>Psophia viridis obscura</i>	Jacamim de costas verdes		Threatened
Fauna	<i>Penelope ochrogaster</i>	Jacu de barriga vermelha		Threatened
Fauna	<i>Leopardus pardalis</i>	Jaguatirica		Endangered
Fauna	<i>Bothrops jararaca</i>	Jararaca		Endangered
Fauna	<i>Chrysocyon brachyurus</i>	Lobo Guarã _i		Endangered
Fauna	<i>Ateles geoffroyi</i>	Macaco aranha		Endangered
Fauna	<i>Cebus kaapori</i>	Macaco caiarara		Endangered
Fauna	<i>Saimiri vanzolinii</i>	Macaco de cheiro		Endangered
Fauna	<i>Cebus apella</i>	Macaco-prego		Endangered
Fauna	<i>Numenius borealis</i>	Maãsarico esquimã ³		Endangered
Fauna	<i>Phlegopsis nigromaculata</i>	Mãẽo de taoca pintada		Threatened
Fauna	<i>Culicivora caudacuta</i>	Maria do campo, papa		Threatened
Fauna	<i>Leontopithecus rosalia</i>	Mico Leãẽo Dourado		In extinction
Fauna	<i>Lonchophylla bokermanni</i>	Morcego		Threatened
Fauna	<i>Lonchophylla dekeyseri</i>	Morcego		Threatened
Fauna	<i>Platyrrhinus recifinus</i>	Morcego		Threatened
Fauna	<i>Lasiurus ebonus</i>	Morcego		Threatened
Fauna	<i>Myotis ruber</i>	Morcego		Threatened
Fauna	<i>Crax fasciolata pinima</i>	Mutum de penacho		In extinction
Fauna	<i>Puma concolor</i>	Onãsa parda		Endangered
Fauna	<i>Panthera onca</i>	Onãsa Pintada		Endangered
Fauna	<i>Mergus octosetaceus</i>	Pato mergulhãẽo		In extinction



List of Endangered or Threatened Species Possibly Inhabiting the Project Site

Category	Scientific Name	Common Name	Family Name	Threat Category
Fauna	Trichechus manatus	Peixe boi da Amaz�nia		In extinction
Fauna	Trichechus inunguis	Peixe boi marinho		In extinction
Fauna	Dryocopus galeatus	Pica pau cara amarela		Endangered
Fauna	Callistomys Pictus	Callistomys Pictus		Endangered
Fauna	Saguinus bicolor	Sagui de duas cores		In extinction
Fauna	Stegodyphus manaus	Aranha-eres�-dae		Endangered
Fauna	Myrmecophaga tridactyla	Tamandu�j Bandeira		Endangered
Fauna	Chelonia mydas	Tartaruga verde, aruan�		Endangered
Fauna	Tolypentis tricinctus	Tatu-Bola		Endangered
Fauna	Priodontes maximus	Tatu-canastra		Endangered
Fauna	Coryphaspiza melanotis	Tico-tico do campo		Endangered
Fauna	Pyrrhura pfrimeri	Tiriba da orelha branca		Endangered
Fauna	Pyrrhura lepida lepida	Tiriba p�rola		Threatened
Fauna	Thalasseus maximus	Trinta r�is real		Endangered
Fauna	Ramphastos vitellinus	Tucano de bico preto		In extinction
Fauna	Cacajao calvus calvus	Uacari branco		Endangered
Fauna	Cacajao calvus novaesi	Uacari de novaes		Endangered
Fauna	Cacajao calvus rubicundus	Uacari vermelho		Endangered
Flora	Virola surinamensis	Ucuuba	Myristicaceae	Endangered
Flora	Ocotea Langsdorfii	Canelinha	Lauraceae	Endangered
Flora	Bauhinia smilacina	Cipo escada de macaco	Leguminosae	Endangered
Flora	Bowdickia nitida Spruce ex	Sucupira	Leguminosae	Endangered
Flora	Pithecellobium recemosum	Angelim-rajado	Leguminosae	Endangered
Flora	Ocotea catharinensis Mez	Canela-preta	Lauraceae	Endangered



Strata Identification

According to EMBRAPA, department of the Brazilian Ministry of Agriculture, the following water strata occurs in the Amazon region:

White Waters - pH 6.5 to 7 and transparency 0.10 to 0.50m.

Black Waters - pH 3-5 and transparency from 1.30 to 2.90m.

Clear Waters - pH 4.5 to 7 and transparency from 1.10 to 4.5m.

During the first expedition to the PONTAROLO project site, water samples were collected. The results are consistent with the definition of black and clear waters from EMBRAPA, as shown in the table below:

Area coordinates	Suspended Solids	Air Temp.	Water Temp.	Conductivity	Hydrogenionic Potential	Dissolved Oxygen	Dissolved Oxygen Saturation	Number of Samples
	mg.L ⁻¹	°C	°C	μS.cm ⁻¹	pH	mg.L ⁻¹	%	n
1°51'818"S e 45°46'024"O. NASCENTE	283	29.7	26.9	83.4	6.8	7.0	99.0	1
1°51'827"S e 45°45'939"O. NASCENTE	225	28.4	25.3	78.7	4.8	5.9	89.0	1

The results of soil samples collected during the first expedition to the PONTAROLO project site can be found in table below:

Area coordinates	Hydrogenionic Potential	Air Temp.	Soil Temp.	Organic Matter	CH ₄	CO ₂	Organic Carbon	Humidity
	pH	°C	°C	g/kg	ppb	ppm	g/kg	%
1°51'808"S e 45°46'024"O	5.8	27.6	25.5	44.8	1,702	368	25.3	84.15
1°51'803"S e 45°46'023"O	5.7	27.6	25.3	45.0	1,702	368	25.6	84.15
1°52'086"S e 45°45'792"O	6.1	29.7	25.2	45.1	1,700	368	25.4	79.35
1°52'083"S e 45°45'787"O	6.1	29.7	25.1	44.9	1,700	368	25.5	79.35

The following images show two perimeters that have been determined for the collection and complete survey of plant species occurring in each demarcated area. Two soil samples were collected at each perimeter. For precision purposes, new PVC tubes were used for soil collection with the following dimensions: diameter = 2' and L = 0.60m, with both sides sealed with appropriate caps.

Water samples were collected in the flow direction of the water current at approximately 0.20m from the surface. Soil temperatures and water were measured with a water-proof thermometer (Minipa MV-361), with a precision of quartz 1/10 degrees. Measurements of the levels of CO₂, CH₄, relative humidity and air temperature in the demarcated areas were performed by Futurlec MG811 (CO₂) sensor, Futurlec MQ135 (CH₄), humidity and temperature sensor SHT15 from Sensirion respectively.



Information related to the volume of sequestered carbon in the Amazon rainforest are based on data from the Intergovernmental Panel on Climate Change - IPCC. On the advice of the IPCC, sequestered carbon in the soil of the project area was not accounted.

Project site and the demarcated areas:

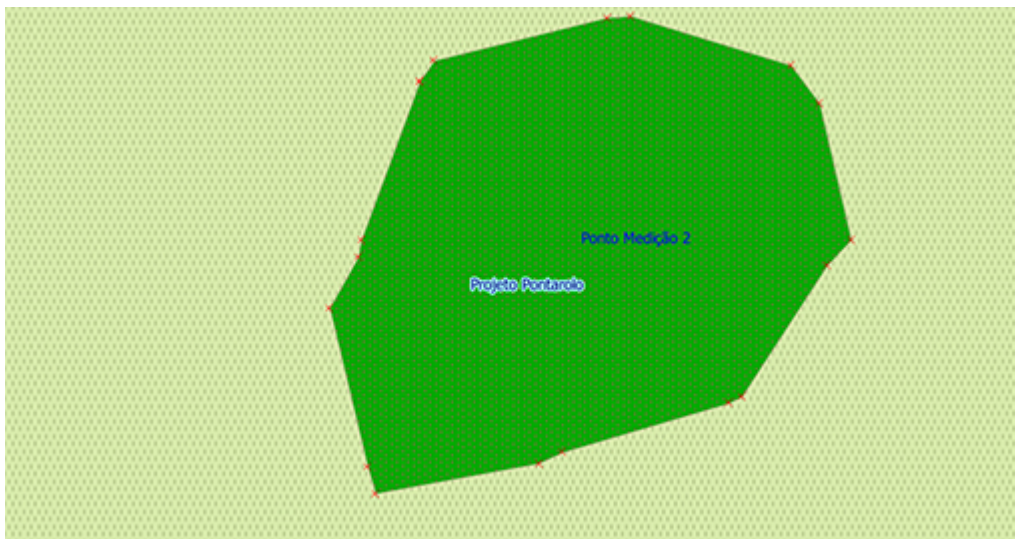


AREA 1 - Start of data collection: April 26, 2014 08:05AM



Coordinates: 1086'347'S e 45076'717'O Perimeter: 44.52m Area: 102.00m²

AREA 2 - Start of data collection: April 26, 2014 09:17AM



Coordinates: 1086'806'S e 45076'319'O Perimeter: 86.71m Area: 534.00m²

Establishment of Baseline Scenario

According to item 5.4 of the approved methodology ZNP0004: 'For ZERO2NATURE-PREBIO project activities, the baseline is given by the degree of impermanence of a specific living specie, of a certain region, according to the EIP related to its impermanence, available at www.zero2nature.com'. Moreover, pursuant to the same methodology, item 2.2 (c): 'for a continuous total area of ZERO2NATURE project activity from 5,001 hectares to 10,000, the objective evidence of existence of at least 1 specie that is threatened, endangered or in imminence of extinction will generate 10% (ten percent) of the total volume of ecological credits listed in the EIP table, available at www.zero2nature.com'. The possibility of credit generation was presented in the section 'List of Endangered or Threatened Species Possibly Inhabiting the Project Site' of this PDD. In line with the ZERO2NATURE Standard, the credits will be conceded ex-post, after verification by a ZERO2NATURE approved certifier, upon proof - through objective evidence- of the permanence of living species in the project site.

Demonstration of Additionality

In line with the adopted methodology, the additionality of the ZERO2NATURE project activity will be proven through objective evidence of permanence in the project site, relative to a living and endangered specimen, according to the red list of the IUCN and EIP, available at www.zero2nature.com.

Sink Removal Method

The removal of negative emissions, in the case of PROJETO PONTAROLO ZERO2NATURE-PREBIO project activity, refers to the monitored preservation 6,262.60 hectares in the project region. The investment in monitoring will detain the logging of 4,249 hectares of forest in the project site and consequently, will preserve the life of species that are



threatened, endangered or in imminence of extinction.



Fixed Ex-Ante Data and Parameters

Data or Parameter.	Specimen of living flora threatened, endangered or in extinction
Measuring Unit	Adult individual
Description	The proof of permanence, in a specific location within the project site, of a living specimen of flora that is threatened, endangered or in imminent danger of extinction, will provide the objective evidence necessary for monitoring
Data Source	Data collected at the project site during expeditions
Applied Value	According to the EIP table
Choice of Data or Measurement, Method and Procedure	The data represents the situational reality of Amazon species that are threatened, endangered and in imminence of extinction
Purpose of Data	To establish a security zone around the vulnerable specimen
Comments	No comments



Data or Parameter.	Specimen of living fauna threatened, endangered or in extinction
Measuring Unit	Adult individual
Description	The proof of permanence, in a specific location within the project site, of a living specimen of fauna that is threatened, endangered or in imminent danger of extinction, will provide the objective evidence necessary for monitoring
Data Source	Data collection at project site during expeditions
Applied Value	According to the EIP table
Choice of Data or Measurement, Method and Procedure	The data represents the situational reality of species, possibly encountered in the Amazon region, that are threatened, endangered or in imminence of extinction.
Purpose of Data	Establish a security zone around the vulnerable specimen
Comments	No further comments





Ex-Ante Calculation of Negative Anthropic Emissions


The ex-ante calculation of negative anthropic emissions through the monitored preservation of species that are endangered, threatened or in imminence of extinction is determined through the sum total of eligible encountered species in the project site, using the applicable values found in the EIP table, in observance with the referenced methodology.


Methodology Factor * EIP Value of Endangered Species = Credit Amount

Initial Evidence of Living Species Identified as Threatened or Endangered of Extinction

Data or Parameter.	Swietenia macrophylla
Measuring Unit	Adult specimen
Description	From the family Meliaceae, considered threatened by the IUCN red list.
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen: 01d51m47s3 and 45d46m00s3
Photo	


Data or Parameter.	Dicypellium caryophyllaceum
Measuring Unit	Adult specimen
Description	From the family Laureceae, considered threatened by the IUCN red list
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen: 01d51m47s3 and 45d46m00s3
Photo	


Data or Parameter.	Virola surinamensis
Measuring Unit	Adult specimen
Description	From the family Myristicaceae, considered threatened by the IUCN red list.
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen: 01d51m48s9 and 45d45m59s5
Photo	


Data or Parameter.	Bauhinia smilacina
Measuring Unit	Adult specimen
Description	From the family Leguminosae, considered threatened by the IUCN red list
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen: 01d51m46s7 and 45d46m00s2
Photo	


Data or Parameter.	Pilocarpus alatus
Measuring Unit	Adult specimen
Description	From the family Rutaceae, considered threatened by the IUCN red list.
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen: 01d52m04s4 and 45d45m38s0
Photo	




Data or Parameter.	Aniba rosaeodora
Measuring Unit	Adult specimen
Description	From the family lauraceae, considered threatened by the IUCN red list
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen:01d51m21s1 and 45d47m01s0
Photo	

Data or Parameter.	Pithecellobium recemosum Ducke
Measuring Unit	Adult specimen
Description	From the family Leguminosae, considered threatened by the IUCN red list
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen:01d51m46s7 and 45d45m01s6
Photo	

Data or Parameter.	Ocotea Langsdorfii
Measuring Unit	Adult specimen
Description	From the family Lauraceae, considered threatened by the IUCN red list.
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen: 01d51m21s1 and 45d47m01s0
Photo	

Data or Parameter.	Ocotea catharinensis Mez
Measuring Unit	Adult specimen
Description	From the family Lauraceae, considered threatened by the IUCN red list
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen:01d51m48s7 and 45d45m08s4
Photo	

Data or Parameter.	Bowdickia nitida Spruce ex Benth
Measuring Unit	Adult specimen
Description	From the family Meliaceae, considered threatened by the IUCN red list.
Data Source	Data collected during expeditions to project site
Applied Value	According to EIP table
Choice of Data or	The data accurately represents the situational reality of the Amazon region biodiversity
Purpose of Data	Establishment of a safety belt around the specimens habitat
Comments	Coordinates of specimen: 01d51m48s3 and 45d45m55s1
Photo	



PREBIO EcoCredits Generated by the Project Activity

Category	Scientific Name	Family Name	Threat Category	Credits per year
Fauna	Mogno	Meliaceae	In extinction	5,000
Fauna	Cravo-do-maranhao,	Lauraceae	Endangered	2,000
Fauna	Ucuuba	Myristicaceae	Endangered	2,000
Fauna	Cipo escada de macaco	Leguminosae	Endangered	2,000
Fauna	Jaborandi	Rutaceae	Endangered	2,000
Fauna	Pau-rosa ou itauba	Lauraceae	Endangered	2,000
Fauna	Angelim-rajado	Leguminosae	Endangered	2,000
Fauna	Canelinha	Lauraceae	Endangered	2,000
Fauna	Canela-preta	Lauraceae	Endangered	2,000
Fauna	Sucupira	Leguminosae	Endangered	2,000
Total				23,000



Monitoring Plan

- (a) The entire project, including geographic coordinates of the border area will be monitored with the use of georeferenced spatial data, supplemented with measurements made during annual expeditions (at least once per year) and GPS coordinates. All data collected will be recorded and archived, including a fully documented databook.
- (b) Widely accepted principles will be used in the inventory and management of the project area, which are:
- (i) Application of Standard Operating Procedures-SOPs and Quality Control/Quality Assurance-QA/QC for forest inventory, including collection of field data;
 - (ii) Related to the field SOPs, checks were conducted during the first two expeditions to the project site
- PONTAROLO and the documented practice in this PDD was confirmed.

Bushnell camera-traps (trail camera brand and model type Natureview CamHD Max) will be installed after the second year of the project activity on points where human presence is more constant.

Project activity members are responsible for the maintenance of cameras and data collection. In order to become guardians of the project activity, members are undergoing training to learn how to operate necessary monitoring equipment and become fully instructed about guidelines in case of project area invasion.



Data and Parameters to be Monitored

Data or Parameter.	Anthropic activity within the project site
Measuring Unit	Adimensional
Description	The installed cameras and project members hired to perform monitoring work will detect any human presence within the confines of the project site
Data Source	Direct observation
Applied Value	NA
Choice of Data or Measurement,	Live observation and collection of data from installed cameras
Monitoring Frequency	The cameras will function 24/7 and the collection will occur on a monthly basis
QA/QC Procedures	The project members hired to work on the project activity will be trained and the presentation of the training material will form part of objective evidence during periodical verification/certification
Purpose of Data	Guarantee the integrity of the project site, with objective evidence, in order to secure ecological credit generation
Comments	NA



Stratification and Sampling Plan

Annual expeditions will follow the same pattern of data collection applied in the first 2 expeditions to the project site of Projeto Pontarolo, detailed in section 'Identification of strata' of this PDD.

Other Elements of Monitoring Plan

There are no further elements to add to the monitoring plan.

Start Date of Project Activity

April 7, 2014

Expected Operational Lifetime of Project Activity

40 years

Start Date of Crediting Period

May 1, 2014

Length of Credit Period

15 years, renewable

Analysis of Environmental Impact

Considering the start of a deforestation trend within the region, the environmental impact caused by the Project Pontarolo project activity can only be categorized as positive.

Environmental Impact Assessment

The PONTAROLO project activity aims to preserve 6,262.60ha of the Amazon rainforest. With respect to possible risks:

Risk of Fire - Action: training of team members of the PONTAROLO project activity will diminish the risk of a fire and increase the chance of fire contention;

Project implementation - all involved participants of the PONTAROLO project activity will have to undergo training emphasizing the need to comply with all requirements of the Zero2Nature Standard. Project implementation must occur without the production or disposal of waste in the area.



Analysis of Social Economic Impacts

As previously mentioned, Maranhao is currently the poorest state of Brazil. The Pontarolo project activity, besides ensuring the preservation of the forest will provide socio-economic benefits, since project members hired to work in the implementation and maintenance of the project will have the opportunity to further their overall education and improve their economic and social status.

Social Economic Impact Assessment

According to item 'Analysis of Socio-Economic Impact' of this PDD, the socio-economic impact of the PONTAROLO project activity is positive.

Solicitation of Comments from Local Stakeholders

On May 23, 2014 a meeting was held for local stakeholders at the Fazenda Sete Irmaos.

Invitation to local stakeholders to inform about the PROJETO PONTAROLO project activity:



CONVITE À POPULAÇÃO

Governador Nunes Freire, 8 de maio de 2014.

Frederico Pontarolo faz saber e convida, por meio desta, toda a população a conhecer detalhes do PROJETO PONTAROLO, no próximo dia 23/5/2014, às 10:00h, na Fazenda Sete Irmãos. Na ocasião, o projeto gerador de créditos ecológicos será apresentado e aberto a comentários que, uma vez ocorram serão, juntamente com suas devidas respostas, partes integrantes do documento de concepção de projeto.

Summary of the Comments Received

No comments were received.

Report on Considerations on Comments Received

Not applicable



Contact Information

Organisation	Fazenda Sete Irmaos
Street	Rua do Bec
Number	20
City	Governador Nunes Freire
State	Manranhao
Country	Brazil
Zip Code	65284-000
Telephone	+55 98 8303-3396
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Website	
Represented by	Adao Pontarolo
Salutation	Mr.
Last Name	Pontarollo
Middle Name	
First Name	Adao
Mobile	+55 98 8303-3396
Direct Telephone	
Direct Email	

Appendix

Data or Parameter.	Legal title of property and rights to O2NCs
Reference	Legal title
Information	

CARTÓRIO DE REGISTRO DE IMÓVEIS
Edmundo Fonteles de Moura
Oficial
Eleonora Veloso de Menezes
Substitua
Câmara Cidada Mendes, Maranhão

REPÚBLICA FEDERATIVA DO BRASIL
REGISTRO GERAL DE IMÓVEIS - CARTÓRIO DA 1ª CIRCUNSCRIÇÃO
ESTADO DO MARANHÃO - COMARCA DE CÂNDIDO MENDES

REGISTRO GERAL - LIVRO N.º 2 - E.
Protocolo n.º 1.366.

ANO - 2.013.
Data: 01/08/2013.

MATRICULA N.º 763. Certifico que às fls. 173, do Livro n.º 2 - E, foi feita, nesta data, o registro do seguinte imóvel: Uma área de terras situada na Região de Maracá, Município de Turiacup e Cândia Mendes, começando pela cravação do marco inicial denominado "0"(zero) de concreto fixado nos limites das terras da SATHIEL e a Estrada de Penetração. Do marco inicial acima descrito, seguiu o alinhamento confrontando com as terras de SATHIEL, com rumo magnético lido de 68°30'NW (NOROESTE), com a distância de 11.980,00m (onze mil novecentos e oitenta metros) em cujo alinhamento a cada 500m foi cravado um marco de concreto, atingindo-se o marco I. Com o ângulo interno de 76°30', seguiu o alinhamento confrontando com terras de pequenos proprietários, com o rumo magnético calculado de 35°00'NE (NORDESTE), com a distância de 6.232,50m (seis mil duzentos e trinta e dois metros e cinquenta centímetros) em cujo alinhamento a cada 500m, foi cravado um marco de concreto, atingindo-se o marco II. Com o ângulo interno de 103°30', seguiu o alinhamento confrontando com terras de Daudionor Lopes Fritz, com o rumo magnético calculado de 68°30'SE (SUDESTE), com a distância de 11.980,00m (onze mil novecentos e oitenta metros), em cujo alinhamento a cada 500m, foi cravado um marco de concreto atingindo-se o marco III. Com o ângulo interno de 76°30', seguiu o alinhamento confrontando com a estrada de Penetração, com o rumo magnético calculado de 35°00'SW (SUDOESTE), com a distância de 6.232,50m (seis mil duzentos e trinta e dois metros e cinquenta centímetros) em cujo alinhamento a cada 500m, foi cravado o marco de concreto, atingindo-se o marco IV-O. Com o ângulo interno de 103°30', seguiu o alinhamento confrontando com terras da SATHIEL, onde se concluiu que o polígono fechou sem erro angular. Limites: Ao Norte, limita-se com Daudionor Lopes Fritz; ao Sul com terras da SATHIEL, ao Leste com a estrada de Penetração e a Oeste, com terras de pequenos proprietários. Área: de acordo com o cálculo analítico, 1.280,2 m² (seis mil, duzentos e sessenta hectares e dois ares).

ADQUIRENTE: FREDERICO PONTAROLLO, brasileiro, casado, proprietário, residente e domiciliado na cidade de São Luís, Capital deste Estado, CI nº 468.169-série V, 4443-PR e CPF nº 123.623.879-68. **TRANSMITENTE:** AGROPECUÁRIA INDUSTRIAL NORTE MARANHÃO S.A., sediada na cidade de São Luís, Capital deste Estado, inscrita no CGC sob nº 06.068.896/0001. **TÍTULO:** Compra e Venda. **FORMA DO TÍTULO, DATA E SERVENTUÁRIO:** Escritura Pública de compra e venda, lavrada nas Notas do 3º Ofício de São Luís, Tabelião Eloy Coelho Neto, em 14 de maio de 1980. **VALOR:** Cr\$ 2.178.000,00 (Dois milhões, cento e setenta e oito mil e sessenta cruzeiros). **CONDIÇÕES:** Nenhuma. **CIRCUNSCRIÇÃO:** Turiacup-MA. **N.º DA TRANSCRIÇÃO ANTERIOR:** 1.043 a 1.072, Livro nº 3, deste Cartório. **DENOMINAÇÃO OU RUA:** Sem denominação, no Município de Turiacup e Cândia Mendes, Cândia Mendes, 01 de agosto de 2013.

Edmundo Fonteles de Moura
EDMUNDO FONTELES DE MOURA
OFICIAL

AV. n.º 61: Certidão: Certifico à vista da Escritura de Desmembramento que me foi apresentada, que fica averbado à margem que a área de terras foi desmembrada em 07 (sete) áreas, sendo uma de 1.038,2 hectares e seis de 1.037,0 hectares cada uma, de conformidade com que dispõe a Lei 6.015/73. O referido é verdade e dou fé. Turiacup, 19 de janeiro de 1990. Oficial Alfredo da Luz Marques.

AV. n.º 2: Certidão: Certifico que nesta data fica averbado o termo a seguir: Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis. Superintendência Estadual do IBAMA no

CARTÓRIO DE
Edmundo Fonteles de Moura
Oficial

MEMORIAL DESCRITIVO

Imóvel: Faz. Sete Irmãos
Proprietário: Firma F. Pontarollo
Município: Candido Mendes
ÁREA: 7.232,6011 ha
Matrícula: 202

U.F.: MA
Perímetro: 38.270,059 m
Comarca: Turiçu-MA

DESCRIÇÃO

Início-se a descrição deste perímetro no vértice EFMM3890, de coordenadas N 9798301,063m e E 412553,026 m, deste, segue confrontando com PA TRES LAGOAS, com os seguintes azimutes e distâncias: 93°10'32" e 11.738,273m até o vértice AFRMC440, de coordenadas N 9797650,826 m e E 424273,278m; confrontando com P.A. SANTA HELENA - III, com os seguintes azimutes e distâncias: 198°04'28" e 6.304,576m até o vértice AFRMF458, de coordenadas N 9791592,759m e E 422527,617m; deste segue confrontando com PA SANTA HELENA V, com os seguintes azimutes e distâncias: 273°37'03" e 7.595,208m até o vértice EFMM3273, de coordenadas N 9792071,986m e E 414947,552m; confrontando com A FAZENDA BELAS AGUAS DE MATRICULA nº 1889 DE: ANTONIO BEZERRA SILVA, com os seguintes azimutes e distâncias: 273°47'35" e 896,549m até o vértice EFMM3272, de coordenadas N 9792131,302m e E 414052,964m; confrontando com A FAZENDA BELAS AGUAS DE MATRICULA nº 1889 DE: ANTONIO BEZERRA SILVA, com os seguintes azimutes e distâncias: 273°26'56" e 1.250,068m até o vértice EFMM3271, de coordenadas N 9792206,502m e E 412805,148m; deste, segue confrontando com a FAZENDA MATA AZUL DE MATRICULA nº 399 DE: ANTONIO BEZERRA SILVA, com os seguintes azimutes e distâncias: 273°29'55" e 1.858,567m até o vértice EFMM3270, de coordenadas N 9792319,922m e E 410950,039m; confrontando com a FAZENDA LEÃO DE MATRICULA nº 889 DE: CRISTOVÃO RABELO DE ALMEIDA, com os seguintes azimutes e distâncias: 273°38'00" e 355,356m até o vértice EFMM3889, de coordenadas N 9792342,444m e E 410605,308m; 18°11'14" e 0.271,956m até o vértice EFMM3030, de coordenadas N 9798301,063m e E 412553,026m; ponto inicial da descrição deste perímetro. Todas as coordenadas aqui descritas estão georreferenciadas ao Sistema Geodésico Brasileiro, a partir da estação de Imperatriz - MA, pertencente a RBMC - IBGE, de coordenadas N 9392398,833m e E 223300,719m, e encontram-se representadas no Sistema UTM, referenciadas ao Meridiano Central nº -45°00'00" WGr, tendo como datum o SIRGAS 2000. Todos os azimutes e distâncias, área e perímetro foram calculados no plano de projeção UTM.

Candido Mendes, 25/08/2010

Resp. Técnico:


Cristino Benedito Melônio

Tec. Agrimensura - CREA: 6655/TD
ART Nº 543916
Código INCRA EFM



Secretaria Auxiliar

Data or Parameter.	Standard Operating Procedure
Reference	SOP
Information	

	<p>STANDARD OPERATING PROCEDURE</p>	<table border="1"> <tr> <td>SOP VERSION</td> <td>01</td> </tr> <tr> <td>Implementation Date</td> <td>July 22, 2014.</td> </tr> <tr> <td>Last Reviewed/Update Date</td> <td>October 5, 2014.</td> </tr> </table>	SOP VERSION	01	Implementation Date	July 22, 2014.	Last Reviewed/Update Date	October 5, 2014.
SOP VERSION	01							
Implementation Date	July 22, 2014.							
Last Reviewed/Update Date	October 5, 2014.							

Standard Operating Procedure

1. Purpose

This SOP objective is to establish procedures to the implementation of PROJETO PONTAROLO as a ZERO2NATURE project activity. Thus, this SOP is related to the monitoring plan, training program and leakage detection.

2. Scope

Related to the PROJETO PONTAROLO monitoring plan – FASE 1:

The entire project, including the geographic coordinates of the border area will be monitored with the use of georeferenced spatial data, supplemented with measurements made during annual expeditions (at least one per year) and GPS coordinates. All data collected will be recorded and archived, including conducting databook.

From the second year of the project activity, cameras Bushnell (trail camera brand and model type Natureview CamHD Max) will be installed at points where the human presence is more constant according to the observations made during the first year of PROJETO PONTAROLO project activity. The project activity workers will be responsible for the maintenance of cameras and data collection. To play the role of guardians of the project activity, the workers will undergo training where they will learn to deal with all the equipment and be instructed not to enter into any confrontation with the invaders of the project area, but come into immediate contact with the nearest base of the Brazilian federal police.

PROJETO PONTAROLO training program – FASE 2:

The first training took place on September 22, 2014; with the presence of Frederico Pontarolo, Adão Pontarolo, Elizabete Pontarolo, Pe. José Abas Filho, João Bertelli, Elair e Darlon B. P. Bertelli. During the training, there was a lecture presenting the whole ZERO2NATURE process and the ecological credits generation. The training was also an explanation about the validation process.

The training related to the installation and maintenance of the cameras will occur by the occasion of the cameras setup.

PROJETO PONTAROLO leakage detection – FASE 3:

During the first year of the project activity, the leakage detection and prevention will occur through area patrols, performed by the project employees. They will be instructed to not confront the invaders, but to make contact with Brazilian authorities. From the second year, the process will be more sophisticated, with the increasing of technology (cameras and drones patrols); although there will always have the employees surveillance.

Documents: SOP short-form

	STANDARD OPERATING PROCEDURE	SOP VERSION	01
		Implementation Date	July 22, 2014.
		Last Reviewed/Update Date	October 5, 2014.

3. Prerequisites

All documents related to this SOP implementation are annex.

4. Responsibilities

The communication agent of PROJETO PONTAROLO project activity is Mr. Adão Pontarolo.

5. Procedure

FASE 1:

Responsible: PLANCK E, Adão Pontarolo and project activity employees;

What: To guarantee the most accurate implementation and efficacy of the monitoring plan pertaining to the PROJETO PONTAROLO area;

When: During the whole project activity life, estimated in 40 years;

Where: In the project activity area, located in Fazenda Sete Irmãos, Cândido Mendes – Maranhão – Brazil;

Why: To guarantee the forest preservation of the PROJETO PONTAROLO area;

How: Through the implementation of the measures and procedures established by this SOP.

6. References

PDD of PROJETO PONTAROLO-PREBIO;

'Methodology for developing ZERO2NATURE™ projects to reduce negative emissions through monitored preservation of biodiversity' - ZERO2NATURE™-PREBIO;

'Tool to identify the baseline scenario and demonstration of additionality in the ZERO2NATURE™ – PREFOR/PREBIO project activities';

'Glossary of terms ZERO2NATURE™';

'Standard ZERO2NATURE™';

'Harvard Atmospheric Chemistry Modeling Group - www.acmq.seas.harvard.edu';

'IPCC Guidelines for LULUCF, 2003';

7. Definitions

Vide Glossary of terms ZERO2NATURE™ annex.

Documents: SOP short-form

