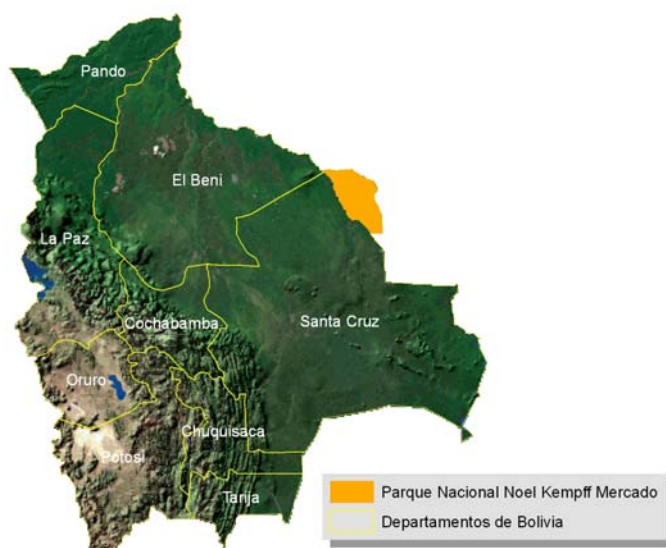


Appendix A. Project boundary:

Detail of geographical location and project boundary, including information allowing the unique identification(s) of the proposed project activity:

The Noel Kempff Mercado National Park (NKMNP) is located between the 13°25' and 15°5' Latitude South of the Equator and between 60°14' y 61°35' Longitude West of Greenwich Meridian.

Map 1: Bolivia and the Noel Kempff Mercado National Park (NKMNP)



I. Noel Kempff Mercado National Park (NKMNP):

Protected area established on December 23 ,1996 by the Supreme Decree No. 24.457

Size: 1,582,322 ha

II. Park expansion area:

Difference between the Park area established on December 23,1996 by the Supreme Decree No. 24.457, and the area established on August 31, 1988 by the Supreme decree No.21.997.

Size: 831,689 ha

III. Project area:

Area, inside the expansion area, defined by the intersection between the expansion area and the logging concessions indemnified by the NK-CAP, plus the north expansion area (area between the north boundary of the Paragua II concession and the Itenez River), minus the existing conservation areas prior the Park expansion. .

Size: 642,458 ha

IV. Area of Net Productive Forest, inside the project area:

According to Mancilla,1999 the focal area of component A (Cessation of logging), the area of net productive forest, is established as the intersection between the project area and the area of productive forest based on the categorization (vegetation covering map) of the PLUS (Memoria del PLUS, p. 24).

Size: 524,144 ha

V. Bajo Paragua TCO area (indigenous territory):

Indigenous territory, conformed by four of the communities neighboring the NKMNP (Florida, Porvenir, Piso Firme and Cachuela).

Size: 360,565 ha

I. Noel Kempff Mercado National Park (NKMNP):

Protected area established on December 23 ,1996 by the Supreme Decree No. 24.457

- Park area as established by the Supreme Decree No.21.997 on 31 of august of 1988:

Source: Supreme Decree No. 21.997 issued on August 31, 1988 ; published at Gaceta Oficial de Bolivia N°1564, p. 5-7.

On August 31, 1988, Supreme Decree No. 21.997 was issued, extending the limits of the Park to cover 681.351 ha.. The Decree also established a 3 to 20 km.-wide, 200 km.-long “pre-park” strip west and south of the Huanchaca Plateau (approximately 200,000 ha.).

The park boundaries according to the Supreme Decree No. 21.997 issued on August 31, 1988 are:

a) Reference Point: Estancia Puerto Pasto

Long 60°55'16"W; Lat 14°44'15"S (PSAD 56 Bolivia)

Transformed to

Easting 723661.0837 Northing 8369269.7976 UTM 20 S WGS84

b) Park Polygonal

Table 1. Park Polygonal

Point	Azimuth	Distance (m)	Observations
PR-PP	33	21000	
P1-P2 [sic!]	342.5	101500	
P1-P2	41	9000	
P2-P3			Pauserna River path until Iténez River
P3-P4			Iténez River Path
P4-P5			Verde River Path
P5-P6	176	12500	
P6-P7	279	12500	
P7-P8	209	44500	
P8-PP	342	4000	

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c) Pre-Park Strip Polygonal

Table 2. Pre-Park Strip Polygonal

Point	Azimut	Distance (m)	Observations
PR-PP	33	8000	
PP-P1	342	137500	
P1-P2	103	18000	Confluence of Iténez River and Pauserna River
P2-P3	154	20000	Pauserna River Path
P3-P4	221	9200	
P4-P5	163	102000	
P5-P6	128	45000	
P6-P7	100	12000	
P7-P8	176	10500	
P8-P9	280	16500	
P8-PP	308	51000	

- Park area as established by the Supreme Decree No.24.457 on 23 of December of 1996:

Source: Supreme Decree No.24.457 issued on December 23, 1996; published at Gaceta Oficial de Bolivia No. 1971, p. 14-19.

The boundaries of the Park according to the Supreme Decree No.24.457 issued on December 23, 1996 are (citing p. 16 y 17):

By the North and East: *Along the Itenez River, from its confluence with the Verde River until its confluence with the Paragua River.*

By the East: *From the spring of the Verde River at the landmark (14° degrees 36' 20'' South and 60° 16' 30'' West) until its confluence with the Itenez River.*

By the South: *Bolivia's international border with Brazil, from the spring of the Verde River (14° 36' 20'' South and 60° 16' 30'' West) until Marco Falso landmark (15° 05' 52'' South and 60° 14' 37'' West).*

By the West: *Paragua and Tarvo Rivers between the Marco Falso landmark (15° 05' 52'' South and 60° 14' 37'' West) and the mouth of the Paragua River into the Itenez River.*

The boundaries landmarks (Hitos Fronterizos) in UTM 20 S WGS 84

- Spring of the Verde River
Coordinates based on the list of the Dirección General de Límites y Fronteras (SAD-69):
14° 37' 14,24'' South and 60° 16' 23,18'' West.

Easting 793716.2981 Northing 8381815.2462 UTM 20 S WGS84

- Marco Falso landmark (Hito Fronterizo de Marco Falso)
Coordinates based on the list of the Dirección General de Límites y Fronteras (SAD-69):
15° 05' 49,43'' South and 60° 14' 40,00'' West.

Easting 796155.4443 Northing 8329028.2822 UTM 20 S WGS84

- Tarvo River landmark (Hito Río Tarvo)
Coordinates based on the list of the Dirección General de Límites y Fronteras (SAD-69):
15° 05' 49,43'' Latitude South and 60° 34' 31,08'' West.

Easting 760570.3320 Northing 8329447.5744 UTM 20 S WGS84

II. Park expansion area:

The park expansion area is defined as the difference between the park area defined by the Supreme Decree No. 24.457 of December 23 of 1996, and the park area defined by the Supreme Decree No. 21.997 of August 31 of 1988.

Map 2: Park expansion area



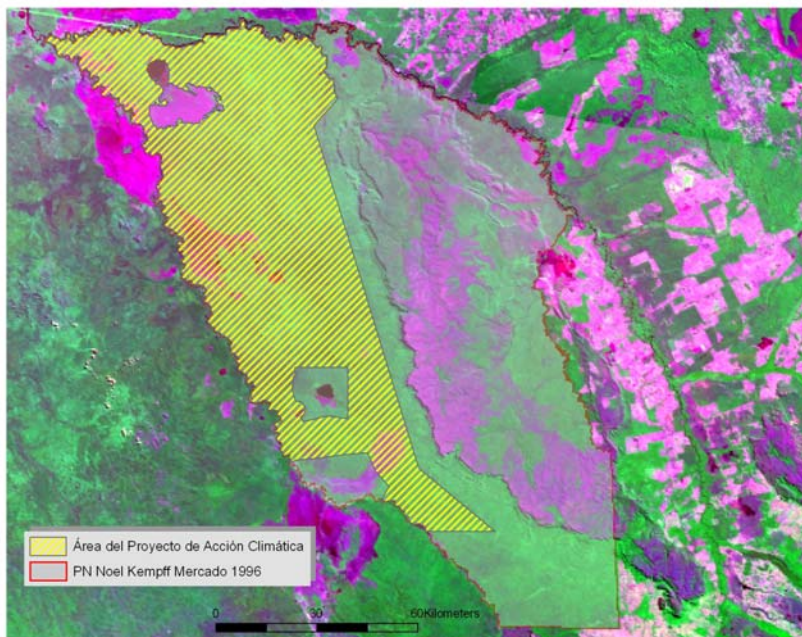
III. Project Area

The Project area was determined by the legal coordinates of the Park, of the previous logging concessions and of the existing conservation areas prior the project.

To achieve the accurate identification of the project area, an intersection of the park expansion area with the previous indemnified logging concessions areas (Moira, El Paso, El Chore), the Paragua II concession, and the north expansion area (area between the north boundary of the Paragua II concession and the Itenez River) was elaborated. Although Paragua II didn't present any legal documentation, this area was also included because its logging activities were finished because of the park expansion. For the same reason, the expansion area between the north boundary of the Paragua II concession and the Itenez River was also included. Because the San Martin concession south of Moira was indemnified prior the project by another programme, it wasn't included. Finally, the existing prior conservation areas prior the park expansion (Laguna La Bahía, Las Lagunas Bella Vista, and the private property "El Refugio") were subtracted from the intersection area founded before.

All the coordinates are documented on the forestry contracts, the supreme decree and the documentation of the topographical measures of the property “El Refugio”. Because of the lack of coordinates in the PLUS, it was necessary to digitalize the area of the Lagunas Bella Vista, based on LANDSAT ETM+ imagery mosaic (P229 R069 (2001-08-13), P230 R069 (2000-08-01), P230 R070 (2000-08-01), P229 R070 (2001-08-13)). Finally, all data were referenced to this mosaic.

Map 3: Project area



i) *Previous logging concession:*

- Paragua II

Source: Map from the “Paragua” Ltda. Forest Management Plan, Santa Cruz 1990, elaborated by Ing. Máximo Vera Maza, Forestry Consultant Reg. C.N.I. 2543, Reg. C.D.F. 012

Reference Point, according to the Forest Management Plan:
Long 61°39'15"W; Lat 13°58'00"S (PSAD 56 Bolivia)

Transformed to
Easting 645219.7784 Northing 8455144.2490 UTM 20 S WGS84

Reference Point: Porvenir according to Landsat ETM 7
Easting 657452.777536 Northing 8453235.853505 UTM 20 S WGS84

corresponding Long 61°32'27.0"W; Lat 13°58'59.7"S PSAD56 Bolivia

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Table 3. Paragua II Concession Polygonal

Point	Azimuth	Distance (m)
PR'-PP'	115.5	7,500
PP'-P1'	270	18,000
P1'-P2'	338	22,500
P2'-P3'	58	10,000
P3'-P4'	340	26,000
P4'-P5'	88.5	62,000
P5'-P6'	232	50,000
P6'-PP'	168	22,000

- Moira

Source: Map from the "Aserradero Moira" Ltda. Forest Management Plan, Santa Cruz 1990, elaborated by Ing. Máximo Vera Maza, Forestry Consultant Reg. C.N.I. 2543, S.I.B. S.C. V-0047, U.T.D.-C.D.F.-S.C. 006/95

Reference Point: Quebrada Blanca
According to Forest Management Plan (Plan de Manejo Forestal p. 2)
Long 61°13'18"W; Lat 14°43'39"S (PSAD 56 Bolivia)

Transformed to:
Easting 691301.6910 Northing 8370653.6293 UTM 20 S WGS84

Table 4. Moira Concession Polygonal

Point	Azimuth	Distance (m)
PP-P1	236	38,800
P1-P2	245	57,000
P2-P3	241	3,000
P3-P4	360	5,000
P4-P5	63	21,500
P5-P6	90	61,000
P6-P7	162	47,000
P7-P8	129	28,000
P8-P9	270	57,000
P9-PP	319	16,000

- El Chore

Source: Long-term timber extraction Contract No. 47/93; p. 2

Reference Point: N/A

According to timber extraction Contract (p. 2)
Long 61°24'54"W; Lat 13°59'11"S (PSAD 56 Bolivia)

Transformed to
Easting 671045.0421 Northing 8452802.7341 UTM 20 S WGS84

Table 5. El Chore Concession Polygonal

Point	Azimuth	Distance (m)
PR-PP	180	1,500
PP-P1	90	56,500
P1-P2	147	15,500
P2-P3	171.5	17,500
P3-P4	270	67,500
P4-P5	337	32,600
P5-PP	90	19,000

- El Paso

Source: Empresa Maderera Agroindustrial El Paso. Estudio Forestal Plan de Manejo Silvicultural , Santa Cruz 1990, elaborado por Ing. Luis Cabrera Vaca, Consultor Forestal Reg. C.N.I. # 1.854, S.U.T.D.- C.D.F.- S.C. 05/80.

Unfortunately, the map and the coordinates were lacking in the management plan. Nevertheless, it was possible to locate the area of the concession, because it is positioned in the gap between the north of Paragua II concession and the El Chore concession, that with the previous park boundary (1988) determine the concession area.

ii) Other Areas:

- Laguna La Bahia

Source: Supreme Decree No. 22.020 issued on September 19th, 1988; Published at Gaceta Oficial de Bolivia No. 1568, p.4-5;

Reference Point:

Intersection between the Limoncito River and the road from the Moira sawmill to the Caparuch sawmill.
Long 61°07'38"W; Lat 14°28'54"S (PSAD 56 Bolivia)

Transformed to

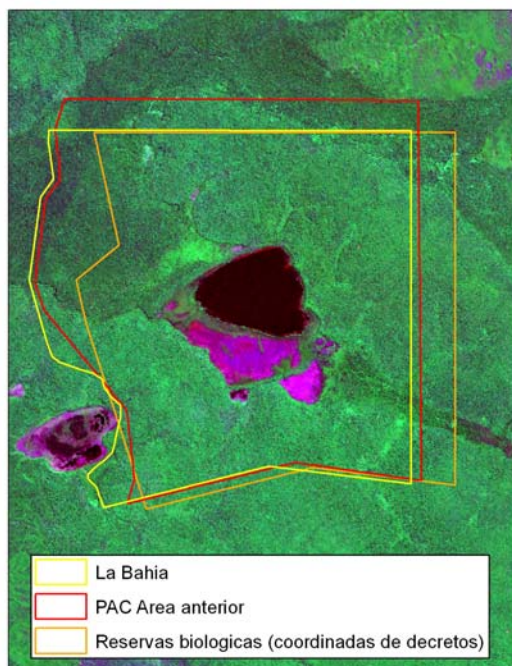
Easting 701697.0814 Northing 8397773.3903 UTM 20 S WGS84

Table 6. Laguna La Bahía

Point	Azimuth	Distance (m)	Observations
PP-P1	347	2000	Road to Caparuch sawmill
P1-P2	50.5	2400	Road to Caparuch sawmill
P2-P3	347.5	5000	Road to Caparuch sawmill
P3-P4	90	15600	
P4-P5	180	15300	
P5-P6	277	6200	Road from los Fierros to Moira sawmill
P6-P7	256	7400	Road from los Fierros to Moira sawmill
P7-PP		11000	Road to Caparuch sawmill

The comparison between the roads' location at the LANDSAT image and the coordinates shows that, neither the coordinates of the reference point PP, neither the location of the area by the PLUS, neither the previous CAP location area were right. Therefore, the mentioned roads were taken as reference, working with the coordinates corresponding to the points P3, P4, P5, P6 and P7.

Map 4: Location of the “La Bahía” Biological Reserve

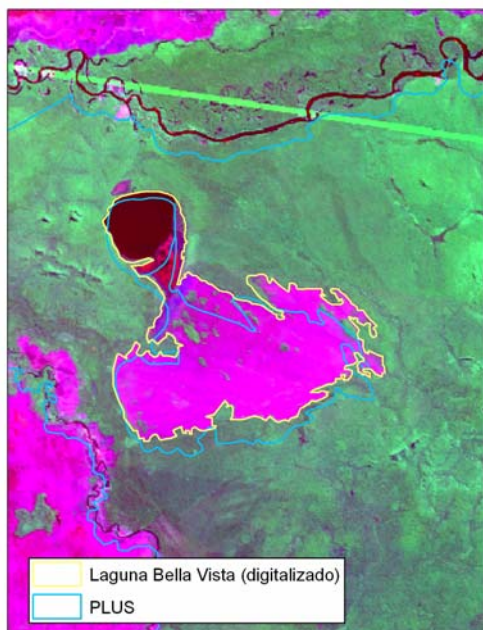


- Lagunas Bella Vista

Source: Digital data from PLUS, distributed by Unidad Técnica Desconcentrada del Plan de Uso de Suelos, Prefectura Departamental, 24.08.2004; UTM Projection, Ellipsoid IUGG 1967 (identical with South American 1969 UTM 20S)

The Lagunas Bella Vista were zoned by the PLUS. Unfortunately, the PLUS data don't coincide with the LANDSAT mosaic (see the following map 5). Therefore, a digitalization of the lagoons was done, taking into account the topology of the biological reserve lagoons documented by the PLUS.

Map 5. Location of the Lagunas Bella Vista Biological Reserve



- Private Property “El Refugio”

Source: Property maps with the coordinates of the properties included in the “El Refugio” area, elaborated by the topographer Reynaldo Pérez Navarro, (dated: San Ignacio, November 1997)

Table 7. Points of the El Refugio’s polygon (geographical projection, PSAD 1956)

Property	Point name at the property map	Long	Lat
Puerto Toledo	1	61° 10' 04''	14° 47' 32''
Puerto Toledo	PP	61° 11' 07''	14° 40' 57''
Puerto Toledo	5	61° 08' 20''	14° 39' 21''
San José de Huanchaca	4	61° 05' 30''	14° 39' 02''
San José de Huanchaca	PP	61° 00' 36''	14° 38' 25''
San José de Huanchaca	3	60° 57' 04''	14° 38' 02''
Huanchaca	1	In direction of 273° 40' (North azimuth) in a 1,120m distance from the point 3 of the San José de Huanchaca property	
Huanchaca	PP	60° 55' 09''	14° 40' 58''
Huanchaca	4	60° 52' 54''	14° 43' 21''
La Junta	3	60° 52' 49''	14° 43' 25''
La Junta	2	60° 55' 15''	14° 47' 39''
La Junta	1	60° 59' 03''	14° 50' 55''
La Junta	PP	61° 03' 24''	14° 47' 08''

IV. Area of Net Productive Forest, inside the NK-CAP area

Source: Mancilla 1999; Vegetation shapefiles and the Memory of the Land use plan of Santa Cruz (Memoria del Plan de Uso del Suelo- PLUS), 1996.

According to Mancilla,1999 the focal area of component A (Cessation of logging), the net productive forest area, is established as the intersection between the project area and the productive forest area based on the categorization (vegetation covering map) of the PLUS (Memoria del PLUS, p. 24). According to Mancilla (p. 14) the productive forests include the following vegetation categories of the PLUS:

- Bosque alto semi siempreverde
- Bosque alto siempreverde en laderas
- Bosque medio semi siempreverde
- Bosque medio semi siempreverde en laderas
- Bosque medio siempreverde

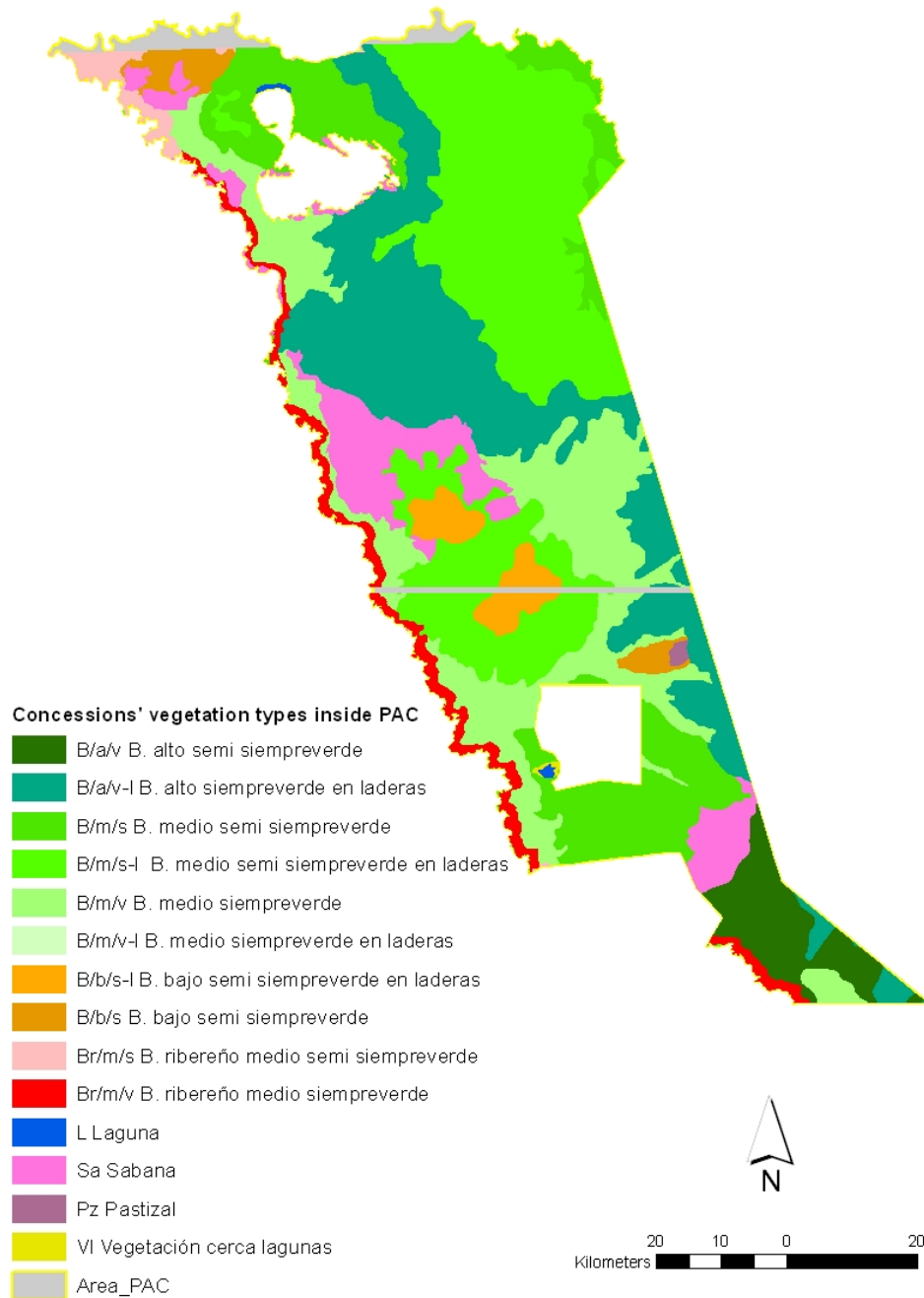
The SIG intersection shows the following results (see map 6):

Table 8. Area of net productive forest

Category PLUS	CODE PLUS	GRID CODE	Vegetation in concession areas ¹ intersecting with NK-CAP [ha]	Net productive forest in concession areas intersecting with NK-CAP [ha]
Bosque alto semi siempreverde	B/a/v	11	27,333	27,333
Bosque alto siempreverde en laderas	B/a/v-l	6	133,357	133,357
Bosque bajo semi siempreverde	B/b/s	14	10,434	
Bosque bajo semi siempreverde en laderas	B/b/s-l	7	15,247	
Bosque medio semi siempreverde	B/m/s	3	81,270	81,270
Bosque medio semi siempreverde en laderas	B/m/s-l	4	176,017	176,017
Bosque medio siempreverde	B/m/v	1	106,153	106,153
Bosque medio siempreverde en laderas	B/m/v-l	8	14	14
Bosque ribereño medio semi siempreverde	Br/m/s	9	7,724	
Bosque ribereño medio siempreverde	Br/m/v	5	20,408	
Laguna	L	12	763	
Pastizal	Pz	10	917	
Sabana	Sa	2	48,039	
Vegetación cerca lagunas	Vl	13	408	
	TOTAL		628,083	524,144

¹ The concessions areas are reduced by the area intersecting with protected areas (Las Lagunas Bella Vista, El Refugio, La Bahía), which already existed during the forestry use.

Map 6: Logging area inside the NK-CAP area



The green areas offer a timber logging potential.

V. TCO Bajo Paragua area (Indigenous territory):

Source: Instituto Nacional de Reforma Agraria, 2003. Informe de resultados SAN - TCO Central Indígena del Bajo Paraguá "CIBAPA". Elaborated by Ana Tito and Ramón Sarzuri. 16 de enero de 2003. 6 p.

In 1998, the Bajo Paragua Indigenous Organization (CIBAPA in Spanish) was formed. This entity embodies four indigenous communities neighboring the Park (Florida, Porvenir, Piso Firme and Cachuela). The same year, their claim for an indigenous territory (TCO in Spanish) was accepted by the Instituto Nacional de Reforma Agraria (INRA in Spanish). The process of obtaining the title deed is currently paralyzed due to a conflict with a concession, the location of which is overlapping a portion of the indigenous territory, in an area of approximately 45,000 ha.

Map 5: TCO Bajo Paraguá, Indigenous Territory

