

Tree Planting in Colombia

Project ID: BCR-CO-261-14-001



This project is based on changing the use of land from extensive cattle ranching to sustainable forest production systems, restoring natural forest cover, and creating a landscape of biological corridors and conservation areas that will protect wildlife and biodiversity. The funds will contribute to sustainable infrastructure, help combat climate change through sustainable forestry, regulate water flows, promote expansion of habitat, and protect the flora and fauna of the Orinoco region.

This operation takes a measured approach towards commercial forestry and conservation with the aim of providing employment and sustainable timber products whilst conserving and growing natural corridors and conservation areas by enhancing and restoring the Native flora and fauna through Protected Natural Regeneration (PNR), and Assisted Natural regeneration (ANR).

The total area of the project is 29,019 hectares, where extensive cattle ranching based on regular anthropogenic burning of grasslands has been the dominant model of land-use for over a century. As a result of the remoteness, lack of infrastructure and high transportation costs, this system has dominated land-use: 90% of the productive land of the Municipality of La Primavera is devoted to livestock grazing (Land Management Plan (EOT 2000). This practice occurs with an average of 10 hectares per animal. The existing areas of forest cover, primarily Riparian, that exist by the rivers have not been included in the project as they are deemed to be safe from destruction.

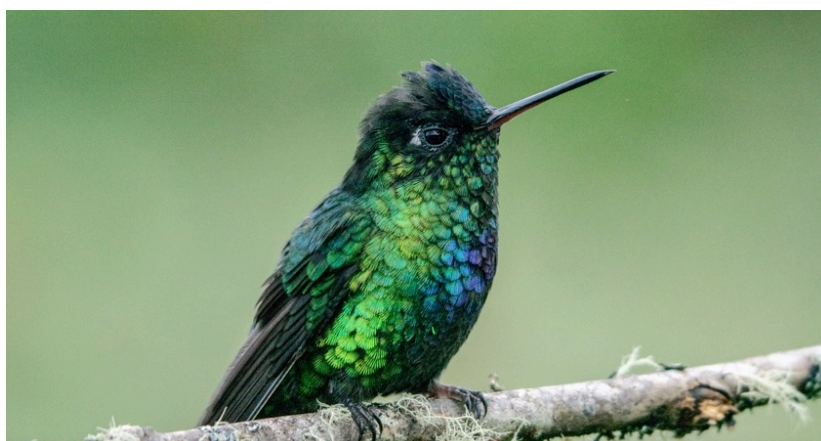


Of the 34,922 hectares evaluated, 29,018 hectares have been certified as eligible for afforestation, with 19,181 hectares allocated to commercial plantations and 9,838 hectares dedicated to native rainforest growth and conservation.

Property	Areas evaluated by nucleus	CDM Eligible Areas per nucleus			
		Commercial stand model	ARN stand model	PNR stand model	Total eligible areas
Bosques de la Orinoquía S.A.	2,172.19	1140.2	30.0	750.9	1,921
Compañía de María, Padres Monfortianos	5,362.75	1905.2	90.0	2240.7	4,236
Reforestadora Guacamayas S.A.	5,362.52	3308.3	60.0	1179.3	4,548
Bosques de La Primavera S.A.	12,849.32	7641.4	30.0	3078.5	10,750
Organización La Primavera S.A.	4,334.84	2307.0	60.0	912.0	3,279
Reforestadora Los Cábmulos S.A.S.	3,662.36	2002.4	90.0	1172.4	3,265
INCOMSER LTDA.	1,178.75	876.6	30.0	114.1	1,021
Total per stand model	34,922.73	19,181.09	390.00	9,447.78	29,018.87

Fauna

The Orinoco region is home to a multitude of mammals, reptiles, birds and fish, from Jaguars, Emerald Hummingbirds and Tapirs, to river dolphins, the Margay, anteaters and many more. All of the native fauna will greatly benefit from a planting project that both benefits humanity and habitat, by working with nature rather than against it.



Here's a list of some of the animals currently living in the last vestiges of primary rainforest.

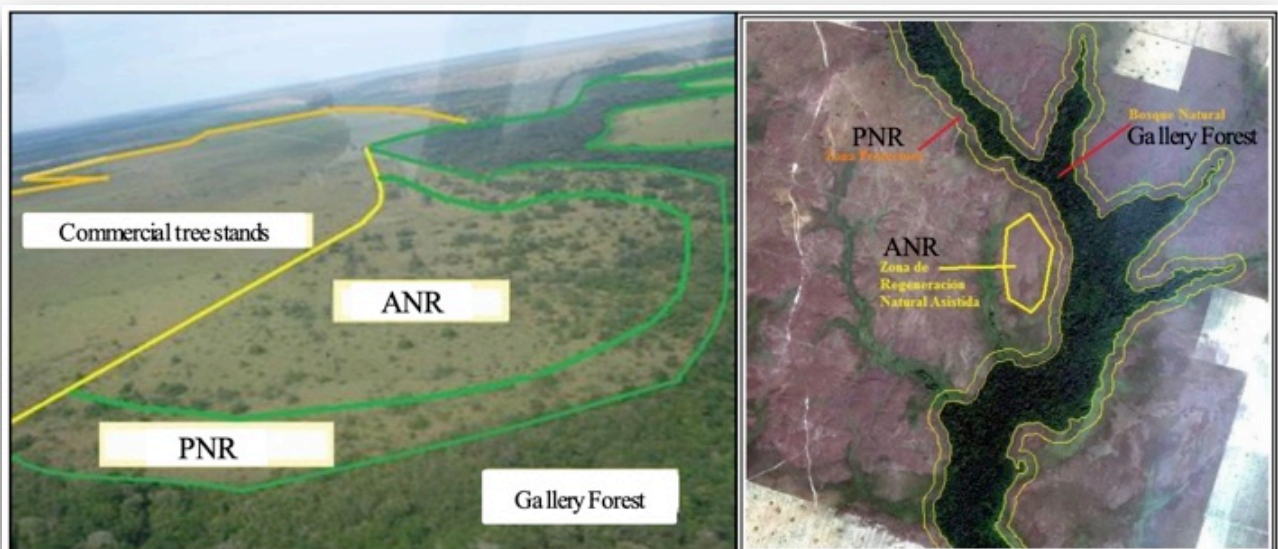
Scientific name	Common name	Category
Fish		
<i>Osteoglossum ferreirai</i>	Arauana Azul, Arawana	EN
<i>Colossoma macropomum</i>	Cachama Negra, Cherna, Gamitana	NT
<i>Brachyplatystoma juruense</i>	Apuy, Manta Negra, Camisa Rayada	VU
<i>Brachyplatystoma filamentosum</i>	Valentón, Plumita, Lechero, Pirahiba	EN
<i>Brachyplatystoma flavicans</i>	Dorado, Plateado	EN
<i>Brachyplatystoma vaillantii</i>	Blancopobre, Pirabutón, Capaz	EN
<i>Goslinea platynema</i>	Baboso, Saliboro, Garbanzo	EN
<i>Paulicea luetkeni</i>	Saliboro, Bagre Sapo, Peje Negro	EN
<i>Pseudoplatystoma tigrinum</i>	Pintadillo Tigre, Bagre, Caparari	EN
Primates		
<i>Aotus brumbacki</i>		VU
<i>Aotus vociferans</i>		LR
<i>Ateles belzebuth</i>		VU
<i>Callicebus torquatus</i>		LR
<i>Cebus apella</i>		LR
<i>Saimiri sciureus</i>		LR

Mammals		
<i>Leopardus pardalis</i>	Leopardo	
<i>Cerdocyon thous</i>	Zorra	
<i>Inia geoffrensis</i>	Delfín rosado	VU
<i>Lontra longicaudis</i>	Nutria neotropical	VU
<i>Leopardus pardalis</i>	Tigrillo canaguaro	NT
<i>Leopardus wiedii</i>	Tigrillo peludo	NT
<i>Myrmecophaga tridactyla</i>	Oso hormiguero, oso palmero	VU
<i>Odocoileus virginianus</i>	Venado sabanero	CR
<i>Pantera onca</i>	Jaguar	VU, NT
<i>Priodontes maximus</i>	Armadillo gigante	EN
<i>Pteronura brasiliensis</i>	Perro de agua	EN
<i>Puma concolor</i>	Puma	NT
<i>Tapirus terrestris</i>	Danta común	CR

Reptiles		
<i>Crocodylus intermedius</i>	Caimán del Orinoco, llanero	
<i>Podocnemis expansa</i>	Tortuga charapa	
<i>Geochelone denticulata</i>	Tortuga morrocoy	
Birds		
<i>Anas cyanoptera</i>	Pava negra	NT
<i>Ara militaris</i>	Guacamaya verde	VU
<i>Brachygalba goeringi</i>		EN
<i>Cacicus uropygialis</i>	Arrendajo escarlata	NT
<i>Basileuterus cinereicollis</i>	Arañero pechigris	NT, CE
<i>Chlorostilbon poortmanni</i>	Esmeralda rabicorta	EN
<i>Crax daubentoni</i>	Pavón moquiamarillo	VU
<i>Harpia harpyja</i>	Águila moñuda	NT
<i>Hypnelus ruficollis</i>		EN
<i>Morphnus guianensis</i>	Águila arpía	NT
<i>Neochen jubata</i>	Pato carretero	NT
<i>Falco deiroleucus</i>	Halcón colorado	DD
<i>Pauxi pauxi</i>	Paujil Copete de Piedra	VU
<i>Polystictus pectoralis</i>	Tachurí barbado	NT

Flora

Sustainability and commercial forestry must work together to promote conservation and biodiversity for generations to come. Below is an example of the considered approach this projects has taken.



Nursery

The seedlings will be produced in a transitional nursery, which for this purpose will be installed on each farm with a capacity of 700,000 to 1,000,000 seedlings. The best quality seeds will be used and the seedlings will be produced in tubular bags (bottomless) of 40 mm in diameter and 12 inches in height, with good resistance and root formation. Seeds for Commercial species are available from certified suppliers; seeds for the ANR are gathered by hand from the local natural forests and seedlings are produced in a central nursery dedicated only to native species.

Establishing the plantation

Planting will take place between the months of April, May, June, July, August and September, which are the months of most precipitation in the region.

Planting density: planting density will be 1,000 trees per ha. Spaced at 3.1 x 3.1 m in a square.

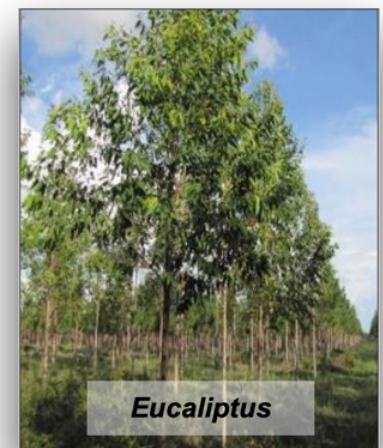
Plantation layout: will be in stands according to the high land areas that do not flood. The low land areas that flood will not be planted.

Commercial tree stand model

The commercial model will be established in areas that are currently in pastures where extensive livestock activities have traditionally been carried out. The commercial plantations will include the following species:

- *Pinus caribaea*
- *P. oocarpa*
- *Acacia mangium*
- *Tectona grandis*
- *Eucalyptus pellita*

Once the terrain has been prepared it will be laid out in squares at 3.1 m between seedlings and 3.1 m between paths (in a square) at a density of 1,000 trees per hectare.



Conservation

Native species to be used in the Assisted Natural regeneration areas will include;



Astronium graveolens A flowering member of the cashew family



Ficus insipida A native fig that grows well by the riverside



Jacaranda copaia A tall pioneering native



Spondias mombin Otherwise known as the hog plum

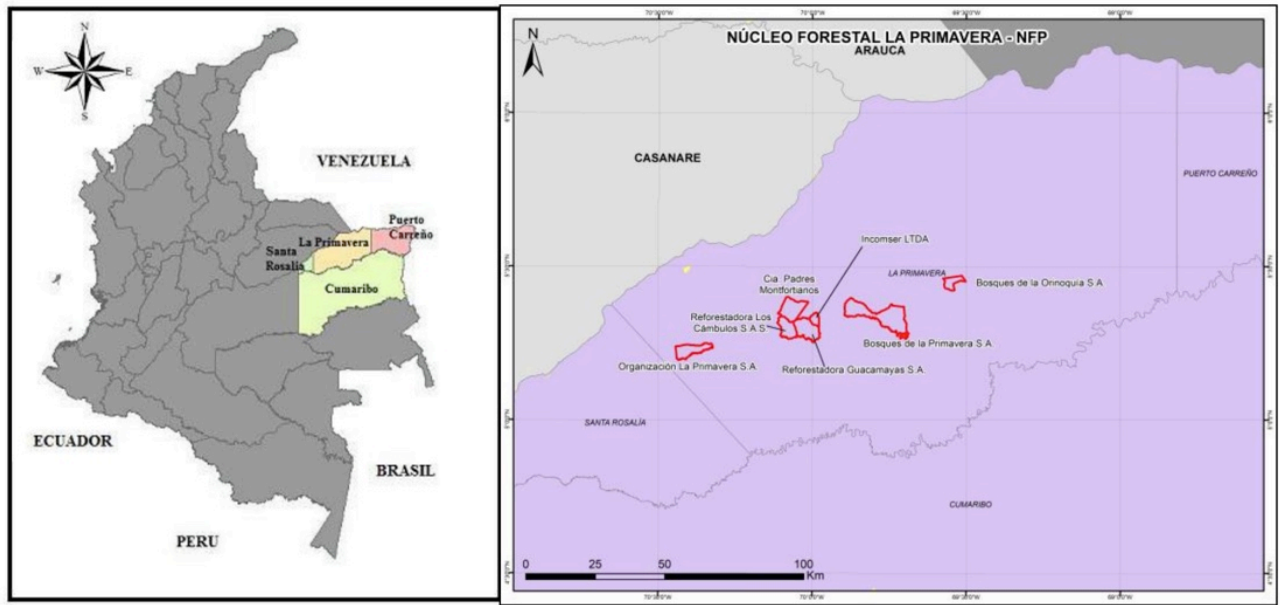
Other species included in the Assisted regeneration species mix.

Species		
<i>Albizia guachapele</i>	<i>Eugenia sp.</i>	<i>Pouteria caimito</i>
<i>Albizia niopoides</i>	<i>Ficus insipida</i>	<i>Pouteria reticulate</i>
<i>Allophylus occidentalis</i>	<i>Fissicalyx fendleri</i>	<i>Protium crenatum</i>
<i>Annona montana</i>	<i>Genipa americana</i>	<i>Protium llanorum</i>
<i>Astronium graveolens</i>	<i>Genipa caruto</i>	<i>Pseudolmedia laevis</i>
<i>Bauhinia picta</i>	<i>Guarea guidonia</i>	<i>Pterocarpus acapulcensis</i>
<i>Bixa urucurana</i>	<i>Guazuma ulmifolia</i>	<i>Rheedia madruno</i>
<i>Bocageopsis multiflora</i>	<i>Inga marginata</i>	<i>Rinorea flavescens</i>
<i>Brosimum alicastrum</i>	<i>Inga oerstediana</i>	<i>Sapium stylare</i>
<i>Capirona decorticans</i>	<i>Jacaranda copaia</i>	<i>Sloanea terniflora</i>
<i>Caraipa llanorum</i>	<i>Jacaranda obtusifolia</i>	<i>Socratea elegans</i>
<i>Casearia nitida</i>	<i>Jessenia bataua</i>	<i>Spondias mombin</i>
<i>Cassia grandis</i>	<i>Lecythis minor</i>	<i>Stemmadenia grandiflora</i>
<i>Cassia reticulata</i>	<i>Liabum astatum</i>	<i>Sterculia apetala</i>



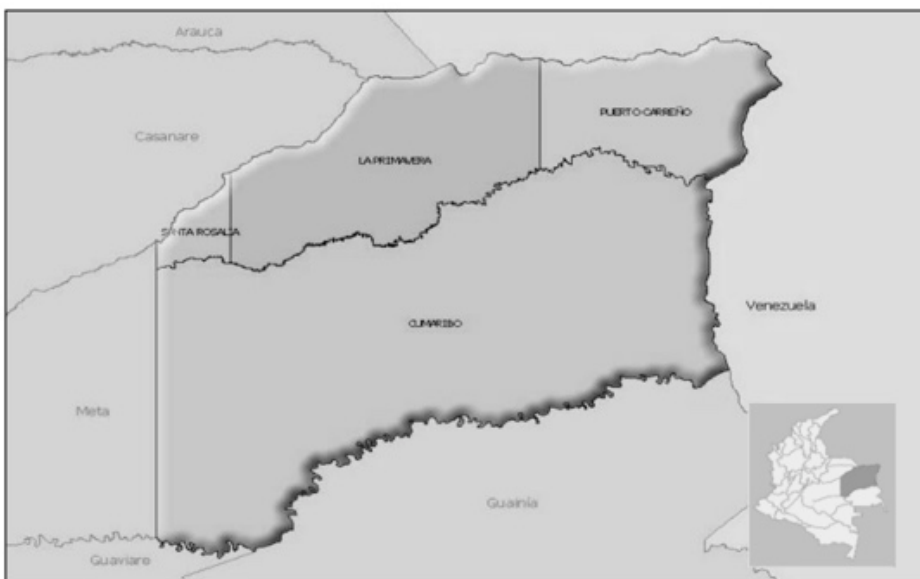
Maps

The CDM Project for Forestry Restoration in Productive and Biological Corridors in the Eastern Plains of Colombia is divided into seven forest nuclei.



According to the census carried out by the DANE in 2005, the population in the municipal capital was 4,826. The rural area of the municipality has around 5,443 inhabitants of which 15.2% (1,560) is indigenous population. The Meta River is the main means of transportation during the rainy season, and dirt roads become more used in the dry

seasons; municipal access from the project site is by unpaved roads. The Municipality has a large but untapped potential for tourism thanks to its scenic richness and unique, abundant biodiversity (CORPORINOQUIA, 2008).



Certificate

PROJECT CERTIFICATION AND REGISTRATION		BioCarbon Registry
Duration of the initiative (years) and quantification period	60	
Removal quantification methodology	AR-ACM0003. CDM Afforestation and reforestation of lands except wetlands	
Estimated amount of GHG reductions / removals (ton CO2e)	4,369,559.00	
Project ID	BCR-CO-261-14-001	
Registration date (dd/mm/aaaa)	15/03/2022	
Verification Period (dd/mm/aaaa)	Verified GHG emission reductions or removals (t CO2e)	Conformity Assessment Body
17/02/2016 - 01/10/2020	4,369,559.00	Instituto Colombiano de Normas Técnicas y Certificación (ICONTEC)

Overview

The total area to be afforested, reforested and conserved amounts to 29,019 hectares, with reforestation on 19,181 hectares with projected GHG removals sequestering 4,369,559 tonnes of CO2 e.

	Hectares	Trees per hectare	Total trees	Total CO2	Trees per tonne	Square metres per tonne	
Commercial	19,181	1,001	19,200,181				
Assisted Natural regeneration	390	1,111	433,290				
Protected Natural Regeneration	9,447	1,111	10,495,617	4,369,599	0.00216198328	21.6198328496	
			30,129,088	4,369,599	6.89516086029		

ae Chisholm

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The margay is a small wild cat native to Central and South America. A solitary and nocturnal cat, it lives mainly in primary evergreen and deciduous forest.

