Nomination of Chiribiquete National Park
“The Maloca of the Jaguar”, for Inscription in the World Heritage List

Bogotá – Colombia
February 2017
Nomination of Chiribiquete National Park “The Maloca of the Jaguar”, for Inscription in the World Heritage List
Bogotá – Colombia, February 2017

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EXECUTIVE SUMMARY
State Party: Colombia

State, Province or Region: The nominated property is located in the departments of Caquetá (townships of Cartagena del Chairá, San Vicente del Caguán, and Solano) and Guaviare (township of Calamar).

Name of Property: Chiribiquete National Park - “The Maloca of the Jaguar”

Geographical coordinates to the nearest second:

<table>
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<th>Latitude</th>
<th>Longitude</th>
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<tbody>
<tr>
<td>0° 31’ 31” N</td>
<td>72° 47’ 50” W</td>
</tr>
</tbody>
</table>

Textual description of the boundary(ies) of the nominated property:

Chiribiquete National Park is located in the central Colombian Amazon, bordering with the Tunia River and the Macarena Mountain Range in the north, with the Apaporis River in the east, with the drainage divide of the basins of the rivers Luisa and Cuanapi in the south, and with the basins of the Tajisa and Yari Rivers in the west. It is situated on the western side of the Guyana Shield, east of the Andes Eastern Range, north of the Amazon plains, west of the Upper Río Negro region and south of the Orinoquia grassland savannah.

A4 or A3 size map(s) of the nominated property, showing boundaries and buffer zone (if present)

Map 1. Map of the nominated property, showing boundaries and buffer zone
Nomination of Chiribiquete National Park "The Maloca of the Jaguar", for Inscription in the World Heritage List

Criteria under which the property is nominated:

Criterion (iii): Rock art found at Chiribiquete.

Criterion (viii): The geological and natural code of the entrails of the continent’s westernmost tepui.

Criterion (ix): Hinge and centre of the world in the northern Neotropical realm.

Criterion (x): Biological distinctiveness: one of these things is not the same as the rest, it is exceptional.

Chiribiquete National Park, with an area 2,782,354 ha is the largest protected area in Colombia and one of the largest of the Neotropical realm. With its exceptional integrity and mosaic of tepui, Guyanese and Amazon landscapes, its level of conservation is exceptional and it is home to the great biodiversity of four converging biogeographic regions: Orinoquia, Guyana, Amazonia, and North Andes. Its location is also fundamental for processes of hybridization, speciation and endemism, constituting a unique feature with respect to the rest of the tepuis in South America and the Guyana Shield. The pictorial records are of an extraordinary magnitude; their symbolic and cosmogonic content constitute the oldest found evidence (20,000 years old to be precise) of an uninterrupted sequence of ritual use paintings, from the Paleo-Indian Era to present times, as uncontacted or voluntarily isolated groups continue to engage in painting practices that account for a unique location of important symbolic and shamanic connotation for the region.

The area is considered a key site for the conservation of healthy populations of charismatic and endangered species, including the jaguar, the pink dolphin, the tapir, the macaw and the giant newt. The area is of great importance as a neuralgic point of connection for the stability of South America’s jaguar population, whose presence is very important for the indigenous communities, which consider the Park “The Great Maloca of the Jaguar”. This so-called maloca is understood as a representation of the universe on Earth, and a place which is especially emblematic as a centre of cultural and shamanic origin. Geologically, Chiribiquete constitutes a window onto the origin of the Earth and onto Colombian geology. Here are found exceptional tepuis no more than 850 MASL in which structural, denudational, and hydric processes give rise to numerous geomorphologic patterns.

Draft Statement of Outstanding Universal Value:

Criterion (iii): Chiribiquete National Park contains the oldest, largest, densest and most impressive archaeological pictographic complex in America which stands out with its fifty monumental murals including more than 70,000 different representations arranged into designs and styles with original characters and a symbolic and emblematic content making special reference to the figure of the jaguar and all the rest of the fauna which inhabits the region, together with its ecological relationships. Chiribiquete contains a stratigraphic and chronological sequence of more than 70 absolute dates which document – through numerous archaeological excavations – the use of murals since ancient times (19,500 BP) to the present day (dates subsequent to 1968, 1976 and, possibly, present times). Chiribiquete National Park has constituted a favourable scenario for the mobility of ancestral human populations. This mobility has been identified throughout periods of occupation and is manifested in the paintings found on the rocky substrate. The rock painting complex provides evidence of hyperrealist aesthetic, artistic and cultural refinement with explicit and detailed representations of realistic scenes, hunting, dance, mythological images and emblematic symbols and it continues to be a reference point in the cosmovisions of indigenous groups uncontacted or voluntary isolation, and of other communities existing in the Colombian Amazon region.

Criterion (viii): Chiribiquete National Park represents a unique feature in the geological history of South America and the world, as it was constituted in the rising of the Precambrian basement towards the Andes further from the Guyana Shield in the Amazonian Craton.
This tectonic pillar is made up of the oldest rocks on Earth from the Precambrian-Proterozoic (2000-1800Ma) and Palaeozoic (485-440Ma) Eras, which emerge between the Amazon plains formed by rocks and sediments from the Tertiary to the present. The interactions of geological factors such as lithology, structure, hydrology, and mineralogy have promoted the singular existence of this exotic mountain range or serranía rising up on the jungle plains. The serranía’s particular structure includes horizontal layers of rock and perpendicular structures (fractures-faults), which together with the waterways have allowed the formation of a diversity of contiguous geoshapes (13) providing a great variety of habitats and processes of endemism. A very thick quartzite rock guiding horizon (40-50 m) within this great sedimentary sequence, associated to the presence of titanium oxide minerals (Ilmenite), determines the appropriate conditions for the elaboration of rock art and its persistence in an exceptional state of conservation for around 20,000 years.

**Criterion (ix):** Chiribiquete National Park is the only protected area in the world that borders simultaneously with the Orinoco savannah (with Caribbean affinity), the Andes mountain range, the Guyana Shield, and the Amazon forest. However, it does not exclusively represent any of these regions. Rather, it constitutes an enclave with contrasting and complementary adjacent ecosystems. Biogeographically speaking, it is considered a centre of diversity in which – given its position in the middle of two Pleistocene refuges (Napo and Imeri) and its function as a corridor between four biogeographic provinces – we can witness historical and ecological processes of local diversification and regional latitudinal, longitudinal, and altitudinal migration, which include both the variance due to the obvious isolation of the mountaintops, and the dispersion between contiguous biomes and ecosystems connected through the park. As such, the park sustains a biological mosaic of its own elements combined with those characteristic of near-by ecosystems in a restricted area.

**Criterion (x):** Chiribiquete National Park is home to 30% of the ecosystems and flora (1,802 sp.) of the Colombian Amazon, as well as 30% of the bat diversity (58 sp.) and 10% (209 sp.) of the country’s known butterfly diversity. The park is also unique for its high endemism levels of amphibians and freshwater fish, which are two of the most endangered groups of vertebrates in the world. At a global level, this is extremely relevant given that Colombia has the highest bat diversity in the western hemisphere and the second highest diversity globally of vascular plants, butterflies, freshwater fish, and amphibians. The 22 different types of land ecosystems and the multiple clear and black water aquatic systems provide habitats and essential resources for the populations of nine mammal species, and three fish species endangered in Colombia. Its ecosystemic singularity, which includes white sand savannahs and extensive paramo grasslands in rainy seasons or xerophyte enclaves in intense droughts, house over 30 endemic and near endemic species of bird, amphibians, fish, butterflies and vascular plants which are either exclusive to the protected area or that exist in an adjacent ecosystem. The existing populations of large predators (jaguar, newt, puma and margays, among others), species that play a role in structuring the landscape (tapirs, pink river dolphin, agoutis, woolly monkeys, etc), together with the huge diversity of pollinating insects and bats, reflect the healthy functioning of the area’s ecosystem.

**Statement of integrity**

Chiribiquete National Park has been maintained in an exceptional conservation state given that its level of geographic isolation and ancestral cultural rules have stopped any modification or alteration to the area for centuries. Dynamics of colonization and of other types of productive activities have not been allowed in the area. Besides the deterioration due to natural agents, the state of conservation and preservation of the rock art is unsurpassable and in total harmony with the requirements which ancestral groups have culturally impressed in the area in order to keep the site protected from external pressures to this day.

Chiribiquete National Park is part of a heritage that maintains the norms, the law of origin,
the cultural and natural heritage for many communities in the region and which, together
with the conservation actions imposed by the Colombian State, allow the protection of this
unique site to be continued, given its distinctive role in the cultural, spiritual and natural
levels, not only for ancestral communities but also for world history in general.

• Statement of authenticity

The set of archaeological and anthropological manifestations documented in Chiribiquete
National Park is validated by the documentation of over 50 rocky shelters with extraordi-
nary murals containing over 70,000 pictograms, painted by uncontacted groups or in volun-
tary isolation through many periods throughout the past 20,000 years. The paintings’
chronological framework has more than 50 Carbon-14 dates, found in different excavations
over recent years in archaeological contexts associated directly to pictographic records. This
has provided archeologically and scientifically supported reliable stratigraphic sequences,
carried out in certified and well-known radiometric analysis laboratories and backed up by a
number of scientific publications. The pictographs identified in Chiribiquete National Park
present an excellent state of conservation as their level of isolation has impeded processes
and dynamics, other than ancestral ones, to modify the ritual processes associated to the
existing rock art.

• Protection and management requirements

Chiribiquete National Park is property of the Colombian government managed by the Sys-
tem of National Natural Parks (SPNN). It was reserved, delimited and declared in 1989 in
perpetuity, with an approximate area of 1.3 million hectares, which in August 2013 were
amplified to an approximate total of 2.8 million hectares. The authority in charge of manag-
ing the Park’s rock art sites is the Colombian Institute of Anthropology and History
(ICANH). To guarantee their conservation, their monitoring is based on the parameters o
f
minimum intervention and the safeguard of the transmission of ancestral knowledge. The
ICANH and the National Parks System must articulate their management activities within
the framework of an interinstitutional agreement, which currently includes the postulation
of the park as a Mixed World Heritage Site.

The buffer zone of Chiribiquete Park is made up entirely by Indigenous Reserves and the
Amazon Forest Reserve. The Forest Reserve is classified by the Ministry of Environment
and Development in a category for such reserves with the greatest restrictions for use,
where requests for extractive activities are not allowed. Managing the buffer zone is aimed
at: mitigating and preventing disturbances in the protected area, rectifying any alterations
which may present themselves due to the pressures exerted in the area, and harmonising the
occupation and transformation of the territory with the conservation goals of the protected
area, promoting the safeguarding of associated cultural and natural elements.

The management plan for Chiribiquete guides the actions towards the achievement of the
protected area’s short, medium and long-term conservation goals, and defines the effective
management of the available financial, physical and human resources. This allows articula-
tion with local, regional and national level public entities, civil society organisations, indige-
nous authorities, and research institutes, among others. The management plan is structured
into three components: diagnosis, land planning, and strategic planning. Given that there are
no direct pressures within the National Park, a good part of the management implemented
by the National Parks System and other competent institutions, are also implemented in the
buffer zone. Within the Park, management strategies guarantee the prevention, vigilance and
control of sectors identified as having a higher degree of vulnerability. Recently, the country
has taken giant legal steps to protect the isolated indigenous communities found in the area.
The management of the protected area is beginning to include and deal with the trends of transformation associated to the advancement of the agricultural frontier towards the Park, the development of illegal extraction activities, unordered tourism, and road construction in the periphery of the buffer zone. Actions to halt these activities are being carried out together with the competent authorities under the leadership of the Ministry of Environment, within the framework of the Visión Amazonia strategy as an articulation between the national and the international cooperation organisms for the reduction of deforestation and their funding in perpetuity.

Name and contact information of official local institution/agency

| Parques Nacionales Naturales de Colombia |
| Calle 74 # 11 - 81 Bogotá, Colombia     |
| PBX: (57-1) 3532400                     |
| Email: atención.usuario@parquesnacionales.gov.co |
| www.parquesnacionales.gov.co            |

| Colombian Institute of Anthropology and History |
| Grupo de Patrimonio Arqueológico y Antropológico. |
| Calle 12 #2 - 41, Bogotá, Colombia            |
| PBX: (57-1)4440544                           |
| Email: comunicaciones@icanh.gov.co           |
| http://www.icanh.gov.co/                     |
LOCATION MAP

Legend

- Chiribiquete National Park
- Buffer zone

Map 2. The location of Chiribiquete National Park in Colombia
1. IDENTIFICATION OF THE PROPERTY
1.a Country

Colombia

1.b State, Province or Region

The nominated property is situated in the departments of Caquetá (townships of Cartagena del Chairá, San Vicente del Caguán and Solano) and Guaviare (township of Calamar).

1.c Name of Property

Chiribiquete National Park - “The Maloca of the Jaguars”

1.d Geographical coordinates to the nearest second

Table 1. Chiribiquete National Park coordinates.

<table>
<thead>
<tr>
<th>LATITUDE</th>
<th>LONGITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° 31’ 31” N</td>
<td>2° 47’ 50” W</td>
</tr>
</tbody>
</table>

1.e Maps and plans, showing the boundaries of the nominated property and buffer zone

See Map 2. The location of Chiribiquete National Park in Colombia. (page 25).

1.f Area of nominated property (ha.) and proposed buffer zone (ha)

Area of nominated property: 2,782,354 ha
Buffer zone: 3,989,682.82 ha
Total: 6,772,036.82 ha
Photo 1. Landscape of Chiribiquete National Park. J. Arango/Fundaherencia
NOMINATION OF CHIRIBIQUETE NATIONAL PARK “THE MALOCA OF THE JAGUAR”,

2. DESCRIPTION
2.a Description of Property

Chiribiquete National Park is home to a series of extraordinary natural and cultural features, which provide evidence of great interaction throughout many millenia. The uncompleted biological inventories show a large number of species of flora and fauna with high levels of endemism in an excellent state of conservation, defined by the complexity and history of the geo-shapes and their location within the biogeographic context. This heritage also serves as a stage for the cultural manifestations of the rock art found within the Park, whose features reveal a profound archaeological and cultural tradition, which makes permanent allusions to the distinctive elements of the biological diversity and ancestral methods of using such biodiversity.

Cultural values

Chiribiquete National Park is home to a broad range of pictorial archaeological sites located in monumental rocky shelters. Since their discovery in the early 1990s until recently in the latest expeditions to the Park (2015-2016), more than 50 sites have been identified (rock art sites). These known sites contain no less than 70,000 drawings of differing style that can be considered hyperrealist and based on sophisticated knowledge of the Amazonian environment.

The earliest prehistoric rock art found at Chiribiquete was painted by groups of hunter-gatherers over 20,000 years ago and is considered as one of the most important existing examples of Paleoart in the Amazon basin (van der Hammen and Castaño-Uribe, 2006; Bolaños, 2015). These paintings provide proof that these human manifestations can be qualified as one of the oldest of the American continent and the absolute oldest of the Amazon, as has been established in an absolute chronology based on Carbon-14 datings and pollen samples taken during the archaeological campaigns (Castaño-Uribe and van der Hammen, 1998; 2006; 2010).

One of the most surprising and outstanding facts about the rock art found at Chiribiquete is that it occurs as a continuous sequence of manifestations of mural use from the end of the Pleistocene Epoch right through to current times whereby indigenous groups—which have had no contact with civilisation or that are in voluntary isolation—continue to paint such murals. The old and new paintings shed light on a form of symbolic and ancestral interrelationship between the indigenous communities—bearers of the territory’s cultural and ecological knowledge—that have produced this art under the same design parameters of a very old cultural tradition, which has survived over the millenia.

Localisation and characterisation of archaeological sites with rock art

The greatest concentration of rocky shelters documented is located in the northern section of the park, in particular in the area close to the Ajáju river and its tributary, the Negro river. Fewer shelters have been documented in the central and southern parts of the National Park. This may be due to the fact that the features pertaining to the geomorphological formation and geological characteristics chosen in the north for the paintings are areas where the rock is harder and the rocky supports provide better shelter for the paintings from the rain and sun (Map 3).

Most of the rocky shelters studied have a north-south orientation, obviously showing that some were painted to face the sunrise and others to face the sunset, revealing a possible and particular cosmogonic meaning. Most of the shelters are located in the middle section of the rocky escarpments at an approximate altitude of between 500 to 700 MASL.

Map 3. Location of the rocky shelters documented to date
Archaeological excavations

To date, several expeditions have been carried out in the National Park, some in the beginning of the 1990’s and more recently at the end of 2015 and during 2016. In the early expeditions more than 34 rocky shelters were documented with pictorial manifestations, whereas in the more recent expeditions more than twenty new sites have been documented almost all with huge mural complexes, with an average of between 200 and 8,000 drawing per site.

Most of the excavations in these rocky shelters have been carried out using different techniques (i.e., grid intervals, stratigraphic wells or trenches). This is because most of the sites do not have organic soils with deep horizons, but rather many show superficial archaeological evidence and vestiges, directly above the rocky soils. On very few occasions has it been possible to carry our stratigraphic excavations with a superposition of archaeological layers.

The discovery of superficial in situ evidence of such recent manifestations has implied the gathering of information geared towards archaeology that is more forensic than it is stratigraphic.

All the evidence found (both for sites with stratification in organic soil and for exposed rock) has been technically analysed, classified and dated allowing the gathering of information for very clear contexts in different moments of the site’s chronology and use.

The most representative iconography of the rock art found at Chiribiquete is made up of: a) anthropomorphic figures, b) zoomorphic figures, c) anthropo-zoomorphic and biomorphic figures, d) phytomorphic figures, e) geometric designs, and f) instruments and artefacts. The cosmogonic figures, a particular kind of geometric design, include representations of the sun, the moon and the constellations, possibly including the Milky Way (Castaño-Uribe and Van der Hammen, 2006; Cataño-Uribe, 2015). (Annex 4).

Animal representations are usually larger and more detailed than other paintings within the pictorial complexes. Among them, there are more and larger –sometimes life-size- representations of felines, particularly of the jaguar. The representations of deer, tapirs and capybaras are also sometimes very large. These large representations are always associated with special contexts, where a multitude of armed men (miniature men, 1 or 2 cm high, or small to medium sized men, from 1 to 15 cm) appear around them either dancing in propitiatory dance with their arms raised, in a hunting attitude, or sometimes even carrying their prey.

The artwork at Chiribiquete was painted, in most cases, using only mineral colorants. For effects of the chronological analysis, unfortunately, plant or organic binders were not used, using instead a mixture of ochre and iron oxide and titanium minerals, which led to broad usage of terracotta and red shades. Recently, a number of figures have been found that were elaborated in white and painted using the fingers, as well as figures painted in black. These two modalities are as yet restricted to two particular sites and the numbers of the figures painted using them is very low. All cases seem to be late compositions given that as well as being painted on top of other records painted in the traditional terracotta, they differ substantially in terms of their style.

Analysis of rock samples and ferruginous crusts taken from Chiribiquete National Park and the Serranía of La Lindosa using X-ray diffraction determined the predominant presence of iron and titanium. The elements found constitute Hematite (Fe₂O₃) type iron oxides known for their reddish colour as the “Stone of Blood”. It is an oxide whose dust forms a natural colouring when it comes into contact with water, and which has been used ancestrally in rock art such as the one found at Chiribiquete.

In superficial collections and excavations carried out in Chiribiquete, the location of artefacts is very scarce and always limited, in the latest levels, to polished stone instruments (axes, chisels), which correspond to a stage much later than the use of archaeological shelters. In such cases, the artefacts are always linked to ceramic remains, which may be associated to the Karijona people.

The special nature of the prehistoric rock art found in Chiribiquete

According to Castaño-Uribe and van der Hammen (1992, 1998, 2006) and Castaño-Uribe (2013, 2015a; 2015b), the pictograms show scenes of hunting and war, accompanied by rituals (dances and empowerment activities) displaying evidence of the cult of the feline. The symbolism reveals a group of people that are hugely concerned with safeguarding and protecting the spiritual power of the special forces existing between man and the natural jungle environment. The pictures clearly
depict scenes related to Amazon Indigenous belief system, in which are common the figure of the shaman and the psychotropic plants with which they balance shamanic spiritual powers and thoughts.

Such practices, displayed in the rock art, are portrayed as a coherent system of religious beliefs and experiences, which try to organise and explain the interrelations between the cosmos, nature and man (Reichel-Dolmatoff, 1986). It is obvious that the manifestations associated with the nominated area significantly contribute to reinforcing this anthropological vision of the Amazon rainforest and are one of the most significant contributions to the world’s archaeological heritage, scientific knowledge and the conservation of the country’s, the continent’s and global cultural values. In particular, these manifestations represent a model of the territory’s identity among the indigenous groups that inhabit the northwestern Amazon basin, but especially that of the indigenous population that lives within the Park uncontacted or in voluntary isolation. Contacted indigenous groups around the nominated area reveal that the huge number of mountains and waterways found in Chiribiquete—all considered sacred sites—constitute an important model in terms of the spiritual and sacred workings of their world. This world is governed by strict rules and norms that have defined the workings of the natural and cultural systems as well as those pertaining to the cosmos in this territory for millenia.

The features and evidence obtained up until now show that Chiribiquete National Park may have been a very important specialised centre of symbolism and ritual. Many features of the iconography of the prehistoric rock art contain outstanding images of the native cosmology and mythology of northwestern Amazonia that are still wholly valid in numerous groups and cultures of the Amazon, Orinoco, Guyana, and they have a tangible impact on other countries of the Neotropics (Castaño-Uribe, 2013 and 2015). There is no doubt that the rock art of Chiribiquete is an outstanding cultural manifestation which, as well as being very old – more so than any other site on the continent– it contains the most archaic iconography of the rituals surrounding the feline figure and the relationships with the sacred and tutorial entities (the sun and the moon). These initial expressions of “jaguarness” in the continent, display a vast gallery of associated pictorial icons that become true original, age-old, archetypes that spread and diversified from these mountains, documenting a long process of maintenance and evolution, right up until recent times.
Photo 3. Chiribiquete National Park is a site where cultural and pictorial traditions are consolidated (Chiribiquete Cultural Tradition), and in which the symbolic and cosmogonic influence transcends through recent centuries. J. Arango/Fundaherencia.
One of the country’s most important challenges – beyond the protection of this unique and emblematic site of the Amazonian culture – is related to the possibility of researching the site in the most responsible and careful fashion possible, given its intrinsic features and the significance of what is represented. Researching the site implies all kinds of difficulties that merit a treatment, which is singular and differential with respect to any other known cultural heritage site due to the fact that, among other reasons, it houses indigenous communities uncontacted or living in voluntary isolation that continue to use pictorial ritual art in these rocky shelters. Researchers have endeavoured all kinds of difficulties to avoid trespassing the National Park’s reserve areas and direct contact with Indigenous groups.

In general terms, the rock art in Chiribiquete is one of the most important cultural elements of the property, as is its anthropological protection throughout an ancient process of ritual use and reuse. Its patrimonial value can be summarised as follows:

1. Chiribiquete is home to a group of pictorial manifestations, which, in terms of rock art, represent a unique heritage in the context of Amazonian and Guyanese ecosystems of the western section of the Amazon basin and Orinoco-Guyana basin.

2. Because of its qualitative and quantitative features, style, typology and its dating back to such an early age, the cultural heritage found in Chiribiquete proves to be a masterpiece defined through a Chiribiquete Cultural Tradition (CCT), unparalleled in the Amazonian territory and clearly a centre point of irradiation and dispersion of both its stylistic attributes and its schemes of cosmogonical and spiritual thought.

3. Chiribiquete’s natural attributes allowed the place to become a holy ceremonial site for various different groups of the western Amazon basin, which independently of their linguistic affiliation, development model and cultural organization, embraced Chiribiquete as such. Present day groups such as the Tanimucas, Cabiyanies, Matapis, Cubeos, Desanos, Huitotos, Boras, Mirañas, Yukunas, Tucanos, and Karionas, among others, consider Chiribiquete a sacred territory, which "marks the origin", is the "Shore of the World", "Centre of the World" and a shamanic landscape, which they protect through a projection of spiritual power and thought. References to Chiribiquete’s mythical mountains can also be found in the ethnography of extinct ethnic groups.

4. Through over 200 centuries of permanent use, Chiribiquete has become consolidated as a spiritually and mythologically active site. Its ritual reuse by indigenous peoples has allowed the stylistic and cosmogonic expression of a primal cultural tradition in which the interrelationship of the natural environment and the ecosystemic balance guided the development of a model of use and interrelation of the ecosystems pertaining to the Amazon, Guyana, and Orinoco savannah enclaves. This gave rise to ample diffusion in sites characterised by rocky outcrops in the basins of the Guayabero, Guaviare, Apaporis, Vaupés, Cuñare, Macaya and Caquetá Rivers in Colombia.

5. The cultural tradition at Chiribiquete fostered the shamanic ritual and the preponderant figure of the regional flora and fauna, with particular emphasis on the jaguar. This feline figure is a representation of power, balance, fertility, and vitality, which inspired much admiration in ancestral indigenous thought.

6. Chiribiquete is a national monument characterized – from a cultural perspective – by epic pictographic representation considered exceptional in terms of number, size, style and majesty of the representations. The paintings contain an important artistic value but, above all, they are outstanding sources of cultural and ecological information. Its chronological, iconographic, typological, spatial and stylistic nature make Chiribiquete a centre of cultural expression, formation and irradiation for the western Pan-Amazon and perhaps a site of influence for other sites outside of the Amazon and Guyanese basin.

7. Chiribiquete is the only location in the world, currently known to be home to communities in voluntary isolation, which continue to elaborate rock art as part of an ancient tradition with profound ceremonial, symbolic and cosmogonic implications. The recent and current use by isolated indigenous communities is a fundamental and essential element to highlight the exceptional universal value of Chiribiquete.

Chronological context

The archaeological sites found in Chiribiquete contain a broad register of no less than 60 carbon-14 dates. As
detailed in Annex II, a long-standing use and reuse of murals stretching could be documented from 20,000 years ago to present times.

One highly significant particularity of Chiribiquete National Park is that it sheds light on different moments when the pictorial panels were elaborated and, as such, documents the periodical reuse and adaptation of the prehistoric rock art (Annex 3).

Evidence of cultural presence in Chiribiquete dates back to approximately 22,000 before present (BP). Although there are no samples of directly painted cleavage rocks, the evidence is related to burners in which carbonized ochre pieces and edible seeds were found. The stratigraphic sequence associates the carbon layers with pictorial vestiges detached naturally or intentionally, depending on the point in time, that have been systematically dated using C-14 radioactive isotopes. The oldest record of painted rock fragments were found in two different areas of the “Abrigo del Arco” mural, dating back almost 20,000 years (19,500 BP), at the end of the Pleistocene Era.

In addition, there are a number of dates, in this and other excavations, associated to different points in time at the beginning of the Holocene, in an uninterrupted sequence until the present day. There is evidence of the use of paint made with mineral oxides and colours (hematite pig iron and titanium) prepared in situ (in particular on burners) and, in some cases, also using seeds, and feline, bird and snake bones as well as the edible fruit of some palm trees. In some cases, tiny coloured quartz rocks have been found in the burner (white, red, black and yellow), which must have been used in the rituals.

The greatest number of dates obtained up until now fall between 5,500 BP and 1500 BP, and between 2500 BP and 1200 BP. Some of the later dates are directly associated to human remains also associated to the direct use of prehistoric panels dating between 700 and 600 BP, and today. A number of these recent dates are related to burners in which ceramic fragments and polished stone axes were found. The ceramic is attributed to the Karijona people, of Karib linguistic affiliation.

It is very interesting that a number of dates later than the year 1950 AD and some that possibly go beyond 1978 AD were found. Of these, despite the use of special calibration parameters, it is difficult to keep precise track of their current modernity, considering that in Carbon 14 testing, the more recent the date, the more difficult it is to determine it precisely. This evidence is complemented by the discovery – during recent expeditions to the National Park in 2015 and 2016 – of recent pictorial records implanted in the existing murals and traces of ritual burners and human footprints, clearly of indigenous origin.

In general, the Chiribiquete dates show a considerably prolonged chronological context. Much has been written regarding the dates of old human settlements in the American continent. In recent years, researchers have begun to document dates that exceed those traditionally accepted as the arrival of human groups during the Paleo-Indian Era to the American continent some 12,000 years ago, through the Bering Strait. The findings in Chiribiquete are part of the evidence suggesting alternate modes of human arrival to America.

In South America, the oldest dates, almost all associated to rock art, are recorded as directly associated to cultural material and human bones in the sites of: Monte Verde in Chile, 14,800 BP; Las cuevas de Lauricocha, Huánuco (Peru), dating back to 9000 – 7000 BC; La Cueva de las Manos, Lago Buenos Aires (Argentina), dating back to 7300 AD; Caverna da Pedra Pintada, Monte Alegre, Brazil dating back to 10500 BP; El Abrigo GO-JA-01, Brazil dating back to 10750 and 8370 BP; El Abra, Cundinamarca, Colombia dating back to 12600 BP; Sitio do Alexandre, in Caraúba dos Dantas in Brazil dating back to 9400 and 8280 BP; Boqueirão da Pedra Furada in Brazil, dating back to 10-15 thousand years BP; Sitios do Meio also in Brazil, 12-14 thousand years BP; and the Mirador de Barragem Boqueirão, Rio Grande do North, Brazil, dating back to 9410 BP. The latter is a rocky shelter with pictures influenced by the Chiribiquete tradition, where a number of child and adult tombs were also found (Castaño-Uribe, 2015) (Annex 3).

The characteristics and symbolism of the pictorial art found in Chiribiquete

Studies undertaken in recent decades highlight the particular nature of the pictorial expressions found to date in Chiribiquete. Attributes related to the stylistic features, the manufacturing techniques, the colours used, the selection of sites in the middle of the vast morphological context of the Serranía, the densities documented in the different murals, the architecture of the pictorial panels, as well as their symbolism, are just a few of the outstanding aspects of these magnificent expressions of the Paleo-Indian as a unique site.
However, it is interesting to note that all of these archaeological manifestations, and their important stylistic repertoire, represent a symbology whereby the location of these mountains crossed by the equator make it the “Centre of the World” or “Axxis Mundial” of ancestral thought. A number of graphic icons of Chiribiquete suggest the special nature of the Serranía as a hereditary cosmogonical geoglyph (Annex 4).

**Cultural Tradition**

The pictorial register of the nominated area contains a series of features and elements, which are outstanding in the national, regional, and global contexts. Its archaeological heritage is constituted by a collection of pictographs and other archaeological remains associated to rocky shelters in the mountains and formations of the tepuis that have been documented as corresponding to the Chiribiquete Cultural Tradition (CCT) (Castaño-Uribe, 2006, 2013 and 2015). The CCT in the Serranía of Chiribiquete shows a series of compositions that denote the telling of myths, historical stories, ritual scenes, ceremonies and, very likely, heraldic and emblematic topics that, little by little, have allowed understanding of their recurrence in the murals and the associations with many of the subsets that they represent (Annex 4).

Given their antiquity, the paintings are considered a legacy of Amazon Paleoart. In every expedition to the nominated area, new paintings are found that help constitute an exceptional archaeological heritage. Prehistoric rock art at Chiribiquete is in itself a vital historical source to help understand scarcely studied ancient codes, rules, patterns, and cultural expressions.

A cultural tradition—considering the scope suggested by Martín (1989) for the case of Brazil—is a unit of analysis that represents, in terms of rock art, a symbolic universe transmitted for several millennia without the representations necessarily belonging to the same ethnic group; it can cover vast geographical spaces and time expanses that can determine subsequent divisions (Martín 1989: 8). In general, the phases are a set of elements with associated motifs and common characteristics that differ, oppose each other, or join others of the same tradition. In this sense and with the same scope, the CCT is a homogenous group of similarly represented compositions. In other words, it is a congruent iconographic subject and typology in which there are stylistic variations and morphological changes in some of the representations through time, as well as the use of repetitive icons that possess spatial locations, attributes, and, above all, associations that highlight their significance and importance, within the symbolic-cultural context of the stone panels. The choice of rocky escarpments in geomorphological sites similar in terms of landscape to the geoforms of Chiribiquete is a constant in most of the sites where there is an iconography of the CCT (Castaño-Uribe, 2006, 2010, 2015a and b).

The legacy of Paleo-indian groups is yet to be understood and measured in its entire dimension: the continent. The documentation of the Paleoart of the CCT in the Colombian Amazon presents an especially strong feature in its allusion to the jaguar as the first graphic and cultural manifestations defined in the Ajáju Phase at Chiribiquete through characteristic and unique icons and archetypes. The Ajáju Phase, which constitutes the oldest stages of the Tradition in terms of chronology and style, contains key archetypes of the Colombian and South American iconographic development (Castaño-Uribe, 2006, 2010, 2015 a and b) which does not manifest in any other part of the continent, thus underlining its exceptional nature. The chronological, typological and stylistic features, as well as its archetypal identity, distinguish it from other artistic traditions, complexes, and manifestations in the continent’s prehistoric rock art (see Annex 4).

The paintings at Chiribiquete give important clues regarding the symbolism and the ritual and cosmogonic functionality of the icons used, much of which can be considered a true archetype in the context of the Amazon and savannah throughout the South American continent (Castaño-Uribe, 1998, 2006, 2013).

The evidence obtained to date allows us to infer that the style of the paintings results from a long process of the hunter-gatherers’ adaptive development and conceptualisation. In this process participated various ethnic groups and linguistic families through various centuries (Castaño-Uribe and van der Hammen 1992, 1998, 2006; Castaño-Uribe, 2013, 2015a and 2015b). The style transcended to other areas of the national and regional continental geography (Neotropics). Therefore, the graphic manifestations of the CCT contain key elements to trace ancient shamanistic thought in the rock art found in the American continent, despite the fact that they could be separated by great distances and executed by groups with different filiations to those responsible for the original expressions.
Photo 4. Howler monkey in front of ancient rock art panels in Chiribiquete. S. Winter/National Geographic
Photo 5. Detail of a wall complex with allusions and narratives associated to the emblematic icon of the jaguar. Valle de los Ancestros, Abrigo del Falo-Caimán. J. Arango /Fundaherencia

Photo 6. Detail of a scene of ritual dance with weapons and handprints in a mural at the La Isla site, a central part of Chiribiquete National Park. J. Arango /Fundaherencia
Stylistic Evolution of the CCT

There is no other place on Earth which documents the uninterrupted use of rock art panels for thousands of years and right up to present times. In Chiribiquete, groups of indigenous hunter-gatherers that have had no contact with modern civilisation or that are voluntarily isolated are still engaged in creating the rock art.

Scientific research and the available information document a stylistic and thematic succession that covers three chronologically identified phases of the Chiribiquete Cultural Tradition: Ajáju, Guaviare and Papamene (Castaño-Uribe, 2013). The phases highlight successive stages of realistic drawings, which, as a set, help us understand the vast time horizon of the Chiribiquete Cultural Tradition, which has a profound impact on other traditions and cultural horizons of rock art in the Neotropics. The CCT has a particular impact on the rock art found in what is today northeastern Brazil, executed at the end of the Pleistocene, some 9,500 years ago. Apparently, it was this point in time that witnessed the first contact between the Amazonian groups with those of the Cerrado. The Cerrado groups had their own graphic manifestations (the Central, Northeastern, Agreste and Itaquatiara Traditions) and their own stone tips, like the Umbu and Itparica Lithic Tradition, related to the earliest occupations of the south Brazilian subtropical region (Schmitz 1984, 1987, 1990; Prous and Fogaça 1999; Dillehay 2000; Guidon 1986; Guidon and Delibras 1986; Parenti 1996; Martin 1997 in Dias, 2005).

In the first phase of the CCT, the Ajáju Phase (20,000 - 10,000 BP), the iconography of animals and plants is very realistic and presented in great detail, painted using feather brushes and think sticks, although fingers were also often used (Van der Hammen and Castaño-Uribe, 2006; Castaño-Uribe, 2014). The pictorial sets are massive and almost always saturated with superimposed representations that mark different levels of the positioning of different-sized figures and contexts of precedence. In most cases, the central role is associated to a feline representation (jaguar or Panthera onca), which is present throughout the panels and murals, but often larger in size and more detailed than the other figures on the rocky panels (Annex 4), (Castaño-Uribe, 2006 and 2013).

Figure 1. Some of the more characteristic icons of the anthropomorphic and feline representation of the CCT in its initial stages (Ajáju Phase). Source: Castaño-Uribe, 2013.
Threadlike human forms stand out since the early Ajáju Phase. These figures are drawn as very simple forms, almost as rectilinear or geometric outlines, where the bodies and extremities are represented by simple lines. Subsequently, the “C” shaped face is added: an eminently feline feature with open jaws and looking up. The figures’ arms are held high, pointing towards the sun in a wrathful attitude. The figures are almost always brandishing weapons, usually some form of bow and arrow or darts, as well as a mallet.

The pictures highlight the use of the concentric circle and the spiral in the abdomen of some of the hunters and warriors as an emblematic symbol of the feline and solar power of the Malaké ritual, in which poisonous ants and wasps are placed in a woven girdle or corset and tied onto the abdomen or the hands to make the insects inject their venom into the skin. They also highlight the use of phytomorphic icons—a ritual practice used by the Karijona in the area right up until recent decades. In fact, the practice subsists in a number of groups with Karib affiliation throughout the continent. There are also a great variety of representations of plants used in shamanistic rituals (in particular, *Anadenanthera peregrina* and *Banisteriopsis caapi*) associated to lunar fertility and the cosmic canoe, which are broadly represented in the complex pictorial world of Chiribiquete and its buffer zones (Castaño-Uribe, 2006 and 2013). The simplest representations of the Chiribiquete human figure were drawn through many centuries right up to modern times (Annex 4).

**Centre for the dissemination of shamanic cultural features**

Scientific evidence shows that Chiribiquete seems to have been a centre for dissemination of a great quantity of philosophical, cosmogonic and identification factors to other areas of the continent. The significance and importance of these factores is only just beginning to be revealed.

The ancient chronology and iconographic content of Chiribiquete allow us to consider it as a centre of shamanic identification and thought, built from its origins on the conceptual formula: JAGUAR (SUN) / SHAMAN / ENTHEOGEN (plant substance with psychotropic properties). It is clear that these three elements are not just present in the prehistoric rock art of Chiribiquete, but rather that the entire Serranía of Chiribiquete as a geological form, constitutes a large geoglyph in a sacred and unique place associated to myths of origin and solar power giving rise to a broad and profound expression associated to the jaguar cult in the Neotropics.

**Sacred territory**

The iconographic content of the pictographs and the features found in the archaeological excavations mean that the property can be considered a centre of shamanic identity and thought, which has also been recognised by local contemporary cultures settled in the National Park’s buffer zone, mainly members of the Arawak, Karib and eastern Tukano linguistic families. This recognition comes through the understanding of Chiribiquete as a sacred site and a centre of power, also known as “Casa de los Animales” (Home of the Animals), “Casa de los Tigres” (Home of the Tigers), “Gran Maloca de los Jaguares” (The Great Maloka of the Jaguars), “La Casa del Sol” (Home of the Sun), “El Enjambre Estrellado Solar” (The Starry Solar Swarm) or as the home to “Sacred Routes”.

For many Amazonian groups and cultural researchers of this portion of the northwestern Amazon, the Chiribiquete mountains are a territorial marker for the spiritual world and an eminently shamanic world, which is visited and protected in thought. Chiribiquete is thought of as the “Shore of the World”; that is, the cosmogonical territory in which their world begins and ends (personal communication - Carlos Rodríguez, 2004, and Van der Hammen, 1997).

The region exhibits a mosaic of landscapes and rivers, and is home to indigenous groups with a great social and linguistic diversity. Even today, more than 20 indigenous languages are spoken in the area, and these are included in 12 regional linguistic families, and at least a couple of single families or isolated languages (García and Ruiz, 2007:260).

The area’s cultural diversity is manifested through the variety of languages, differences in water and land management, art, music, forms of social organisation, eating habits, cosmovisions of the world, and other innumerable attributes of the Amazonian-Orinoco human societies (García and Ruiz, 2007:261). These groups also present articulating factors when we look in greater depth at their cosmology, their interpretation of the different planes of the universe, and the figure of the shaman, which, as a doctrine, is closely related to concepts of cultural and biological diversity with complex rules and guidelines that share a set of values and fundamental ideas (Van der Hammen, 1992; Reichel-Dolmatoff, 1968; Arhem, 2001).
Photo 7. For many Amazonian groups and cultural researchers of this portion of the northwestern Amazon, the Chiribiquete mountains are a territorial marker for the spiritual world and an eminently shamanic world, which is visited and protected in thought. Chiribiquete is thought of as the “Shore of the World”. J. Arango/Fundaherencia.
The importance of the cultural zone associated to the Serranía of Chiribiquete

Recent ethnographic, ethnobotanical and ethnozoological studies carried out by the Fundación Tropenbos, Fundación Puerto Rastrojo, and a number of researchers specialising in the Colombian Amazon (Franco, 2002; Van der Hammen, 1997), shed light on the fact that the groups in this area have a broad conception of the sacred and spiritual significance of the Serranía of Chiribiquete and they consider themselves the ancestral guardians of the site. In the oral tradition of the current Kariponas, Andoques, Uitotos, Cabiyaries, Yukunas, Matapís, Bora-mirañas, Tanimukas, Kubeos, Desanas, and the Tukanos, there are clear references to the Serranía of Chiribiquete as the “Casa Grande de los Animales” (Large Home of the Animals) and its sacred and mythical nature.

Chiribiquete National Park and its buffer zone are part of a sacred territory for many current indigenous cultures. Wise men of these cultures have similar visions with respect to the world, considering, in some cases, the Serranía of Chiribiquete as one of its main sites of ancestral thought. The ritual life of the people of the northwestern Amazon is characterised by the presence of initiation rituals. These involve complex mythological, cosmogonical, and ritual systems where ceremonial meetings are promoted that recreate the alliances between clans, groups and tribes, as well as alliances with the spiritual beings that inhabit the sacred mountains. Large ritual instruments are used in the celebrations such Maguaré drums or “drums of the Earth” that represent the boa and the roar of the jaguar; they also use ceremonial trumpets associated to symbolic elements of great interest in Amazonian ethnography (Pineda Camacho, 2012).

By using psycho-active substances found in entheogenic plants, men turn into jaguars or “fly to the world of their ancestors or that of animals” (Pineda-Camacho, 2012: 37). The wise men of the Yukuna, for example, document a number of ecological and cultural principles pertaining to the aborigenes of the Colombian Amazon. These principles are related to the norms and workings of the ancestral territory. They consider this region – which enshrines the Serranía of Chiribiquete– very important geographical and mental bedrock in their cosmovisions and their cosmogony (Rodríguez and van der Hammen, 2015; Rodríguez and van der Hammen personal communication, 2016).

The National Park is located in an area which is extremely important in the cultural context of the Amazon and the continent. The studies carried out by Reichel-Dolmatoff (1986) and other experts on the Amazon conclude that the Vaupés/Caquetá area and that of other tributaries near the Park are part of a region that has always stood out for its fundamental role in the conceptual and philosophical development of shamanism in South America. The use of entheogenic plants fulfilled a decisive role in the development of socio-religious contexts and in different cosmovisions and is an important part of the beliefs associated to shamanic thought among the indigenous societies of the northwestern section of the Amazon. The roots of such thought go back to very ancient times and prove to be truly distinctive, special and complex manifestations, which express a very particular way of understanding the ecological, environmental and social interrelationship within a territory.
Those whose languages belong to the Arawak linguistic family consider this territory part of the routes of the Kúwai; that is, as pertaining to their collective territorial identity and historical knowledge associated to the mythical travels of Warekena, from the centre of the Amazon to the Caribbean coast, passing through the tributaries of the Caquetá and the Guaviare rivers in Colombia. In Warakena’s mythological travels, he visited sacred spaces and meeting points for the different planes of the cosmos and different tribal groups and territories which were witness to floggings, ritual fighting and agreements of spiritual affinity. The route of the Kúwai goes through sacred sites of great power which turn into geographical milestones referring to key moments and sites associated to the origin of the world and the early ancestors. The all-male sacred societies, common among the Arawak, maintain their references to the Apaporis and Guaviare mountains (Chiribiquete and Tunai) as sites led by powerful shaman-warriors (Hill, 1988; Vidal and Zucchi, 2000; Vidal, 2000).

For the Siona groups, the mountains of the Colombian Amazon (Chiribiquete) are related to the “Gran Maloca de los Jaguares” or the “Casa de los Tigres”. Shamanic learning makes use of the myths and narratives of shamanic cosmology to prepare the apprentices from far away through the use of yage as an entheogenic plant and a search for the progression of the pintas with the shaman teacher, to gradually discover the kingdoms on the other side of reality and to learn to speak and negotiate with their inhabitants. The pintas are geometric visions of the shamans during trances or altered states of consciousness.

For the Desanos, Barasanas, Karapanas, and the western Tukanos, the Chiribiquete Mountains and the Apaporis River are the home of the animals and the place in which the tiger and the “keeper” is sheltered. According to these peoples, the payé or shaman is able to turn himself into a jaguar and visit the “Casa de los Cerros”, where the animals live, in order to negotiate the hunt. He even uses the opportunity to copulate with the females and as such reproduce the “mountain animals”. For the Desana people, ye’e means «jaguar» and is associated to the concepts of ye’eri = to cohabit, and yeérn = penis. The jaguar is, therefore, a phallic being and among its fundamental instruments it has a rattling spear—its true chieftain’s staff and voice— that also has a phallic connotation.

When taking Yopo, the payé sees the universe and flies through the macro cosmos as a jaguar; he dominates the thunder and appropriates the quartz that appears where lightning strikes. According to the myths, the payé has a

Photo 8. Collage of images of different indigenous communities located in the basin of the River Apaporis. They sustain a special cultural tradition characteristic of the northwestern Amazon. Source: SPNN-Ministry of Culture.
crystal symbolising the “penis sun”, related in particular with the Chiribiquete Mountain. Through the use of entheogenic plants, in his flight, the payé penetrates the Milky Way and communicates with Vixo Mahse, the Keeper of Animals, the powerful son of the sun or jaguar (Reichel-Dolmatoff, 1969, 1978, 1981a and b; and Pineda).

For the Upicchia, Matapí and Yukuna (western-Tukano and Arawak linguistic families) that inhabit the upper Mirití-Paraná-Apaporis River, the ancestral territory is made up of seven sacred sites which define the social, cultural and ecological rules with very important ritual contexts. For these groups, the myths surrounding their origin affirm that the cosmos is surrounded by a blue river (the Milky Way) on which the Sun sails in a cosmic canoe and from where it is possible to see different superimposed planes joined by currents of air, water, smoke, and light. The levels and planes are identified by thought, masculine energy, and the cold; the Earth—ruled by Namatu, Mother-Earth—with feminine energy and the masculine energy of the heat of Father Sun. The ancestral territory is a land of thought and the whole of the Amazonian upper basin, where Chiribiquete is located, is the land of shamanic thought.

Photo 9.Collage of images related to sacred plan use. Many of the communities located in the buffer zone of Chiribiquete National Park smoke, inhale or chew sacred plants that are documented in the paintings at Chiribiquete (ayahuasca, coca, tobacco, and yopo). Source: Ministry of Culture, ICANH, SPNN.
According to works recently gathered by Tropenbos Foundation personnel (Rodríguez 2016, personal communication), the Amazon is conceived through cultural and ecological principles in which it is taken into account that the territory is a multi-ethnic space in which each group has its site of origin. According to these groups, all things in the natural world have spiritual keepers and nothing can be used without their permission. The shaman is an intermediary and is in charge of maintaining harmonious relationships with the spiritual keepers. Each group is responsible for a specific collection of wild and cultivated plants, animals and fish, within their territory.

For the Matapí-Upichia, the upper basin of the Apaporis River is a sacred site of shamanic thought, where the mythical and cosmological structures that compose the traditional knowledge of the jaguar shamans of Yurupari constitute the ethnic heritage in the northwest of the Amazon. According to the ancestral knowledge, the territory is the centre of a vast space known as the land of the jaguar of Yurupari, whose sacred sites encapsulate a vital spiritual energy that nourishes all living beings in the world.

This is one of the most important ritual expressions of this territory in Yurupari where the jaguar shamans follow a calendar of ceremonial rituals, based on their traditional sacred knowledge. The purpose of the ceremonies, entrenched in strict spiritual rules, is to gather the community together and to cure the sick. The most striking ritual is the Yurupari (recently listed as Intangible Heritage of Humanity by UNESCO). The myths surrounding the supreme ancestors of the world and Jañawárika, the ancestral jaguar, reinforce the singularity of the territory and its sacred mountains (Fontaine Laurent, 2015).

Other archaeological and patrimonial evidence from Chiribiquete National Park

The cultural heritage of the National Park and its buffer zone is extremely broad in terms of both the ethnic and anthropological heritage. The evidence and studies carried out have gradually led to a greater understanding of the heritage but much undoubtedly remains to be discovered due to both the sheer wealth of heritage and the remoteness and isolation, which makes studies logistically challenging and costly. There are additionally, difficulties inherent in avoiding contacting groups in voluntary isolation.

Despite that Chiribiquete has only been explored in the rocky areas of its central and northern zones, the studies allow inferring that there are a series of important archaeological sets associated to the CCT in other parts of the Park and its buffer zone. A number of aboriginal groups mention the existence of petroglyphs in rocky units associated to torrents or “cachiveras” in the National Park’s periphery. These sites have been used in the pre-Hispanic past to both signify the importance of the keepers of the water and the fish and to mark the territory.

Associated to a number of torrents in the southern part of the National Park, there are extensions of terras pretas or anthrosol soils formed by extinct indigenous groups. The study of these soils is important when it comes to understanding the characteristics of ancient settlements and to reconstruct past forms of land and natural resource use. For the aboriginal groups, torrents and waterfalls are cornerstones of shamanic thought and traditional strategic sites from which to protect the territory. In the Colombian Amazon many torrents display petroglyphs, whose dating is uncertain, with multiple types of anthropomorphic, zoomorphic or abstract figures, which some indigenous groups interpret as marks left on
the routes followed during the region’s population process and to mark the borders between ancestral lands.

Inasmuch as the ethnic and anthropological aspects, in 2009 and 2010, Franco carried out a comprehensive study of the isolated groups in the Colombian Amazon. Many of his conclusions provide the basis of recent numerous normative and political efforts and strategies to protect the rights of indigenous grupos to live in voluntary isolation (Law No. 1450 of 2011, regulated by National Decree 734 of 2012 and National Decree 2693 of 2012). With evidence of the presence of isolated groups in the Yari basin and the headwaters of the Ajáju, these areas were incorporated into the National Park in the year 2013, and classified as intangible zones, the most restrictive zoning category in the country. The national government considers that their isolation must be respected using all necessary measures. These have already been undertaken by the National Parks System in the case of the Yuris, Passés and Uainumas people from the rivers Bernardo, Puré, Pupuña, and Cahuinarí, with the establishment of effective actions carried out from control posts located at the mouths of the main river access points in the Río Puré National Natural Park and the Cahuinarí National Natural Park.

The research shows that the groups in isolation may be of Karijona Indians, located between the rivers Ajáju and Macaya; a Karijona or Murui group, between the rivers Luisa and Yari; an Urumi group in the upper sections of the rivers Miriti, Yavilla and Metá; and a Murui group, between the rivers Cuemaní and Sainí (Franco, 2010).

The proven presence of indigenous people and their activities within the National Park in many of the shelters with rock paintings, determines the responsibility to maintain a principle of special protection within the National Park, which has become increasingly established in the zonification as we broaden our understanding of this singular condition regarding indigenous presence and cultural heritage for the Amazonía.

Map 5. Borders of Chiribiquete National Park and the locations of areas with possible indigenous communities that have had no contact with civilisation or that live in voluntary isolation.
Photo 11. Collage of engravings and drawings by explorers who travelled to the Amazon illustrating members of the Karijona and Umaúa indigenous communities.

From left to right, illustration of an Umaúa Indian wearing a corset in Río Negro, by Rodríguez Ferreira 1738-1972; Mura Indian inhaling paricá or yopo in Caquetá, by Rodríguez Ferreira 1782; Carijona Indians, by Jules Crévaux, 1883; face of a Karijona Indian, by Jules Crévaux, 1883 in Macaya and Cayuri. Source: Engravings recovered by Roberto Franco (2014), personal communication; Franco, 2006).

Indigenous communities in the property buffer zone

The buffer zone of Chiribiquete National Park is home to numerous indigenous groups, most of which are protected by the law and ethnic recognition policies. In this area there are more than 20 indigenous reserves covering over 2,500,000 hectares, some which overlap with other protection categories. These constitute an ideal and complementary strategy for the conservation of the biodiversity and cultural heritage in the buffer zones (Annex 5).

Under Colombian law, these areas are considered indefeasible, untouchable, inalienable collective territories with territorial autonomy. The protection and management categories are also considered territorial planning categories, which perfectly complement the aims and purposes of the conservation of the cultural and ethnic heritage (see Annex 5).

Natural Values

Chiribiquete National Park displays a mosaic of landscapes which provide a great variety of unique habitats. The area is a singular biogeographical space where evolutionary processes of species of flora and fauna are associated to different natural units within the Park.

A mega-reserve like this one contributes to maintain the region’s physical and biotic components, which are the result of evolutionary, biogeographic, and ecological processes, involving areas of the Guyana Shield (Caquetá), the Amazon basin (Caquetá, Putumayo, and Amazonas) and the Andean foothills (Putumayo and Caquetá). The combination of the above elements and their particularities grant the region the right conditions for housing high levels of biodiversity.

The biogeography comprises the study of the past and present distributions of organisms, within an evolutionary context. The greatest hierarchical unit of the biogeography is constituted by the biogeographic region. This division reflects the global-scale patterns of biological similarity (Ramírez, 2007). The Colombian territory falls within the framework of the Neotropical biogeographic region, and is home to nine biogeographical provinces. The Chiribiquete subregion includes two of the provinces and seven biogeographical districts (Map 6; Hernández J. et al. 1992)
Photo 12. Chiribiquete contributes to maintaining the region’s physical and biotic components, which are the result of evolutionary, biogeographic, and ecological processes. S. Winter/National Geographic
The biogeographic province of the Guyana is geologically similar to the Guyana Shield. Studies indicate that the Serranía of Chiribiquete was, at some point, in contact with the Guyana and Brazilian Shields - the most ancient sites in South America. It is also presumed that it was in contact with the oldest parts of the pre-Andean region in northern Colombia (the Chocó and Magdalena region). The biological wealth of these lands, their elevated levels of endemism and their pristine state, together with their peculiar topography, have turned this Neotropical region into one of the most important global priority biodiversity conservation areas (Rull V, 2004). One of the most characteristic physiographic features of this province is the so-called “tepui”, which in the most widely spoken indigenous language in Guyana means “brotes de piedra” or rocky outcrops (Huber, 1987).

Its complex topography would have led to a considerable increase in the biodiversity during the glaciations, to a large extent, due to the vertical migration of mountain species and not only to allopatric speciation, as predicted by the hypothesis regarding the shelters (Rull, 2004). These areas of dynamic diversification more than they are stable centres for speciation; high levels of biodiversity and endemism must be seen within a perspective of climate change (alternate glacial/interglacial cycles) in an extremely heterogeneous ecosystem. These mountains may also have acted as “species bombs” for the surrounding plains, given that the repeated vertical migrations may have dispersed new species through the low and mid lands, increasing the diversity (Fjeldsa and Lovett, 1997). These environments seem to have been crucial in guaranteeing the genetic flow and avoiding extinction in the glaciation cycles (Rull, 2004).

Biogeographic studies by Cortes and Franco (1997) of the zone establish that the Serranía of Chiribiquete belongs to the Araracuara formation. They also suggest that there is a connection between the Araracuara formation, Chocó and Central America, related to the existence of a common flora between the Guyana Shield and the islands that today make up the isthmus, which broke away due to the rising of the Andes mountain range. It also presents features that associate the mountain range with the Magdalena River, prior to the rising of the East Andes, making this region one of the main biogeographic nodes of the South American continent.

The Amazonas Province corresponds to the vast green plains of Amazonia. Relatively homogeneous in physiognomy, the province is made up by a biogeographic mosaic, which is very elaborate, among other things, due to the numerous rivers that constitute important barriers to the dispersal of different biotic factors and, in this case, to the mostly extremely poor soils (Hernández et al., 1992).

Chiribiquete National Park is part of the macro Amazon basin, bathed by clear water rivers that spring in the Andes mountain range and the black water rivers, which spring in the Amazon plains. The area’s water system is made up of numerous streams, torrents, deltas, brooks, and lagoon complexes. The main rivers that irrigate the area are: Yari, Camuya, Ajaju, Macaya, Luisa, Cuemani, Cuíare, Mesay, Apaporis, and Caquetá (Map 5). In this sense, the rivers contribute fundamental aspects when it comes to understanding the area’s biogeographic, ecosystemic and sociocultural features given that they are natural borders for the distribution of species. At the same time, they are the means of communication through which humans have reached these areas, constituting an important reference point for the indigenous populations that have settled here. The waterways also influence the patterns of species dispersal (SPNN, 2015).

The many rivers, streams, torrents, deltas and brooks associated to the presence of lacustrine sedimentary soils provide elements by which to assume that an extensive region of the western Amazon may have been a great lake in the Pleistocene and Holocene Eras. Sediments from the Quaternary period have also been recorded, especially near the rivers Apaporis, Caquetá and Putumayo, which play an important role in regional water regulation and in helping reduce the effects of global climate change. They are part of the natural water supply, which make the area fundamental for the survival of the region’s populations (SPNN, 2015).
Table 2. Main Rivers in Chiribiquete National Park.

<table>
<thead>
<tr>
<th>NAME</th>
<th>EXTENSION (KM)</th>
<th>PORTION WITHIN THE PARK (KM)</th>
<th>TYPE OF WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rio Apaporis</td>
<td>960</td>
<td>342</td>
<td>Black</td>
</tr>
<tr>
<td>Rio Mesay</td>
<td>420</td>
<td>269</td>
<td></td>
</tr>
<tr>
<td>Rio Ajaju</td>
<td>200</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Rio Luisa</td>
<td>200</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>Rio Cuñaire</td>
<td>340</td>
<td>176</td>
<td></td>
</tr>
<tr>
<td>Rio Yari</td>
<td>620</td>
<td>250</td>
<td>Clear</td>
</tr>
</tbody>
</table>

Adapted from Chiribiquete National Park Management Plan (SPNN, 2015).

Nomination of Chiribiquete National Park “The Maloca of the Jaguar”, for inscription in the World Heritage List

Chiribiquete National Park climate falls within the equatorial zone identified as warm and humid, with light and unstable winds and very slight seasonal temperature and humidity alterations. It is influenced by a number of factors such as isolated northeast and southeast winds, intertropical convergence zones and geo-morphological conditions (SPNN, 2009). Rainfall levels are high (approximately 4,000 mm per year), derived from the meeting of three biogeographic regions (Guyana Shield, Amazonia, and Orinoquia). The topography, characteristic of the mountain range (tepui), forces the masses of humid air produced by evapotranspiration into obstacles, which in turn gives rise to the precipitation.

Chiribiquete National Park presents a mosaic of Guyanese and Amazonian landscapes that provide a great variety of unique habitats with a very good conservation status in terms of the flora and fauna of these two large biogeographic provinces. Its proximity to the Andes mountain range is another essential factor in the processes of hybridisation and speciation and it constitutes a unique feature with respect to other tepuis in South America. The area therefore is home to a great variety of habitats, ecosystems, landscape units, flora and fauna, and geomorphological features (tepuis, rocky shelters, rivers, lakes). All this leads to the presence of a significant sample of endemism and speciation centres in the Neotropics.

To date, few species of multiple biological groups endemic or near-endemic to the area are known (Table 3). These are characteristic to the tepui formations and, in some cases, the result of the unique confluence of ecosystems presented in the park. It has to be noted, however, that much of the current knowledge is based on a few samples from the most accessible areas included in the protected area, and in temporary extrapolations of diversity and distribution of the groups that presuppose continuous distributions—like many of the Amazonian ones—and static distributions through time. However, these support the exceptional universal value represented by the combination of ecosystems, habitats, microhabitats, and diverse biological groups cohabiting in the same space.

<table>
<thead>
<tr>
<th>GRUPO</th>
<th>FAMILIA</th>
<th>GENERO/ESPECIE</th>
<th>SOURCE</th>
</tr>
</thead>
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<tr>
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<td>Cardiel, 1999</td>
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<tr>
<td>Vascular plants</td>
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<td>+ Senecioleptopus chiribiquetensis</td>
<td>Schultes, 1944</td>
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<td>Cecropia albohirs</td>
<td>Cardenas et al. 2015</td>
</tr>
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<tr>
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<td>Vascular plants</td>
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<td>Burmannia vaupesana</td>
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</tr>
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<td>Vascular plants</td>
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<td>Naria holotica</td>
<td>Cardenas et al. 2015</td>
</tr>
<tr>
<td>Vascular plants</td>
<td>Bromeliaceae</td>
<td>Naria graniniphila</td>
<td>Cardenas et al. 2015</td>
</tr>
<tr>
<td>Vascular plants</td>
<td>Bromeliaceae</td>
<td>Naria acotiaria</td>
<td>Cardenas et al. 2015</td>
</tr>
<tr>
<td>Vascular plants</td>
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<td>Caloa yanapirina</td>
<td>Cardenas et al. 2015</td>
</tr>
<tr>
<td>Vascular plants</td>
<td>Acanthaceae</td>
<td>Justicia cuatrocassisi</td>
<td>Cardenas et al. 2015</td>
</tr>
<tr>
<td>Vascular plants</td>
<td>Clusiaceae</td>
<td>+ Clusia chiribiquetensis</td>
<td>Maguire, 1951</td>
</tr>
<tr>
<td>Vascular plants</td>
<td>Lentibulariaceae</td>
<td>+ Urticularia chiribiquetensis</td>
<td><a href="http://www.eol.org">www.eol.org</a></td>
</tr>
<tr>
<td>Birds</td>
<td>Tyrannidae</td>
<td>Hemisiderus margaritensis</td>
<td>F. G. Stiles, 1995</td>
</tr>
<tr>
<td>Birds</td>
<td>Trochilidae</td>
<td>Chlorostilbon olivaresi Stiles, 1996</td>
<td><a href="http://www.eol.org">www.eol.org</a></td>
</tr>
<tr>
<td>Beetles</td>
<td>Buprestidae</td>
<td>Chrysobothris chiriquetensis Bellamy, 1995</td>
<td>Bellamy, 1995</td>
</tr>
<tr>
<td>Beetles</td>
<td>Scarabaeidae</td>
<td>Cryptocentrus jecquerum</td>
<td>Arias y Medina-U, 2014</td>
</tr>
<tr>
<td>Dragonflies</td>
<td>Polythoridae</td>
<td>Cora chiriquete Zloty y Pritchard, 2001</td>
<td><a href="http://www.eol.org">www.eol.org</a></td>
</tr>
<tr>
<td>Mayflies</td>
<td>(shadflies or fishflies)</td>
<td>Microculidae</td>
<td>Mecanis chiriquete Peters, Domínguez y Dereser, 2008</td>
</tr>
</tbody>
</table>

+: shared with other Amazon regions or with the Venezuelan tepuis.
Chiribiquete National Park is a mountain massif that rises up in the middle of the Amazon, independent of the Andean orogeny, with a Precambrian basement (from 2000-1800 millions of years ago) and igneous and metamorphic rocks belonging to the Mitú complex migmatites, on which plateaus, pillars or tepui emerge, made up by rock sediment from the Palaeozoic Era (570 millions of years) consisting of quartz sandstone and quartzite rocks from the Araracuara formation. The Amazonian savannahs inside the National Park are home to rocks –sandstone and claystone– from the Tertiary (Eocene) (Map 8, Annex 6).

The structural relationship of the quartz sandstone in horizontal layers slightly slanting towards the west together with fractioning systems perpendicular to the stratification propitiated the hydric dissection of the mountain range into many exotic forms (Map 9).
Coarse layers (5-10 metres) of quartzite rock between sandy sequences constitute the guide layers for the location of the rock art. These rocks form homogeneous mantles with no internal stratification or fracturation of the craggy slopes, with hard and fine surfaces towards the slope. This is due to the presence of silica (SiO2), which constitutes a natural “canvass”.

The mineralogy of the Precambrian basement (igneous, metamorphic) records high concentrations of titanium and iron oxides (Ilmenite), which through leaching processes has migrated towards the upper sandstone of the Palaeozoic Era, forming ferruginous cement and crusts composed of titanium and iron oxides in the form of minerals such as hematite and anatase, which are more soluble and softer than Ilmenite and they tinge the quartz sandstone and quartzite rocks a reddish violet tone. These minerals constitute the material source used by ancestral communities to elaborate their rock art (Photo 15).
In terms of its geomorphology, Chiribiquete lies within the Colombian Amazon in which there are two geomorphological provinces: the Chiribiquete mountain range and the Amazonian Savannahs. The forms in the National Park have a denudational - structural, and denudational and fluvial origin (Annex 6).

In contrast to the plateaus or tepuis in Venezuela and Brazil, located on the Guyana Shield, and which form well-preserved large horizontal plateaus or tepuis such as Roraima, the Chiribiquete mountain range in the area of the National Park is a degraded plateau, fractionated into many plateaus and terraces that emerge in the Amazonian Savannah. Exceptional plateaus no higher than 800 MASL, where the rocks formed by the Palaeozoic sandstone, placed horizontally with vertical fractures that are perpendicular to the stratification give rise to numerous geomorphological patterns. Some of these forms are independent, such as pillars, islets and domes, while others constitute multiple forms: long, tiered, pillow-shaped tongues; irregular columns; flat, sloping, convex, concave and irregular summits.
The action of the ground water between the porous and permeable sandstone carves these plateaus forming caves, arches, and depressions or circular holes (abysses), some of them forming shapes that were mythological for the regions’ ancestral cultures. Waterfalls and cascades spring from the summits and fracture the rock. Along their course they turn different colours like red, yellow, black and green. The colours are produced by the high content of iron and other minerals in the laterites and some of the sandstone.

This landscape of old plateaus contrasts sharply with its lower parts which are home to vast plains and rolling hills of the Amazon, with a landscape of meandering rivers and vast alluvial valleys that reflect the fast movement of the waterway in the past with many abandoned meanders and river beds. These rivers flow over the savannah made up of sandy and clay rocks of the upper Tertiary of the Amazon.
Photo 17. Collage of forms associated to water erosion. PNN/Fundaherencia.
Geomorphological province of Chiribiquete National Park

Chiribiquete National Park province, with a total surface area of 10076 km², constitutes a large tectonic plate. The plateaus or tepuis within that plate are of mixed origin in that they combine structural and denudational (water) processes. The near-horizontal stratification of the layers of sedimentary rock form plateaus with vertical walls and generally flat summits. The vertical fissures have led to fractioning in many of the minor plateaus, which are elongated, geometric or irregular in shape. The denudational processes marked by water erosion form estorques or eroded rock columns, caverns, circular concavities, arches, cracks, etc. Other denudational processes without as much impact are associated to wind abrasion.

These plateaus face south – north and south –NW, and have an altitude of 800 MASL, equivalent to relative altitudes of 544 metres. There is a noteworthy increase in the altitude of the plateaus of the mountain range in the National Park towards the north and northeast.

The National Park is home to 13 different geomorphological units related to the types of plateaus or tepuis. These differences are marked mainly by their shape or morphology, dimensions, relative altitude, absolute altitude, degree of dissection, summit shape, and minor structures (Photo 18):

1. Tepuis with vast plateaus that form pointed peaks.
2. Tepuis with vast flat and convex peaks.
3. Tepuis with irregular acute and convex peaks.
4. Tepuis with rough peaks and isolated pillars on narrow plateaus.
5. Tepuis with vast, flat or slightly concave peaks.
6. Tepuis with flat or undulated peaks characterised by protuberances, promontories, and small circular depressions (abysses). The depressions are produced by subsidence caused by the loss of support from the friable and porous subsoil due to ground water and the influence of geological structures of the stratification and cracking.
7. Tepuis with vast flat, slightly inclined peaks, scarcely dissected.
8. Irregular-shaped plateaus with individual pillars with convex peaks, 100-300 metres high on the edges. The peaks are slightly undulated and scarcely dissected.
9. Low plateaus at the edge of higher plateaus reaching heights of 100 metres and mean absolute altitudes of 280 MASL, with irregular peaks and mild slopes inclined to 45 degrees.
10. Plateaus and tepuis with inclined slopes on the edges and a pinnacle on the peaks.
11. Plateaus or tepui with inclined slopes on the edges and a large pinnacle on the peaks. These are affected by parallel fissures that make them seem irregular in the topography. The plateau reaches an altitude of 300 MASL, and a hundred meters more at the pinnacle.
12. Residual plateaus and tepuis that protrude like pillars in a flat topography.
13. Irregular tepuis with convex, irregular peaks, dissected by cracking, and with heights of between 100 and 300 metres.

Amazonian Plains Province

The geomorphological province of the Amazonian plains comprises geomorphological units of denudational origin on the rocks of the Amazonia Tertiary in rolling plains and low hills, which are highly dissected by drainage. Of alluvial origin, the topography is composed of wide river valleys with sinuous waterways and numerous abandoned meanders and riverbeds. Associated to these waterways, are alluvial terraces and flood plains.
Geological Origin

The geological origin of the serranía of Chiribiquete began some 1800 millions of years ago, in the Precambrian period, with the formation of the first rocks associated to the Amazonian craton and its most northerly part which forms the Guyana Shield (Toussaint 1993). This Shield in eastern Colombia is characterised by two geological regions or provinces: the first is the Mitú complex migmatites made up by migmatites gneisses and granitic gneisses associated locally to clay schist, quartzite rocks, and amphibolite in the crystalline Precambrian basement of the Colombian Amazon. The second geological province is known as the Rapakivi – Parguaza granite, considered an intrusive body of the Mitú complex migmatites which emerges in the northeast of the Vichada department in the Llanos Orientales and borders with Venezuela (Kroonenberg 1981), in the shape of rounded naked hills. Volcano-sedimentary sequences of riodacitic lava flows with pyroclastic and sedimentary rock (Piraparaná formations) were present during the phases subsequent to the formation of the Guyana Shield (IGAC, 1999).
Subsequently, this craton and the Guyana Shield underwent erosion and detritic sedimentation marked by discordance between the Precambrian and the early Ordovician period of the Palaeozoic Era with a basal conglomerate. The depositing of sediments in the serranía of Chiribiquete is related with rocks from the Araracuara formation made up mainly by intercalations of sandstone with a certain level of lutites. This Palaeozoic sedimentation in the Colombian Amazon basin, at the end of the Palaeozoic, probably presented a horst fault (an upthrown block between two normal faults), which allowed the emergence of a Precambrian and Palaeozoic sequence in the serranía of Chiribiquete (Barrero et al. 2007). Subsequently, there was a marine transgression and regression and the formation of detritic fluvial rocks that were deposited on the high plains of the Orinoquia until the late Neogene.

Flora

Chiribiquete’s ecosystems are of exceptional biological wealth, housing 1801 species of vascular plants recorded so far, grouped into 143 families (Annex 7). According to the recently published Catalogue of the Plants and Lichens of Colombia (Bernal et al. 2016), Chiribiquete National Park is home to approximately 7.3% of the vascular plants in Colombia and 57% of the vascular plants present in the country’s Guyana region.

The flora found in Chiribiquete is biogeographically unique given that it presents a combination of elements from various natural regions (Table 4). In fact, considering the estimates for the country in the recently published Catalogue of Plants and Lichens of Colombia (Bernal et al. 2016), almost a quarter of the vascular plants present in Chiribiquete can also be found in the Orinoco and Andean regions, while close to 70% are also present in Amazonia, and almost half in the Colombian Guyana region. This means that Chiribiquete is a biogeographic enclave in which flora from different parts converge.

<table>
<thead>
<tr>
<th>COLOMBIAN GEOGRAPHIC REGIONS</th>
<th>NO. SPP. VASCULAR PLANTS*</th>
<th>NO. SPP. IN COMMON WITH CHIRIBIQUETE</th>
<th>% SIMILARITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andina</td>
<td>15,085</td>
<td>470</td>
<td>26</td>
</tr>
<tr>
<td>Amazonía</td>
<td>5,208</td>
<td>1217</td>
<td>68</td>
</tr>
<tr>
<td>Guayanesa</td>
<td>3,185</td>
<td>846</td>
<td>47</td>
</tr>
<tr>
<td>Orinocense</td>
<td>2,743</td>
<td>478</td>
<td>27</td>
</tr>
</tbody>
</table>

* (Bernal et al. 2016)

Chiribiquete contains a heterogeneous mosaic of vegetation, home to two large landscapes, which represent two different conservation interests and that are the result of the genetic interaction of the flora from the Amazon, Andes, Guyana and Orinoco regions. This makes Chiribiquete unique with respect to the Guyana region in Venezuela and the Brazilian Amazon, with substantially different influences. The two types of landscapes mentioned correspond to:

1. Rocky outcrops or tepui with extreme environments. These are home to white sand savannas and shrubby expanses of paramo vegetation in rainy seasons, which turn into xerophyte bushlands in the dry season. The main vegetation species the species the *Molina lucidum*, *Bonnezia sessilis*, *Chusia columnaris*, *Cyress racemiflora*, *Hevea nitida*, *Senefeldropsis chiribiquetensis,*
Euphronia hirtelloides, Calliandra vaupesiana, Ochthocnemus beryi, Pachira coriacea, Acanthella spruei and Styxex rigidifolius. These tepuis are relatively poor in terms of number of plant species, but those that do exist are mostly endemic. It is worth noting that for more than 30% of the plant species present in Chiribiquete, distribution is restricted to the Guyana region. The mountain range houses two families endemic to the formation (Tepuianthaceae and Euphroniaceae) and a number of genera endemic to the outcrops, such as Acanthella, Argytraea, Cephalocarpus, Decagonocarpus, Diacladia, Enceraea, Navia, Senefelderops, Steyerbromelia, Vellogia and Wallacea, among many others (Cortés-B. et al. 1998).

2. The Amazon rainforest, that grows in more stable and less drastic areas. The rainforest houses a wealth of plant species with low levels of endemism. The predominant species in these forests are Oenocarpus bataua, Tachigali paniculata, Protium spp., Hovea nitida, Premdasenfeldera inclinata, Clathrotropis macrocarpa, Eschweileria spp., Brosimum spp., Virola elongata, Ponderia spp. and Erisma spp., among many others.

The families with the greatest number of species are the following: Fabaceae (160 spp.), Rubiaceae (159 spp.), Melastomataceae (145 spp.), Lauraceae (54 spp.), Sapotaceae (53 spp.), Annonaceae (52 spp.), and Moraceae (50 spp.). Most of the botanical families include few species; for example, 60% of them only include one or two species, while 40% are represented by more than five species. That is, there are only a few families with numerous species, which represent approximately half of the wealth of flora at Chiribiquete. In contrast, there are many families that are represented by few species, suggesting a high phylogenetic diversity. This is an exceptional attribute of Chiribiquete National Park and a factor which contributes to supporting the importance of its conservation.

Also worth noting is that Chiribiquete is home to 42 endemic vascular plants in the Amazon (Annex 8), which represents a little more than a fifth of the 198 endemic species recorded for the Colombian Amazon. Similarly, 16 of these species grow exclusively in Chiribiquete (Table 5), which heightens the importance of its conservation. Last but not least, it is worth highlighting the presence of nine endangered species, classified as Vulnerable by IUCN (Table 6; Annex 7). This increases the uniqueness of Chiribiquete, given that Colombia is exclusively responsible for the conservation of these species. In recent expeditions, at least five new species for science were found, increasing the level of local endemism in Chiribiquete. These species belong to the genus of Raputia (Rutaceae), Zamia (Zamiaceae), Navia (Bromeliaceae), and Tococa (Melastomataceae).

Chiribiquete is also home to the four main types of vegetation formations recorded for the Amazonian phyto-geographic province: forests, shrubs, grasslands or pastures, and pioneering vegetation on hard rock in flat areas and rocky escarpments (Rangel et al. 1995, Cortés-B. et al. 1998). The highest levels of endemism are found among the shrubs, grasslands and the pioneering vegetation on hard rock, where it is possible that the absence of soil and the extreme conditions of rocky outcropping promoted the dispersal of plants adapted to live in such environments. In contrast, in the forests most of the species are more broadly dispersed, in some cases even extending to the Andean and Chóco region, which presupposes a very old and continuous area of dispersal (Cortés and Franco 1997).

### Table 5. Endemic species of flora in Chiribiquete National Park

<table>
<thead>
<tr>
<th>FAMILY</th>
<th>SCIENTIFIC NAME</th>
<th>CATEGORY OF THREAT (IUCN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asteraceae</td>
<td>Streptopus colombianus</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia aciculata</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia bicolor</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia graminifolia</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia heliphila</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia platera</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia schultesiana</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia sp. nov. 1</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia sp. nov. 2</td>
<td>VU</td>
</tr>
<tr>
<td>Euphorbiaceae</td>
<td>Apandandra cortinifolia</td>
<td>VU</td>
</tr>
<tr>
<td>Euphorbiaceae</td>
<td>Centon chiribiquetensis</td>
<td>VU</td>
</tr>
<tr>
<td>Malvaceae</td>
<td>Hibiscus hebranensis</td>
<td>VU</td>
</tr>
<tr>
<td>Melastomataceae</td>
<td>Tococa sp. nov.</td>
<td>VU</td>
</tr>
<tr>
<td>Rutaceae</td>
<td>Raputia sp. nov.</td>
<td>VU</td>
</tr>
<tr>
<td>Xyridaceae</td>
<td>Xyris terrestris</td>
<td>VU</td>
</tr>
<tr>
<td>Zamiaceae</td>
<td>Zamia sp. nov.</td>
<td>VU</td>
</tr>
</tbody>
</table>

### Table 6. Endangered species of flora in Chiribiquete National Park, classified as Vulnerable by IUCN

<table>
<thead>
<tr>
<th>FAMILY</th>
<th>SCIENTIFIC NAME</th>
<th>CATEGORY OF THREAT (IUCN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromeliaceae</td>
<td>Navia aciculata</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia bicolor</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia graminifolia</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia heliphila</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia platera</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Navia schultesiana</td>
<td>VU</td>
</tr>
<tr>
<td>Bromeliaceae</td>
<td>Steyerbromelia gario-</td>
<td>VU</td>
</tr>
<tr>
<td></td>
<td>bartriga</td>
<td></td>
</tr>
<tr>
<td>Dichapetalaceae</td>
<td>Dichapetalum rugosum</td>
<td>VU</td>
</tr>
<tr>
<td>Podocarpaceae</td>
<td>Podocarpus oleifolius</td>
<td>VU</td>
</tr>
</tbody>
</table>

One of the most outstanding characteristics of the flora in Chiribiquete is that it is organised as a mosaic of heterogeneous vegetation, due to the land conditions. Thus, the higher areas are constituted by the peaks of the
tepui; they are made up of grasslands, shrubs and white sand forests that do not exceed an altitude of 8 m, where despite the high humidity, the plants are subject to high hydric stress generated by the absence of soil, making water retention impossible. In these areas, close to 80% of the plant biomass is represented by four species: *Senefelderopsis chiribiquetensis*, *Euphronia hirtelloides*, *Clusia columellaris* and *Bonnetia sessilis* (Photo 19). The lower areas, in contrast, corresponding to the base of the tepui and the surrounding area, present mainly Amazon rainforest, with a tree canopy 15 to 20 metres high, with emerging trees of up to 30 m. These forests establish themselves in flat, sheltered areas near rivers and streams with more developed soils. In such areas, the diversity of plant species is high and characterised by the fact that most of them are not very abundant (Photo 20).

The information gathered and the results obtained to date ratify what has been proposed in terms of the conservation status of the eco-regions in Latin America and the Caribbean (Dinerstein *et al.* 1995), where Chiribiquete is located in the bioregion of “Orinoco Tropical Moist Forests” and in the eco-region “Tepuis: Venezuela, Brazil, Guyana, Suriname and Colombia”. It is classified as a regional scale area with no loss of habitat, no fragmentation, no degradation, no conversion rates, and listed as having an “excellent” conservation status. Of course, there is evidence of some deforestation and conversion in the area outside but nearby the Park’s limits.

Photo 19. Tepui summits: a) landscape on the tepui summits with grasslands, shrubs and white sand forests; b) *Bonnetia sessilis*, one of the most common species of shrub. D.Cardenas/SINCHI

Photo 20. Tepui base: a) a forest growing between the river and a rocky formation; b) Proteaceae; c) Rubiaceae. Photos: D.Cardenas/SINCHI
Mammals


The review revealed 82 species of mammals, grouped into 9 orders, 17 families, and 63 genera. The order that presented the greatest wealth of species is the Chiroptera (n=58), followed by Carnivora (n=6) (Leopardus pardalis, Panthera onca, Puma concolor, Eira barbara, Pteronura brasiliensis, Procyon cancrivorus), Didelphiomorphia and Rodentia (n=5) and the least number of species appeared for the Pilosa, Perissodactyla and Cetacea (n=1) (Inia geoffrensis) (Annex 8). There is an interesting record for Proechimys hoplomyodes, a species that did not appear in the lists of Colombian mammals (Solari et al., 2013; Ramírez-Chavez et al. 2014, 2016) and that includes two individuals in the collection at the ICN. Due to the low number of studies carried out, it is presumed that there must be more mammal species, associated to 22 different types of ecosystems.

For comparison purposes, Table 7 shows the number of taxa recorded in Colombia (Solari et al., 2013; Ramírez-Chavez et al. 2014, 2016), Amazonia (Mosquera et al., 2015), the basins of the rivers Meta and Bita (Muñoz et al., 2015) and Chiribiquete (Trujillo et al. 2016).

Table 7. Taxa of mammals recorded in Colombia (Solari et al., 2013; Ramírez-Chavez et al. 2014, 2016), Amazonia (Mosquera et al., 2015), the basins of the rivers Meta and Bita (Muñoz et al., 2015) and Chiribiquete (Trujillo et al. 2016).

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<td>Sirena</td>
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<td>205</td>
<td>8</td>
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<tr>
<td>Carnivora</td>
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<td>34</td>
<td>4</td>
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<td>Cetacea</td>
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<td>132</td>
<td>6</td>
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<td>Lagomorpha</td>
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<td>Total</td>
<td>49</td>
<td>215</td>
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The number of families, genera and species correspond respectively to 37%, 29% and 16% of those recorded for the country. The records increase when they are compared with those reported by Muñoz et al., (2015) for Meta and Bita: 67% of the families, 51% of the genera and 32% of the species; and by Mosquera-Guerra et al., (2015) for the Amazon: 69% of the families, 58% of the genera and 38% of the species.

Bats

Despite the extreme conditions in the northern section of Chiribiquete National Park, the area presents a high diversity of bats with different feeding habits (open space and foliage-gleaning insectivorous; piscivorous; nectarivorous; frugivore forms, canopy-inhabiting nomads and sedentary species that inhabit the undergrowth), which indicates that the region is home to complex arrangements of bat species with specific adaptations that allow them to take advantage of the re-
sources available. It is worth noting that the samples recorded include representations of groups with different biogeographic affinities. This highlights the Chiribiquete system as a meeting point for fauna from different origins and a transition area between highly diverse regions for this group: Amazonia, Guyana, North Andes, and Orinoquia (Mantilla-Meluk et al. 2009, 2014).

The representation for *Lonchorhina* genus is noteworthy in that its greatest diversity is given in the Guyanese region, with all of its species potentially present in the Colombian Guyanese Amazon and with three of its five species endemic to this region. The *Anoura* and *Sturmiura* genus is also represented in the high-Andean ecosystems, whereas the frugivore species *Artibeus obscurus* and *Dermanura gnoma* are considered typically Amazonian taxons. Earlier analyses highlight the Guyanese Amazon as the area with the greatest concentration of bats of the Phyllostomidae family, the most diverse in the Neotropics, and for the Emballonuridae family, the second most diverse in the Neotropics, and for which Colombia has the highest number of species in the world (Mantilla-Meluk et al. 2009 and 2014).

Similarly, a parsimony analysis of endemism based on the potential distribution of sac-winged bats differentiate the Guyanese Amazon as a region characterised for its unique composition of bats. It is also noteworthy that for the area of Chiribiquete, of the total number of individuals documented in our samples, 34% is nectarivorous belonging to two subfamilies (Glossophaginae and Lonchophyllinae), four genera and five species, meaning that this region is especially important for this ecological group of bats. In the recent 2016 expedition to Chiribiquete the Phyllostomidae insectivore bat *Glyphonycteris sylvestris* was recorded for the first time in the east of the North Andes in Colombia (Photo 21a). Also important are the records for two leucistic samples of *Lonchorhina aurita aurita*, which are the first records of bats of this genus with this condition (Photo 21b).

Photo 21. (a) Specimen of the Phyllostomidae insectivore bat *Glyphonycteris sylvestris* from the northern section of the Chiribiquete mountain range, which, to date, is the only record in the archival material of this species in the eastern part of the North Andes in Colombia and the first record for the species in the Guaviare department. (b) Leucistic specimen of the foliage-gleaning Phyllostomidae insectivore bat *Lonchorhina aurita aurita*, from the northern section of the Chiribiquete mountain range. This specimen was the first recorded for this species with this condition. H. Mantilla-Meluk/Universidad del Quindio.
Among the most relevant elements derived from the analysis of the geographical affinities of the groups of bats documented for Chiribiquete National Park is the mixed nature of the bat fauna that naturally converges in the Park. Of the regions in Colombia with the greatest diversity of bats, the Guyanese Amazon –home to Chiribiquete National Park– is one of the few places where the fauna from four biogeographic provinces naturally converges. Besides the typically Guyanese bats of the northern section of the Colombian Amazon (Mantilla-Meluk et al. 2009), there are Amazonian elements pertaining to the floodplains and tertiary terraces of the Park such as the presence of elements identified as Andean, and more frequently found in Inselberg systems. This aspect is especially relevant, given that the systems of the serranias of Chiribiquete, La Lindosa and La Macarena, which are the western-most Guyanese elevations adjacent to the Andes, play a fundamental role in the constitution of a wildlife corridor involving four biogeographic provinces in Chiribiquete National Park: the Andean, Amazonian, Guyanese, as well as the Colombian Orinoquia and its beginning in the south in the Yarí Savannahs, whose gallery forests feed the bat diversity in the Llanos Orientales.

Its condition as an epicentre of bat diversity and a natural bridge for the bat fauna was identified at least 20,000 years ago by the area’s ancestral inhabitants, who, in their rock art, were clear in their representation of the Park’s bat diversity to the point that the area was also known as the land of the bat-people. These anthropological observations are supported by the particular geological conformation of the Chiribiquete system, which, in an area largely lacking in caves such as the Amazon plains, an Inselberg system emerges, with its millennial erosive processes, providing an incomparable offer of microclimatically diverse shelters for cave-dwelling species.

There are 1,300 bat species in the world today, and Colombia is home to 205 of them, making them the most common mammal in the country (Solari et al. 2013; Ramírez Chavez et al. 2013). During the two expeditions in 2015 and 2016 to the Park’s northern and central areas, a total of 58 species of bat were recorded belonging to 6 families and 41 genera (Annex 8). This is equal to 30% of the diversity of known bats for the Colombian territory. The country boasts first place in the western hemisphere in terms of the biodiversity for this group of mammals (Mantilla-Meluk et al. 2009, 2015).

It is noteworthy that from the comprehensive list of bats in Chiribiquete, 32% of the diversity includes very rare species, according to their representativity in scientific collections, with only 30% of species considered common under the same criteria. A new –previously unknown to science– bat species is recorded, in the *Lonchorhina* genus of the Phyllostomidae family, which, to date, is considered endemic to the southern section of Chiribiquete National Park. This data places the Park in the Neotropics area with the greatest number of species in this genus (four of five known species). In addition, *Lonchorhina* sp. nov., has the most fully developed functional structures (nasal leaf and pinna) in proportion to its body size, among mammals.

### Non-Flying Mammals

According to the distribution patterns for mammals recorded for Chiribiquete National Park by Fundación Puerto Rastrojo in 1999 in the Puerto Abeja Biological Station and the expeditions carried out in November 2015 and July 2016, 48% of the species show a very wide distribution (n=12) for Colombia, and the remaining 52% present distributions in two or three geographical areas. For this latter group, special consideration must be given to the giant otter or river otter (*Pteronura brasiliensis*), the Neotropical otter (*Lontra longicaudis*) and the freshwater pink dolphin (*Inia geoffrensis*). Despite occupying a wide geographic range, these species’ dependence on water bodies restricts their effective distribution in terms of range (Lew et al. 2009).

Medium and large mammals that present a wide distribution are as follows: *Didelphis marsupialis*, *Marmosa* sp, *Leopardus pardalis*, *Panthera onca*, *Puma concolor*, *Lontra longicaudis*, *Procyon cancrivorus*, *Pecari tajacu*, *Odocoileus cariacou*, *Alouatta seniculus* and *Cuniculus paca* (Solari et al. 2013). Species of the Amazonian geographic region include *Modelphis brevicauda* (Vaupés) (Cuervo Díaz, et al. 1986); *Philander andersoni* (Amazonas, Caquetá, Meta and Putu-
mayo) (Patton et al. 2000; Rodríguez-Mahecha et al. 1995); *Euryoryzomys maccollenni* (Caquetá, Meta and Putumayo) (Solari and Baker 2006; Musser et al. 1998) and *Proechimys hoplomyoides* (Vaupés and Caquetá) with two specimens in the collection at the ICN and with distribution in southeast Venezuela and the adjacent areas of Guyana and Brazil (Wilson and Reeder, 2005). This last species was found in Chiribiquete and is a new record for the country.


There is a remarkable presence of big-cats, especially the jaguar (*Panthera onca*), considered a focal species par excellence. Their presence is an indicator of the conservation status of ecosystems, based on which it is possible to guide conservation management strategies. Changes in their presence and numbers may lead to an increased number of prey species, generally herbivores and mesopredators (Terborgh *et al*., 2001). Such changes can alter the dispersal rates for wild seeds and plants (Peres and Palacios, 2007; Terborg and Wright, 1994), and may wreak havoc on indigenous and peasant vegetable gardens as prey species that eat their vegetables (Naughton-Treves, 2002; Naughton-Treves *et al*., 2003; Payán *et al*., 2013a). In Colombia, the populations in the centre and north of the country are extremely reduced and only the ones in the east of the Andes and particularly in the jungles of the Amazon basin are maintained (Hoogesteijn and Mondolfi, 1992). According to Swank and Teer (1989), the largest populations can be found in the Amazon River basin, and populations are considered rare or scarce in the rest of the country.
Amphibians and reptiles

The herpetofauna inventory for the National Park includes 60 species of reptiles and 57 species of amphibians (SPNN, 2013). The least well-known area is the northern section with numerous ecosystems and mosaics set in a differentiated assembly. Among the amphibians, the presence of two species is important: they belong to the Ctenophryne and Leptodactylus genus, potentially new for science. The documentation of two typically Amazonian species (Adelophrynea diastola, Hypsiboas micorderma), and of one typically Guyanese species (Otophryne pyburni), increases their geographical distribution range westward. All amphibian species recorded are listed as “Low Concern” (LC), which is the lowest level of risk of extinction decreed by the IUCN (2010). Two species of frog, Epipedobates femoralis and Dendrobatobates ventrimaculatus of the Dendrobatidae family are used for commercial purposes and therefore can be found in Appendix II of CITES (2010).

In particular, the sandy savannah woodlands in rocky outcrops house species that are restricted to these habitats, such as the Leptodactylus sp nov., Scinax sp. and Kentropyx striata, found in areas covered by grass and bushes; and Eleutherodactylus vilarisi and Leptodactylus stenodema, present in white sand forests. Also, the recent discovery of new species in the Ctenophryne and Leptodactylus genus renders this area irreplaceable, given that these species are not found in any other protected area nor have they been reported for any other locality. Similarly, von Hildebrand (2012) found 88 species with two new records for science.

The expeditions carried out in the years 2015 and 2016 report that the reptile species found in Chiribiquete are mainly associated to forests with a good conservation status or are characteristic of Amazon forests (Bothrops brazili, Leptomicrurus sotiventris, Oxyrhopus vanidicus); their composition and number correspond to that which has been reported for forests of this type, in the same way as for all amphibians so far documented. The low numbers of vipers of Anolis (perhaps the most common lizards in all ecosystems) and of species of Sphaerodactylidae and Gymnophthalmidae, is surprising.

In the upper areas of the northern sector of the National Park, seven species of frog were captured: Chaunus marinus, Eleutherodactylus vilarisi, Hypsiboas boauns, Leptodactylus rhodomystax, Leptodactylus sp, Osteocephalus sp and Rhinella sp. Of these, the most interesting are the Leptodactylus sp, a new species previously captured in La Lindosa, Guaviare, and the Rhinella sp, another new species for the area previously captured in Vichada, Guainía and Vaupés. Eleutherodactylus is a species found in the rocky areas of the western section of the Guyana Shield (in Colombia, it has been reported for the departments of Amazonas, Caquetá, Guainía, Guaviare and Vichada). However, the best collections of amphibians in the Park come from its southern section on the Mesay River and a locality on the Yari River; these include the western-most records for Hypsiboas hobbsi, H. hatchinii and a new species of Microhylidae, Elachistodoleis sp., which typically inhabits rocky plateaus.

Kentropyx and a Umbra specimens were also documented and some 13 species of previously collected snakes (Bothriopsis bilineata, Bothrops atrox, B. brazili, Dendrophidion dendrophis, Leptodeira annulata, Leptotyphlops macrolepis, Micruroides eurygnathus, M. spixii, Oxyrhopus formosus, O. vanidicus, Philodryas viridissimus, Rhinobothrium lentiginosum and Siphlophis compressus) held in the collections at the Institute for Biodiversity Research Alexander von Humboldt (IAvH) and ICN were revised as well as the Rhinobothrium lentiginosum, an Amazonian species which is so rare that very few collections in Colombia have specimens. These records indicate that the forests are in an excellent condition (Lynch, 2015).

Another six species of snake were reported. Among these is Leptodeira annulata, a species which shows a wide distribution in lowlands and presents interpopulational variations associated to its geographic distribution, expressed morphologically in its colour patterns. The sample collected is from an intermediary area between the populations of the Orinoquia and Amazonia, which supports the role of Chiribiquete National Park as a connector of the Orinoquia and Amazonian biogeographic areas. Also found were specimens of Leptophis sp., Chironius sp., Pseudoboa coradiata (a snake typical of Amazon forests), and Siphlophis cervinus (widely distributed in Chocó-Magdalena and Amazonia but always associated to forests with a good conservation status) (Photo 30). In contrast to the other representatives of the genus in the country, S. compressus is a very rare species.
The presence of only two species of Hylidae, both widely distributed *Osteocephalus*, suggests that connection with truly Amazonian forests of the south is reduced and given only among rapidly diversified groups. The absence of leaf litter Leptodactylidae and Microhylidae in the visited areas suggests that the separation is old and that there are conditions of the Amazonian ecosystem that do not suit the frog. Nevertheless, the role of the protected area as a centre for diversity and diversification is clear, and there is clear evidence of this given the presence of *Allobates picachos*, the variety of new species for science found in so few and rapid samplings, as well as the external morphology of the *Leptodeira annulata*. 

Photo 30. *Siphlophis cervinus*, collected during the 2016 expedition.
NOMINATION OF CHIRIBIQUE NATIONAL PARK “THE MALOCA OF THE JAGUAR”, FOR INSCRIPTION IN THE WORLD HERITAGE LIST

Photo 31. Species of amphibians found in the 2016 expedition to Chiribiquete. a. Allobates picachos; b. Eleutherodactylus vilarsi; c. Rhinella sp.; d. Osteocephalus planiceps; e. Leptodactylus sp. 1; f. Leptodactylus sp. 2.
Birds

The National Parks System (2013) currently registers 492 bird species and subspecies for Chiribiquete National Park. In 1995 Stiles et al. (1995) reported a total of 77 species and 38 specimens of 25 species were collected. The study points out that the low diversity and density of the avifauna was notorious and it relates with the low productivity and depth of the sandy soils in the area. In general, the number of bird species in the different habitats was related to the altitude and the structural and taxonomic diversity of the vegetation, with 20-40 species in the different types of forests, and 13-16 species in the savannas and shrubs. The research study also reported that the best-represented trophic groups were the birds of prey (Formicariidae, Tyrannidae, and Trochilidae families) and those that eat small insects (or at least in numbers of species), while nectar-feeding, frugivorous, granivorous, and aquatic birds were very poorly represented.

The low representation for large frugivorous families such as the Psittacidae, Ramphastidae, and Cotingidae, and the presence of granivorous birds such as the Columbidae and Emberizidae was notorious. Worth highlighting is the first sighting in Colombia for Neomorphus rufipennis (Stiles et al. 1995).

Alvares et al. (2003) point out nine species very seldom recorded in the country including Discosura longicauda, Notharchus ordii, Hylecotetes stresemanni, Berlepschia rikeri, Hylophilax punctulata, Elagenia cristata, Attila citriniventris, Euphonia plumbea and Dolospingus fringilloides (Alvarez et al. 2003).

Photo 32. Scarlet Macaw (*Ara macao*) observed in the latest expeditions. S. Winter/National Geographic
Franco and Bravo (in von Hildebrand, 2012) recorded 63 bird species, of which 26 fulfil some of the criteria defined for the establishment of an Important Bird Area (IBA): the presence of the harpy eagle, which requires vast preserved areas for its population viability; the presence of seven species with restricted range from their endemic area; and the presence of the Chiribiquete emerald hummingbird, the only species of endemic bird for the Colombian Amazon; the presence of two migratory species; and 25 of the 36 bird species restricted to the biome of northern Amazonia in Colombia.

In the expedition carried out in 2015, 64 bird species, belonging to 31 families grouped into 17 orders were recorded (Annex 9). Of the species found, seven were new for Chiribiquete National Park: the tinamou (Crypturellus undulates), the pigeon (Patagioenas cayennensis), the humming bird (Phaethornis griseogularis), the macaw (Ara severus), the sepia-capped flycatcher (Leptopogon sp.), and the oriole (Icterus cayanensis). Almost all of these new records are of widely distributed birds, which mean that their presence in Chiribiquete is not surprising. However, the sepia-capped flycatcher Leptopogon sp., presents an interesting case given that its characteristics do not correspond to those of any other species of the lowlands of the Colombian Amazon. Instead, they are very similar to the Andean species Leptopogon superciliaris. This finding merits a systematic search of new records for this bird, which could be a new species for science.

Fishes

The National Parks System (2013) reports no less than 238 fish species registered for Chiribiquete National Park and its buffer zone, in collections and databases of various research institutes. In the low basins of the Yarí and Yavilla Rivers and in the middle basin of the Mesay River, a total of 133 fish species have been recorded of which 78 (59%) are human consumption species, used by the indigenous communities that inhabit the middle basin of the Caquetá River. Among these, two species (Colossoma macropomum and Zungaro zungaro) are included on the IUCN Red List, classified as NT and EN, respectively (Mojica et al., 2002).

Of the 133 species, 11 (8%) have been recorded in the three rivers, 36 (27%) in two of the three rivers, and 86 species (65%) in just one of the three rivers. A comparison between this list and a list of almost 220 species recorded in the low and middle basins of the Apaporis River (Arbeláez, 2009) indicates that of the 133 species captured in the expansion zone of the Park, 34 species (27%) were recorded in the two basins.

The upper basins of the Apaporis and Yarí rivers, in both cases, are separated from their lower basin by a set of torrents and cascades, probably meaning that the rugged waterways operate as geographic barriers for the aquatic fauna. This is also indicated by the presence of a subspecies of crocodile, endemic to the upper Apaporis River (Caiman crocodilus apaporis) and the absence of dolphins and turtles of the Podocnemis genus in the upper basin of these two rivers. In both cases, the stretch of cascades and torrents culminates in a lake complex, which is relatively isolated from the rest of the basin and whose ichthyofauna is as yet to be studied. These lake complexes can be of great importance for the reproduction of hydro biological resources, as happens in the Lago del Acuario whose location inside Chiribiquete National Park is similar to the aforementioned lakes and where the accumulation of thousands of spawning fish has been observed.

The extreme lack of electrolytes and nutrients in the waters is manifested in the fact that the fish found are very small. This is the great limitation imposed by the extreme environment, where only the fish adapted to living with little food are able to survive. In contrast, other types of clear water Amazon rivers, with a greater content of electrolytes and nutrients, are able to sustain bigger fish, such as bocachicos, gamitanas, tarpon or catfish used by the local communities.

In general, the captured fish do not exceed 5cm in length, and correspond to miniature species whose presence has been associated to Amazon blackwater, which is acidic and very low in nutrients (Weitzman and Vari, 1988). Due to the very poor soils in the Chiribiquete region, the fish found are generally very small species. For food, most of the species collected depend on allochtonous material that falls into the water from the surrounding riparian forest, mainly insects, fruit and seeds. This may be due to the water’s very low primary productivity.
In sum, the ichthyofauna of Chiribiquete is of special scientific interest due to the fact that it is an enclave of Amazonian diversity adapted to particular conditions of extreme lack of nutrients, with practically no anthropogenic disturbance, and with a high probability of containing unique or endemic species, which have not yet been described. Due to the geological age of the area, the study of fish may gather facts that could help us to better understand evolutionary and biogeographic processes of the northern section of South America.

**Butterflies**

For the Neotropical region, the countries with the greatest wealth of butterfly biodiversity are Peru with 3710 species, Colombia with 3274 species, and Brazil with 3268 species. This means that Colombia has the second greatest biodiversity of species on the planet. These 3274 species fall into 6 families and 22 subfamilies widely distributed throughout Colombia. For Chiribiquete National Park, 209 butterfly species have been recorded including at least six possibly new species (belonging to the *Dysophellus* (2), *Euselasia*, *Granila*, *Memphis* and *Phocides* genus), seven new species recorded for the country and 30 new species recorded for the Colombian Amazon. The families with the most species are the Nymphalidae and Riodinidae followed by Theclinae and Euselasiinae. The large population of Riodinidae is an indicator of a good conservation status for an Amazonian ecosystem. In the case of the expansion area of the National Park, its conservation status is also confirmed by the high numbers of Theclinae and Euselasiinae families. A comparison with a list of species recorded in Chiribiquete National Park by Fagua *et al.*, in 2002, indicates that only 86 of the 207 Amazonian species have been found in this Park.
In the Chiribiquete expedition carried out in 2015, 128 butterfly specimens were collected. The findings show that there are elements of species typical of the Colombian Andean region cohabiting with species typical of the Amazon region. This observation is the first of its kind for the whole of the Amazon and tepui regions, suggesting that Chiribiquete may be a unique area in Colombia. This condition is probably due to the fact that Chiribiquete is an area of species diversification, in which, through thousands of generations, different species may have originated, first, through polyploidy and subsequently by hybridisation and/or introgression.

2.b History and Development

Cultural history

The Serranía of Chiribiquete is considered one of the earliest sites of human settlements in South America. More than 70,000 rock art representations have been identified in more than 50 different-sized rocky shelters in different locations. Chiribiquete represents the greatest finding of Amazonian pictographs to date, and it has been determined that the pictorial heritage of this site presents a long time sequence that clearly transcends the late Karib groups (Karijona), the last of the indigenous groups recorded in the periphery of the mountain range.

The Karijonas arrived in the area in the last 1000 years. They arrived from the east, given that their centre of origin is in the Guyanese territory. These warrior groups would have come here to occupy the northwestern part of the Amazon, in a process in which cultural exchanges were frequent as were the intertribal wars, matrimonial alliances and rituals. The incursion of the Karib in this region would have divided the Tucano groups, separating the western Tucanos (Sionas, Coreguajes, Macaguajes, Tamas and other groups) from the Eastern ones (Tucano, Desano, Piratapuyo, Uanano, Cubeo, Macuna, Barasana, Taiwano, Carapana, Siriano, amongst others) (Franco, 2002).

The department of Caquetá was populated by indigenous groups of Andaquies, Coreguajes, Karijonas, Macaguales and Uitotos. The Uitotos inhabited the territory between the mid part of the Caquetá River and its tributaries up to the Putumayo River. The Coreguaje inhabited the shores of the Orteguaza River, and the Karijona—with an estimated population of more than 15,000 inhabitants in 1782—occupied the shores of the Cuñaré, Mesay, Amú and Yari rivers. Fleeing from the rubber plantations, some groups of Yacunas, Karijonas and Uitotos sailed up the Yari River and took refuge in the Chiribiquete area. Their descendants settled in Puerto Nare, in Vaupés, and they mixed with the Coreguajes of Alto Orteguaza (Municipality of Solano, 2001). In the Guaviare department, the territory has been occupied since pre-Hispanic times by the Nukak and Puinave Indians of the Puinave Makú linguistic family; the Guayaberos and Sikuani of the Guahibo linguistic family; the Cubeos, Piratapuyos, Desanos and Tucanos of the Tucano linguistic family; the Karijonas of the Karib linguist-
tic family; and the Kurripakos of the Arawak family. The already extinct Tinigua inhabited the northwest corner of the Guaviare department bordering Meta and Caquetá.

In the middle of the XVI century, the area was subject to the early colonization and expeditions motivated by the search for El Dorado on the La Uribe, Florencia and Pasto route. Among the most important of these expeditions, we have one carried out by the Welser family (German) whereby Philipp von Hutten was able—with great difficulty and very often attacked by the aborigines—to reach the area of influence of the serranía of Chiribiquete in 1537, where he was repelled by the Karijona in the upper Itilla River. According to reports, hallucinating and sick, he saw in the distance a town with temples and palaces, which he thought to be El Dorado. This declaration was interpreted by Codazzi as “a collection of granite mountains, strange and capricious in shape, near the Ajáju River… that, from a distance, look like buildings or the ruins of forts and towers…” This vision effectively corresponds to the serranía of Chiribiquete, the ancestral land of the Karijona.

Figure 3. Ethnic distribution map of the area around Chiribiquete. Source: Franco, 2002.
Following this visit, in the middle of the XVIII century a group of Franciscan missionaries recorded their first meetings with members of the Karijona near the Apaporis River. Later, in 1782, Francisco Requena, Spanish engineer and military official, explored the rivers Cumaná, Mesai, Amú and Yari, and affirmed that the number of Karijonas in the area was close to 15,000. But the most accurate characterisation of this group was made by the German doctor, naturalist and anthropologist, Karl Friedrich Philipp von Martius, who explored the southern section of Chiribiquete (towards Araracuara) in 1810. Von Martius met with the Karijonas and described them as individuals that lived in the high parts of the tepui; they rowed standing up, propelled themselves by long poles, and used tight corsets on their trunk and hips.

**The rubber bonanza of the middle of the XIX century and beginning of the XX century**

Rubber extraction marked the beginning of the colonization processes in the municipalities of Solano, Cartagena del Chairá, San Vicente del Caguán and Calamar, in the decades between 1850 and 1890. Initial rubber exploitation activities began in the Alto Caquetá, Alto Putumayo and the Orteguaza and Caguán Rivers, and, as production diminished, the colonizers went downriver. In the case of Calamar, the earliest settlers occupied the land on the Unilla and Itilla rivers, attracted by the potential rubber exploitation established by the Rubber Company. These settlements became the colonization fronts closest to the Serranía, and the main point of colonization in the Guaviare department (Etter, 2001).

At the beginning of the XX century, the Karijonas were displaced by the Colombian and Peruvian rubber tappers against whom they tried to rebel. The German ethnologist Theodor Koch-Grünberg described the first struggles that took place in 1903. The clans were killed and enslaved. During the XX century, one of the recent expeditions who were able to get the closest to the Chiribiquete tepui formations was Richard Evans Schultes who was undertaking an exhaustive botanical exploration to determine the identification of species of the Hevea genus (rubber). The purpose of the exploration was so that he could recommend, based on the phenological information, promising species for intensive and industrial exploitation to be carried out by the American government, which, at the beginning of the 1940’s, before World War II, demanded the localization of fertile ground where rubber plantations could be established. The botanist, precursor of ethno-botanics in Colombia, recognised land adequate for the Hevea genus near the Apaporis River, and it was only the artificial synthesis of the product that dissuaded the United States government from establishing plantations near the mountain range.

**Current history**

At the end of 1986, the director of the National Park System of Colombia, Carlos Castaño-UrIBE, coincidentally flew over the Amazon and was surprised to see a mountain range that was not included in the Amazonian cartography of the time. The area was “recognised” and identified as an ideal area in which to declare a new area to be protected by the National Natural Park System. With an approximate area of 1,298,955 ha and located in the Guaviare and Caquetá departments, the Serranía of Chiribiquete was declared a National Park on the 21st of September of 1989, through Agreement No. 0045 of the Executive Board of the National Institute of Renewable Natural Resources and the Environment (INDERENA), now the Ministry of Environment and Sustainable Development.

Once it was declared a National Park, the Director of the National Park System coordinated the first expeditions to this rugged and unknown territory, in the years of 1990, 1991 and 1992, together with around twenty scientists from the ICN of the Universidad Nacional, the INDERENA Federico Medem research unit and the Botanical Garden of Madrid. During the early expeditions to study its geology, flora and fauna, Castaño-Uribe discovered the first rocky shelters with rock art on the Aijá River (Abrigo de los Jaguares). Expeditioners were able to report a total of 36 painted panels, some tens of meters wide, covered with a surprising range of representations that gave rise to the characterization of the Chiribiquete Cultural Tradition. They documented the first 20,000 figures and the first archaeological excavations were aimed at trying to discover more about the identity and cultural development of the painting’s authors.

Castaño-Uribe with Thomas van der Hammen were able to recover exceptional information in at least four sites, among which they highlighted the Abrigo del Arco site for which carbon dating was carried out on the painted rock found. The analyses provided absolute dates that go from earlier than 19,510 B.P. to a very recent date of around 1,600 and 500 B.P. The oldest date recorded with certainty up to that moment was in rock art found in Brazil (Piauí) from 14,000 years ago (Castaño-Uribe and van der Hammen, 2006).
During the 17th Ordinary Session of the World Heritage Committee held in Cartagena (Colombia), the country presented Chiribiquete National Park to UNESCO for the first time in a process for its nomination to the World Heritage Tentative List. In 2005 and 2006, the procedures were taken up again through the elaboration of a first dossier, which was then required to be adjusted and complemented. Recently, through Resolution No. 1038 of the 21st of August 2013, issued by the Ministry of Environment and Sustainable Development, Chiribiquete National Park was amplified to reach the townships of Cartagena del Chairá, San Vicente del Caguán, Solano in Caquetá, and Calamar in Guaviare, for an approximate extension of 1,483,399 ha, to reach a total area of 2,782,354 ha, making it the largest protected area in Colombia.

Photo 35. The personnel in charge of management, analysis, control and vigilance of Chiribiquete National Park is a key factor for the conservation of the area. C. Castaño / Fundaherencia.
Photo 36. The National Park represents an important portion of the ecosystems of the continental territory in pristine conditions, guaranteeing an extraordinary level of water and climate regulation as well as being an energy matrix that guarantees an important CO₂ reservoir for the country and the world. J. Arango/Fundaherencia.
3. JUSTIFICATION FOR INSCRIPTION
3.1.a Brief synthesis

Chiribiquete National Park is located in the northwestern section of the Colombian Amazon, bordering with the plains surrounding the Orinoco basin in the north, the Guyana Shield in the east, the Amazon Jungle in the south, and the East Andes in the west, constituting its exceptional condition as a biogeographical meeting point. The largest protected area in Colombia at close to three million hectares, the park is also one of the five largest of the continent. It is managed by the Colombian National Park System (SPPN). The National Park System directors and staff have been implementing a series of policies, strategies and making very large investments in its buffer zone, defined through a governance arrangements and interinstitutional actions covering its 3,989,682 ha.

The national park was originally declared in 1989 with an extension of 1,250,000 hectares, and, in 2013, it was extended to cover almost double that area. The purpose of this was to, on one hand, guarantee biological and cultural connectivity between the biogeographic provinces of South Amazon, the Andes, the Orinoco Plains and the North Amazonian transition (Hernández-Camacho et al. 1992); and, on the other, to guarantee the survival of the indigenous groups which have had no contact with civilisation or that are in voluntary isolation, and that are a great priority in the public policy for this Park in particular.

The national park has a singular combination of biomes, which provide a unique display of ecosystems that are highly contrasting as a hyperdiverse mosaic of habitats and niches available for the biota. In the interaction of their functional complexity, these ecosystems provide many global services such as water regulation, carbon capture, and air and water purification, and they support soil maintenance, pollination and the provision of freshwater. All these services contribute substantially to the maintenance of life on Earth—including the lives of human populations—and they guarantee the diversity of species and communities of organisms, many of them restricted to this area.

The particular combination of geology, geomorphology, soil and biota, which can only be found simultaneously available and interacting in the protected area, gives rise to an area of great scenic beauty and a set of outstanding ecological conditions, that have sustained prosperous and unique animal, plant, and human communities for over 20,000 years, according to the dates available (see Annex 2 for more details). The presence of endemic species, healthy populations of endangered species of birds, mammals and fish and the cultural attributes of all of these species for the human communities which, until today, have interrelated harmoniously within the boundaries of the jungles and forests, are an extraordinary example of the combined, structured, and respectful management of the variety of ecosystems available within the property, as no other place in the country.

The national park represents an important portion of the ecosystems of the continental territory in pristine conditions, guaranteeing an extraordinary level of water and climate regulation as well as being an energy matrix that guarantees an important CO2 reservoir for the country and the world. The national park and its buffer zone are home to indigenous groups with different cultural backgrounds that speak no less than 20 different indigenous languages (García and Ruiz, 2007). These groups carry out traditional subsistence manifestations and patterns that range from the nomadic lives of the hunter-gatherer groups—living inside the National Park in voluntary isolation—to horticultural tribal people with stable settlements in large community malocas. The latter ones pertain to the Park’s periphery and constitute a patrimonial stronghold.

Given the geographical location and unique nature of the processes of human inter-relationships given in this vast region, the Serranía of Chiribiquete has remained significantly isolated, avoiding the influence of colonization processes. This is also why it has an exceptional conservation status.

The Park is home to a great collection of rocky shelters decorated with rock art of enormous dimensions that document a pictorial cultural tradition of unique characteristics. The paintings are considerably singular in the Neotropical context because of their antiquity and the degree of development and detail in the representations that go back more than 20,000 years.

This pictorial heritage has been documented through archaeological research and excavations, carried out over the last 30 years, in a vast arsenal of 58 rocky shelters and enormous murals, with more than 700,000 pictorial representations that imply the redefinition of many of the known stages of history. The archaeology associated to the paintings especially sheds light on new information with respect to the settlement of America. Additionally, there is evidence of at least five communities which have had no contact with civilisation or that live
in voluntary isolation, which continue to visit the ar-
chaeological areas and, possibly, to sustain the cultural
tradition and legacy. The art in Chiribiquete is closely
related to the cosmovision of groups of hunter-
gatherers, with a great affinity to the concept of Jaguar-
ness (jaguar, Panthera onca, as a tutorial reference), as one
of the most emblematic elements of the site.

Chiribiquete National Park is constituted as a key and
unique element of heritage for the conservation of life
on Earth, to understand the biogeographical, ecological,
and evolutionary processes related with the biota of the
Neotropics, and to help us understand the manifesta-
tions and expressions of pictorial rock art with a sense
of the continent’s historical projection.

**Chiribiquete National Park is one of a kind in the
world**

The property is located in the northwestern section of
Amazon, in the departments of Caquetá (the townships
of Cartagena del Chairá, San Vicente del Caguán and
Solano) and Guaviare (Calamar), Solano being the town-
ship that includes the Park’s greatest extension. Its geo-
graphical position determines its unique physiographic
and climatic features, which sustain a huge biological
and cultural diversity, also unique and a product of the
unaltered state through spiritual and mythical actions in
the shamanic context.

Chiribiquete’s extraordinary intangible value lies on its
cultural and symbolic nature for human indigenous
groups since the beginning of the continent’s settlement
process. The Serranía has been considered, since time
immemorial, a sacred landscape to be maintained in an
unaltered state through spiritual and mythical actions in
the shamanic context.

Geomorphologically, the property extends over two
broadly distributed formations in South America: the
Amazonian Craton and the Guyana Shield. This gives it
determines its strategic role as a biological and cultural
corridor between the different biogeographical provin-
cies associated to these geomorphological units.

The park combines elements of the geological provinces
of the Mitú Complex migmatites, formed mainly by
migmatite gneisses and granite, and the Rapakivi – Par-
guaza Granite Province, an intrusive granite body which
produces outcrops in the shape of rounded naked hills.
Nevertheless, in contrast to other interaction areas in
South America such as the Canaima National Park in
Venezuela, the property is geologically characterised by a
process of erosion in the shield and the subsequent de-
tritic sedimentation (Palaeozoic), associated to the Ar-
racuara formation, with typical intercalations of sand-
stone and lutites. This situation confirms that all of the
convergent outcrops in the property were possibly
formed by a horst fault (Barrero et al. 2007): granite
formations sectioned by cracks and faults together with
tepui-type rock formations moulded by water erosion,
but with altitudes way below the Venezuelan or Brazilian
tepui, which in itself, is a special condition.

**Historic context**

It has been determined that the population process in
the Serranía developed from the east and south. The
Tucano groups from the Amazon interacted with Kari-
jona groups –related to the Guyanese Karib– in the area
near the central mountain range. Their shared territory
extended to the south (the Araracuara sector in Caque-
tá), which was the border with groups from the southern
Amazon like the Andoques, Coreguaje and Uitoto,
which currently continue to occupy these areas. The
northern sector, on the border with the Orinoquia re-
gion, witnessed the development of settlements of
Puinave-Makú, Guahibo families, which have currently
moved to the north-east.

In the last centuries all these groups interacted through
wars, alliances and mythical and clan associations that
led to a shared distinctive philosophical and cultural
expression. This expression is outstanding in South
America for being an ancestral territory of shamanic
thought which uses sacred plants and rituals exalting the
reproductive cycles in nature and the cosmogonic forces,
as well as the extraordinary understanding and confor-
mation of feline and shamanic power. This shamanic
cosmovision is represented in the rock art of Chiribi-
quete.
Photo 37. Currently, Chiribiquete National Park constitutes an icon within the country’s park system. The fundamental priority over recent years has been geared towards its protection and research in the fields of anthropology-archaeology, the natural sciences, geology, and other technical disciplines of spatial monitoring. J. Arango/Fundaherencia
There have been various attempts in the past to explore the serranía. Many were undertaken by conquistadors interested in reaching the heart of the Colombian Amazon in their search for El Dorado. Hernán Pérez de Quesada, Nicolás de Federmán and Francisco Raposo ventured into the foothills of the eastern Andes and the riparian forests of the Llanos with the illusion of finding the gold city, which, after searching for it in the Andean highlands, drove them to the impenetrable jungle plains. The German Philipp von Hutten was, among all of the explorers, the only one that was able to come close to the wild mountains of the south and to Chiribiquete, beyond the impenetrable jungles of the Papamene and the Guaviare River, in 1541. After a number of failed attempts to reach the territory beyond the land of the Omeguas and Utre, he went back empty handed and with a crushing defeat behind him that almost cost him his life at the hands of the Karijona in the surrounding area of Chiribiquete.

Towards the middle of the XVIII century, it was the Franciscan missionaries’ turn to try. Francisco Requena reported the presence of 15,000 Karijonas in the direct vicinity of the Cumaré, Mesay and Yarí Rivers, at the end of the century. At the beginning of the XIX century they were able to tell the first stories about the interaction between whites and Karijonas documented by K. F. von Martius (1810).

The colonization of the lands near the serranía began during to the rubber bonanza in the second half of the XIX century, in Alto Caquetá and Alto Putumayo. It then moved in the same direction as the rivers, following the gradients of climate and biodiversity. Famous explorers such as Richard Evans Schultes and T. Koch-Grunberg visited the area of the property in the early XX century documenting the features of its biodiversity and its indigenous inhabitants, highlighting the deprived economic, social, political and health conditions left behind by rubber exploitation and all the conflictive relations maintained in the territory through numerous attempts of rebellion enacted by the native slaves. Added to this was the violence which took place in the Andean region from 1940 onwards and which motivated forced displacement, a political context that dissuaded new expeditionaries from accessing the region for a number of decades.

The scientific expeditions which took place at the end of the 1980s by the National Parks System, allowed the evaluation of the exceptional conditions of this remote region and the more precise definition of the areas which had been subjected to the least amount of intervention and transformation of the whole territory, which merited to be declared as an intangible protected area.

Currently, Chiribiquete National Park is constituted as an icon within the country’s Park System. The fundamental priority over recent years has been geared towards its protection and study. As such, the conservation area has defined a strategy that has been encouraging research in the fields of anthroplogy-archaology, the natural sciences, geology, and other technical disciplines of spatial monitoring. The information acquired from the research expeditions to both the park and its buffer zone, support the establishment of the management measures needed to ensure its conservation and positioning as an emblematic site of human natural and cultural history.

What makes Chiribiquete National Park unique? A description of an irreplaceable site

1. The property is the only place in the world that is home to a harmonious combination of the biodiversity and cultural traditions of the northern Andes, Amazonia, the Guayan Shield, and the Orinoca of Caribbean affinity. Physiographically, it presents a combination of thirteen types of morphologically different tepui, among which are some that are found nowhere else on Earth in terms of their appearance or their extension (similar to fingers, or concaves shaped like those in a Roman Coliseum with a diameter of 1 km), with floodplains, alluvial terraces, meandering rivers and spectacular unexpected cascades and waterfalls. The tepui summits are home to vegetation that looks like that of High Andean forests and subparamos, whereas the valleys and crevices are rich with jungles. This biogeographic enclave is a hydrographical star of blackwater or aguas prietas.

2. The interaction of the lithology, tectonics and mineralogy of the property area has given rise to the singular existence of a landscape that is a window to lost prehistoric worlds but that at the same time, offers a fluvial and forest connection with the Amazon, Guayanese, Orinoco and adjacent Andean forests. This provides an opportunity to understand the functional biogeographic relationships of these ecosystems.

3. Its privileged location in the northeast of Amazon gives Chiribiquete a warm and humid climate, suitable for the emergence and sustaining of life. The
climates interaction with the area’s geomorphology and the soil fosters hydrological particularities that determine the current unique configuration of the landscape (modelled by water at all of its levels) as well as a very high level of endemism in terms of the biota (Table 5), given the sheer number of adaptations necessary to populate it. This combination reflects particular and unrepeatable evolutionary and co-evolutionary processes in practically all of the biological groups studied to date. The property is a window to evolution.

4. The combination of minerals and their availability in the geoforms was a determining factor in the selection of the “natural canvases” of the ancestral communities and the development of their magnificent paintings. Elements such as iron, titanium, and manganese, found in the crystalline rocks of the Precambrian basement were deposited as oxides in the crust or cement between the hematite - Fe₂O₃, and anatase - TiO₂ rocks. These were used by the tribes to fabricate the raw materials with which to carry out the magnificent murals pre-elaborated by nature, given that, the parental material of the geoforms could be moulded to create rock shelters for the paintings, protecting them from the rain and constant erosion. The light and resplendent background provided by the colouring of the rocks makes the paintings stand out.

5. Researchers consider the property a shelter for species associated to any of its converging ecosystems, as well as those adapted to ecosystems of mixed origin. At the same time, given its excellent conservation status, it has always maintained healthy populations of umbrella and endangered species, among which are jaguars, alligators, freshwater dolphins, tapirs, as well as the anaconda. These particular animals constitute mythical identities of the Amazonic indigenous cosmology. The continued existence of the flora and fauna of Chiribiquete can be verified in the content of the pictographs. The paintings have a unique iconographic identity that uses the concept of jaguarness and the widespread and celebrated representation of jaguars (Panthera onca) in all of the rocky shelters to express the interconnection between the concepts of environment-society-culture and shaman-hunter-warrior, concepts that define the ancestral Amazon and Orinoco populations’ cosmovision. In addition, the jaguar-sun, or jaguar-Orion associations also typified in the paintings, reiterates the unique nature of the property location in the Equatorial axis or centre of the Earth.

6. Although their representations are ancillary, the paintings also depict other mammals such as the lowland paca (Agouti paca), the capybara (Hydrochoerus hydrochaeris), monkeys (probably Ateles), three-toed sloths (Bradypus) and deer ( Mazama, Odocoileus, probably), as well as turtles (Podocnemididae), fish (mainly Siluriformes) and insects (Hymenoptera). The plants are mainly “useful plants”, such as palm trees and power plants that contain psychoactive substances (yopo, ayahuasca, yajé, and coca).

7. The identification of flora and fauna representations in the paintings is undoubtedly preliminary, given the limited number of rocky shelters explored and the over 70,000 different figures that have been catalogued and yet to be studied. There must be many more undiscovered shelters. In each expedition, new sites are found that allow us to define the majestic content and original nature of a tradition that has been defined as the “Chiribiquete Cultural Tradition” (CCT). In accordance to the above, to have in-depth knowledge of the site is a scientific research opportunity that requires an additional interdisciplinary effort such as the one developed in recent expeditions.

8. Chiribiquete is the site with the oldest pictographs in the continent. More than 60 dates of independent samples (in different localities) show that the oldest paintings were done around 20,000 years ago. The representations are also unique in their symbology (see detailed description in chapter 2 and corresponding annexes) as they include human figures with weapons and in a relation with the fauna that is not necessarily related to hunting for eating (or at least it is not represented as such in this sacred place), depicting a unique context of understanding of the ancestral life forms of groups of Paleo-Indian hunter-gatherers. The cosmogonical and cosmological icons found reinforce the idea of it being “Centre of the World” and “Centre of Power” for many of its people throughout history and still so today.

9. Evidence of tierras prietas or anthrosol soils formed by extinct indigenous groups has been found in the buffer zone of Chiribiquete National Park, providing a window to the past. There are also a number of petroglyphs (of an uncertain age) in the cascades and torrents. Their study will help us understand the settlement routes in the region and the interactions amongst the settlers.
Why should Chiribiquete National Park be a Mixed World Heritage Site?

The property here proposed has all the features and attributes that accredit it with outstanding universal value:

1. **It is an area of scenic beauty and exceptional cultural tradition** within a natural landscape sculpted by the evolution of the geoforms and the presence of unique and restricted ecosystems, combined with the creations of primitive man, represented in impressive pictographic murals that adorn several tepui walls, some which are currently inaccessible to humans (Criterion iii). This site is the only one in the world where still today, nomadic native peoples continue to undertake their rituals of power through prehistoric rock art to recreate the importance of the tutorial keepers and mythical origin which were laid out centuries ago and that give rise to the concept of “Jaguarness”.

2. **It is a unique habitat of varieties of flora and fauna species**, with high numbers of endangered species, given the spatial restrictions for their populations and their high degree of morphological and functional specialisation, making them vulnerable to change (Criterion x).

3. **It houses evidence of the oldest settlers in America** documented to date with pictographs, almost 20,000 years old. This, subject to scientific scrutiny, leads to a reconsideration of the most widely accepted hypotheses surrounding the population of the American continent. The data found is coherent with data recently found in Chile and Brazil.

4. Chiribiquete is considered the Centre of the World for more than 20 indigenous linguistic families that have inhabited the property for thousands of years and continue to protect the site through thought. It is the nucleus of the common home currently inhabited by almost 6,000 million people. Understanding the way in which these early settlers reached, spread, and remained in Chiribiquete National Park, should be a collective purpose in an attempt to understand the interaction between the natural and cultural regions that converge in the area.

5. **It is the only habitat for indigenous communities that have had no contact with civilisation or that choose to live in voluntary isolation in the midst of the tepui formations**.

6. **It constitutes a safeguard for the maintenance of the current and future biota, including human populations** (Criterion ix). Its hydric wealth and cultural and regulation services, and the support provided by Chiribiquete’s ecosystems should be recognised and preserved by the whole world. This, given its global scope in terms of carbon capture, soil and basin maintenance, and water provision. Also, thanks to its conservation status and level of protection, the property is home to ecological and evolutionary processes, which in other conditions and areas are either highly endangered or have been lost already.

7. **The property deserves to be shared**, provided that the proposed management guarantees its conservation and the possibilities to enjoy it. The Colombian National Park System has already defined restrictions that are applicable to the use of spaces and modalities with different types of restriction for its buffer zones and other adjacent areas.
3.1.b Criteria under which inscription is proposed (and justification for inscription under these criteria)

Criterion (iii): Paleo-pictorial art found in Chiribiquete

The art found in Chiribiquete is considered one of the first pictorial developments of human creativity in the American continent, containing an outstanding artistic quality with a hyperrealist expression associated to contexts pertaining to the Amazon environment and to shamanic thought. It expresses the symbolic and emblematic content of life forms associated to strict rules of equilibrium between the natural environment and human nature, which, through the idealisation of the allegorical figure of the jaguar, was able to perpetuate itself as a cultural iconographic tradition for over 20,000 years.

The iconography and the archaeological context of Chiribiquete prove to be an outstanding example of the Paleo-Indian nomadic hunter-gatherer lifestyle that has been maintained through the centuries, right up to modern day. It constitutes a cultural cornerstone that transcends local, national, and sub continental signification, being the only known site in the world in which the same cultural tradition continues to be exercised by groups that have had no contact with civilisation or that live in voluntary isolation. The paintings reveal great artistic, technical and philosophical skill pertaining to the context of the tropical rainforest and they denote the special nature of the conceptual, philosophical and shamanistic development of the northwest of the Amazon.
Photo 42. The cultural heritage of the Serranía of Chiribiquete has been maintained in an optimal conservation status, given that its level of isolation and ancestral cultural rules have prevented people, apart from those that painted the existing prehistoric rock art, from altering, modifying or intervening the archaeological sites for centuries. S. Winter/National Geographic
Criterion (viii): The geological and natural code of the entrails of the western-most tepuis on the continent.

Chiribiquete National Park has a noteworthy geological history given its tectonic origin from a basement modelled by faults, and its own lithology defined by the Precambrian basement and the superimposition of Palaeozoic sedimentary rocks covered by sedimentary deposits from the Tertiary period both in the labyrinths of the intricate inter-tepui canyons, and in more recent forms in the carpet of the wild low parts that surround them.

The rocks present textural and structural conditions that make them easily erodible. Nevertheless, there are rocky layers in some parts where the presence of lithological and crystalline quartz rock provide a guide layer that makes the rock apt for use as shelters with large murals. The mineralogical relationship of the metamorphic rocks of the Precambrian basement with the rocks pertaining to the Palaeozoic has contributed to the formation of cement crusts with hematite and anatase minerals used as a support and raw material for the rock art, in most of the sites where this special condition is present.

The lithological composition of the friable and crumbly quartz sandstone and its horizontal geological structure—due to stratification and vertical fissures—have brought about a high level of natural degradation in the Serranía of Chiribiquete with the presence of innumerable exotic forms and an outstanding environment of different-shaped tepuis fostered by water erosion. Each rainy season, the water continues to mould the Park’s surface and give it an extraordinary pulse of life.

The climatic relationship of the trade winds from the southeast with the geology and morphology that fall under the influence of the Amazon rainforest, turns the park into one of the best areas for water recharge and the formation of aquifers of the Amazon basin with exuberant different coloured cascades and waterways associated to the high iron content of the rocks. Chiribiquete is considered a hydrographical star of blackwater or aguas prietas of great importance for the northwest of the Amazon.

Criterion (ix): Chiribiquetes’s role as centre of the World

Chiribiquete National Park is the only place on Earth strategically located in the centre of a ring made up by the Orinoco savannahs (of Caribbean affinity), the Andes mountain range, the Guyana Shield and the Amazonian Rainforest (Map 10). Despite being adjacent to the main extensions of each of these biomes in the north of South America, it does not represent any of them exclusively. Instead, it constitutes, per se, a geologically, geomorphologically, and pedologically different enclave where water, as a modelling element, configures the contrasting and exclusive ecosystems.

Biogeographically, it is a centre of diversity in which, its position between two Pleistocene shelters (Napo and Imeri), gave rise to historic and ecological processes of local diversification and latitudinal, longitudinal and altitudinal regional migration. There is both a variation due to the obvious isolation of summits of the plateaus and dispersal between contiguous biomes and ecosystems connected by the park. Thus, the site sustains a biological mosaic of its own elements combined with those that are characteristic of near-by ecosystems in a restricted area. The biogeographic affinity of flora at Chiribiquete is shown in Table 8.

The presence of healthy populations of big carnivores (jaguar, otter, puma, margays) and large prey (tapirs, the common agouti, the brown woolly monkey), as well as the diversity of pollinating insects and bats, reveal the healthy functioning of the ecosystems.
Table 8. Biogeographic affinities of the flora of Chiribiquete.

<table>
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<th>REGIONS</th>
<th>NO. SPP.</th>
<th>PERCENTAGE</th>
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<td>26</td>
</tr>
<tr>
<td>Amazonia</td>
<td>1217</td>
<td>68</td>
</tr>
<tr>
<td>Guyanese</td>
<td>846</td>
<td>47</td>
</tr>
<tr>
<td>Orinoco</td>
<td>478</td>
<td>27</td>
</tr>
</tbody>
</table>
Criterion (x): Biological distinctiveness: One of these things is not like the other, it is exceptional

The expeditions, research and long-term monitoring studies carried out in Chiribiquete National Park over the past 20 years, have revealed that of its 2,800 km², 30% is constituted by ecosystems of the Colombian Amazon and 70% by its flora; it is also home to 30% of the diversity of bats, and 10% of the butterflies known in the country. At a global level, this is very relevant as Colombia occupies the first place for bat diversity in the western hemisphere and second place in terms of vascular plant and butterfly diversity in the world. In terms of amphibians and freshwater fish—two of the most endangered groups of vertebrates in the world—their diversity in Colombia is among the two greatest in the world. Chiribiquete is singular: low wealth, low abundance but very high endemism, comparable to Andean paramo and, probably, with the same conditions of vulnerability.

In fact, the 22 different types of land ecosystems and the multiple aquatic systems of clear and black water present in the Park also provide habitats and essential resources for the populations of nine species of mammals and three endangered fish species of Colombia. Its ecosystemic singularity can be seen in the behaviour of the tepui plants which change according to the climatic season, acquiring the wet conditions of paramo areas in rainy season and semi-desert savannah conditions in the dry season. Chiribiquete is home to at least 30 species of birds, amphibians, fish, butterflies and vascular plants exclusive to the protected area or also found in some of the adjacent ecosystems. Of these, at least eight species are in the process of being presented to the international scientific community as part of the most recent collections.

Clearly, the above is an invitation to complete the biological inventories and to develop medium- and long-term monitoring of the biodiversity to confirm and specify the taxonomic findings and illustrate the fundamental role of the protected area in the conservation of the Planet’s biodiversity.

Criterion (iii): Integrity of a pictorial form of Paleo-art that continues to be valid in its functional use at Chiribiquete

The cultural heritage of the Serranía of Chiribiquete has been maintained in an optimal conservation status, given that it’s level of isolation and ancestral cultural rules have prevented people, apart from those that paint the existing prehistoric rock art, from altering, modifying or intervening the archaeological sites for centuries.

The conditions of isolation induced by those responsible for safeguarding the serranía fostered a mythical halo of cultural intangibility to the area for centuries. This favoured a high level of territorial isolation for an extensive area in the periphery of the park, without this being questioned by any other indigenous community. Currently, the dynamics of peasant penetration and that of other productive sectors has been restricted and, as such, the rock art sites have continued to remain isolated. All of the sites found during the expeditions are untouched by hands other than those of the indigenous architects or those of the groups that maintain ceremonial contact with the paintings.

In addition to factors of deterioration by natural agents, the park’s conservation status is unsurpassable and in total harmony with the requirements that ancestral groups have culturally impressed on the serranía to keep the site protected from external pressure.

Chiribiquete is part of a very special ancestral heritage that maintains the regulations, origin laws, and cultural legacy for many of the native communities in the region. This together with the protection actions imposed and defined by modern culture, will allow the continued protection of this unique heritage site, given that all of these orientations must focus on the strictest conservation possible for the unique role of the site in terms of the cultural and spiritual value of the ancestral communities and the history of the world.

Criterion (viii): Integrity of the geological forms of the history of the land

The area of the Serranía of Chiribiquete is an enclave protected by nature, ancestral culture and by modern society so that its geological history can continue its dynamic geomorphological processes. Such processes guarantee the mineralogical relationship of the leaching processes (contributing the raw materials such as hematite and anatase), which are key for the maintenance of the natural order of this biogeographical site and also for the continued elaboration of rock art by the remaining communities that require very special conditions to guarantee their identity and tradition based on geological, social, cultural and environmental features, in order to continue their historic processes.
Chiribiquete is still witness to erosive processes that, without any alteration, follow an extraordinarily natural course. The geological and structural condition of the soft, crumbly and fractured formations containing a great variety of landscapes related with concentrated denudation of water erosion, make the area vulnerable and sensitive. The processes must continue in the most natural way possible and with the least cultural intervention, as has happened through recent centuries.

The geology and geomorphology of the serranía constitute a privileged and strategic value for the discharge of humidity from the trade winds of the southeast when they come into contact with Chiribiquete. The high primary and secondary permeability of the rocks generates an area of water recharge in the Amazon basin and outstanding landscapes of waterfalls and currents that spring in the Serranía and end in great rivers in the park and the Amazon basin. This must be kept unaltered so that the exceptional forms of the tepui, panholes, plateaus, estoraques, pillars, arches, caverns, etc.—highly unstable when subjected to human intervention—can continue the normal course of evolution of the water, soil, and microclimate phenomena which are all highly sensitive.

It is not possible to ignore the fact that the unique geological, geomorphological and hydrological conditions of the park and the interaction among the biogeographic natural systems of the Andes, Orinoquia and Amazon have repercussions on the native flora and fauna. Despite this natural wealth, the area is maintained as naturally intact without the intervention of external anthropogenic processes of mining, agriculture, farming and tourism.

Criterion (ix): the integrity of evolving ecological and biological processes

The strategic location of Chiribiquete National Park intersecting the biogeographic regions of South Amazon, North Amazon, Andes and Orinoquia established by Hernández-Camacho et al. (1992), denotes the integrity of a representative example of the evolution of the biota of northern South America. The area of the property has been protected since 1989, restricting access to settlers different from the indigenous peoples already existing in the park. This guarantees an acceptable level of integrity. Subsequently, like its expansion (in 2013) to the current extension of almost 3 million hectares, the proposal of a possible new area of expansion (which is currently being worked on in order to improve its function as a biological corridor towards the northeast), and the continuous findings of species typically associated to the biogeographic provinces that converge in the area (especially birds, flying mammals, butterflies and plants), verify its function as a connector and biogeographic enclave of undoubted scientific interest. Similarly, there is evidence that, under protection, most (if not all) of the ecological and evolutionary processes described up until this point continue to develop.

Criterion (x): Integrity for the maintenance of the most representative natural habitats from the perspective of the science of conservation

Chiribiquete National Park represents, in biological terms, the opportunity to combine past, present and future in order to understand the human communities’ relationship with the biodiversity. The unique natural habitats provided in the property have an excellent conservation status given their inaccessibility, their climatic self-regulation different from the rest of Amazon, and their administrative protection as a National Natural Park. In addition, management strategies have been designed to guarantee effective protection in the area of the property, and, at the same time, allow human communities in the buffer zones to enjoy the cultural ecosystem service provided. The protected area provides physical protection for species that are charismatic, endangered and/or that have an explicit cultural value like some of the big cats, birds, reptiles and useful plants. This protection extends to all those species that, due to their evolutionary history and their particular adaptations, can only live in the park.

Its conservation status also offers us the possibility to explore, beginning with the 20,000 year old pictographs, the historical composition of the area’s biota and the effects of climate change.

3.1.d Statement of Authenticity (for nominations made under criteria (i) to (vi))

Criterion (iii): Authenticity of the Paleo-Rock art found at Chiribiquete

The collection of archaeological manifestations documented in the park pertains to more than 50 rocky shelters with outstanding murals that have been discovered to date, with over 70,000 figures painted during multiple periods throughout the last 20,000 years. Scientific research has been carried out by groups of researchers with striking trajectories (Dr. van der Hammen and Dr.
ties. In this sense, the norm defined the need for protection and management requirements, understanding mainly as a useful resource for human communities in managing biodiversity research and management priorities, underpinning it with the available financial, physical, and human resources. It is also essential for planning the effective use of the available financial, physical, and human resources. Its construction is based on the knowledge of the park officials, the local communities and the different stake-

Dr. van der Hammen, paleo-ecology expert, geologist, botanist, polynologist and historian of the Pleistocene Era in Colombia, has accompanied the most important studies in Colombia for over 30 years. He has been key to the orientation of research and Paleo-ethnic interpretation, founded on his long trajectory and over 400 publications in specialized journals. Castaño Uribe, an anthropologist and archaeologist, carried out his PhD in American Anthropology at Universidad Complutense in Madrid. He has extensive experience in the surveying of topographic cultural layers (decapage) developed by Leori-Gurjan for the Palaeolithic caves in France and other sites in Europe.

Methods that go beyond conventional prehistoric and American archaeology have recently been used in Chiribiquete. These include forensic and anthropological procedures carried out in each of the shelters surveyed and excavated searching for in situ evidence of ancient and present indigenous presence. All of this is a unique testimony of Chiribiquete as one of the few sites in the world where evidence of such activities can still be found.

3.1.e Protection and management requirements

Colombia –one of the three countries with the greatest biological and cultural biodiversity in the world (Bello et al. 2014)– has always been recognised for its normative advances in safeguarding such diversity. From a long time prior to the United Nations Convention on Biological Diversity (1992), which explicitly refers to cultural diversity as being interdependent with biodiversity, Colombia had developed at least one law (Colombian Natural Resources and Environmental Protection Code, Decreto-Law 2811 of 1974) in which it established biodiversity research and management priorities, understood mainly as a useful resource for human communities. In this sense, the norm defined the need for protection, which was subsequently regulated (1977) privileging a respectful interaction between humans and the environment to guarantee collective rights to what is today known as ecosystem health, which, fourteen years later was included as in integral part of the 1991 Political Constitution of Colombia.

The National Natural Parks System was created through decree 622 of 1977 under the administration of the National Institute of Renewable Natural Resources (INDERENA), whose functions were distributed in the 1990s between what is now the Ministry of Environment and Sustainable Development (MADS), the Alexander von Humboldt Research Institute of Biological Resources (IAvH), the Special Administrative Unit of the National Natural Parks System, some Regional Autonomous Corporations (CARs), and other decentralized entities. The 1970s witnessed the approval of the UNESCO “Convention Concerning the Protection of the World Cultural and Natural Heritage” which Colombia ratified in 1983.

The Decree 622 of 1977 establishes the purpose of the National Natural Park System, the protection categories (Natural Reserve, National Natural Park, Fauna Sanctuary, Flora Sanctuary, Unique Natural Area and Road Park) and the allowed activities. It also contains the general regulations applicable to a group of areas with exceptional value for the national heritage that are reserved due to their natural features and for the benefit of the inhabitants of the nation.

Colombia regulated the National System of Protected Areas through Decree 2372 of 2010, including its categories and the general procedures related to it. The decree designated the National Natural Parks System (SPNN from the Spanish Sistema Nacional de Parques Nacionales Naturales) as an entity in charge of the coordination of the National System of Protected Areas (SINAP, from the Spanish Sistema Nacional de Áreas Protegidas). As such, SPNN builds and coordinates the policies, plans, projects, regulations and procedures associated to the SINAP. The entity is also responsible for coordinating the strategies for the conformation, development, and functioning of the System, and, finally, for following up on the SINAP to verify the fulfilment of national conservation goals and objectives.

The management plans for the national protected areas constitute a basic planning tool that can guide the short-, mid-, and long-term conservation goals for the protected area. It is also essential for planning the effective use of the available financial, physical, and human resources.
holders that provide valuable information for its elaboration. A management plan is structured in three components: diagnosis, regulation, and strategic planning.

The diagnosis includes information on the state of the area (ecosystems, species, water, soil, etc.) as well as the natural and man-made pressures and threats that affect or may affect the future of the protected area. This component of the management plan describes the importance of the area in terms of its biological, physical and cultural aspects, as well as the environmental services it provides. It also identifies the stakeholders with which it is necessary to work: local communities, territorial entities, institutions and other organisations associated to the protected area, their interests and possible contributions to or conflicts with the conservation process.

The regulation component establishes the zonification for the management of the area and regulates the uses allowed in each zone, within the boundaries of the protected area. The zonification process consists of subdividing the area into the zones established in Decree 622 of 1977: Primitive, Intangible, Natural Recovery, General Outdoor Recreation, High Use Density, and Cultural-Historic. Together with the diagnosis, the zonification provides a base from which to direct the interventions in the area, leading to a differential type of management aimed at meeting the conservation objectives. This component identifies the uses permitted and prohibited in each zone.

Finally, strategies and actions for a particular period of time (5 or 10 years) are established in the strategic component to meet the conservation objectives. It also contemplates the area's strategic objectives which must be aimed at solving problems and taking advantage of opportunities, meeting the goals established for each objective, and the budget necessary to implement each of the actions.

The full management plan for Chiribiquete is available in Annex 16.

3.2. Comparative Analysis

Criterion (iii): Rock art found in Chiribiquete

After a detailed revision of a large collection of rock art sites, especially World Heritage Sites, the special and unique nature of the Serranía of Chiribiquete was confirmed in a global, Neotropical and national context. Table 9 lists some of the rock art sites listed in UNESCO’s World Heritage Site, the oldest datings available, and the criteria under which each was listed in the World Heritage List.

<table>
<thead>
<tr>
<th>CONTINENT</th>
<th>SITES</th>
<th>DATING</th>
<th>ROCK ART</th>
<th>CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRALIA</td>
<td>Kakadu National Park (Australia)</td>
<td>More than 40,000 years. Human occupation 50,000 years</td>
<td>Pictography</td>
<td>i, iv, vii, ix, x</td>
</tr>
<tr>
<td></td>
<td>Rock art of the Sierra de San Francisco (Mexico)</td>
<td>100 BC to 1300 AD</td>
<td>Pictography</td>
<td>i, iii</td>
</tr>
<tr>
<td></td>
<td>Cueva de los Manos, Río Pinturas (Argentina)</td>
<td>13,000 and 9,500 BC</td>
<td>Pictography</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>Lines and Geoglyphs of Nasca and Palpa (Peru)</td>
<td>Drawn on the ground between 500 BC. and 500 AD.</td>
<td>Petroglyph</td>
<td>i, iii, v</td>
</tr>
<tr>
<td></td>
<td>Parque nacional de la Sierra de Capivara (Brazil)</td>
<td>25,000 years ago</td>
<td>Pictography</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>Parque Nacional de Rapa Nui (Chile)</td>
<td>300 AD</td>
<td>Megalithic</td>
<td>i, iii, v</td>
</tr>
<tr>
<td>LATIN AMERICA</td>
<td>Archaeological park y ruinas de Quiriguá (Guatemala)</td>
<td>200 AD</td>
<td>Petroglyph</td>
<td>i, iii, iv</td>
</tr>
<tr>
<td></td>
<td>Archaeological park de San Agustín (Colombia)</td>
<td></td>
<td>Megalithic</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>Archaeological park Nacional de Tierradentro</td>
<td></td>
<td>Megalithic</td>
<td></td>
</tr>
<tr>
<td>AFRICA</td>
<td>Prehistoric rock art sites of Kondoa (United Republic of Tanzania)</td>
<td></td>
<td>Pictography</td>
<td>iii, iv</td>
</tr>
<tr>
<td></td>
<td>Tassili n’Ajer (Algeria)</td>
<td>6,000 BC</td>
<td>Pictography</td>
<td>iii, vii, viii</td>
</tr>
<tr>
<td></td>
<td>Sitio rupestre de Tadrart Acacus (Libya)</td>
<td>The paintings date back to 2,000 BC and 3,000 A. D</td>
<td>Pictography</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>Tsodilo (Africa)</td>
<td>100,000 years</td>
<td>Pictography</td>
<td>iii, vi</td>
</tr>
<tr>
<td></td>
<td>Ecosystem and Relict Cultural Landscape of Lopé-Okanda (Africa)</td>
<td></td>
<td>Petroglyph</td>
<td>iii, iv, ix, x</td>
</tr>
<tr>
<td></td>
<td>Chongoni Rock Art Area (Africa)</td>
<td></td>
<td>Pictography</td>
<td>iii, vi</td>
</tr>
<tr>
<td></td>
<td>Twyfelfontein / Uitvlugt / aas (Africa)</td>
<td>10,000 BC</td>
<td>Petroglyph</td>
<td>iii, vi</td>
</tr>
<tr>
<td></td>
<td>Mapungubwe Cultural Landscape</td>
<td></td>
<td>Pictography</td>
<td>ii, iii, iv, v</td>
</tr>
<tr>
<td></td>
<td>Maloti-Drakensberg Park (Lesotho and South Africa)</td>
<td></td>
<td>Petroglyph</td>
<td>i, iii, vi, x</td>
</tr>
<tr>
<td></td>
<td>Matobo Hills (Zimbabwe)</td>
<td>500,000 years from the middle of the Pleistocene Era to the end of the Pleistocene Era</td>
<td>Pictography</td>
<td>iii, vi</td>
</tr>
</tbody>
</table>

Table 9. World Heritage sites with prehistoric rock art.
The most closely related sites to Chiribiquete include the Kakadu National Park (Australia); the Sierra de San Francisco (Mexico); the Cueva de las Manos, Río Pinturas (Argentina); and the Sierra de Capivara National Park (Brazil). Each one of these World Heritage Sites has comparable elements of prehistoric rock art pertaining to similar time frames. Below is a short summary of each and of a national rock art site declared as an archaeological park.

<table>
<thead>
<tr>
<th>SITE</th>
<th>DATE OF DECLARATION AS WORLD HERITAGE</th>
<th>DESCRIPTION</th>
<th>IMAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kakadu National Park (Australia)</td>
<td>1981</td>
<td>Located in Australia’s Northern Territory, this park is a unique archaeological and ethnological reserve, with a territory inhabited by man for over 40,000 years. It contains highly valuable rock art, especially in the sites in Ubirr, Nourlangie and Nanguluwur. The paintings and pictograms found illustrate the history of the techniques and lifestyles of the successive settlements, from the Neolithic hunter-gatherers to the aborigines who still inhabit the area today. There is evidence of pictograms painted right up to the end of the last century (1880) and ritual uses during the last century as well.</td>
<td><img src="image" alt="Kakadu National Park" /></td>
</tr>
<tr>
<td>Rock art of the Sierra de San Francisco (Mexico)</td>
<td>1993</td>
<td>Situated in the El Vizcaíno Reserve (Baja California), the Sierra de San Francisco was inhabited between the I century BC and the XIV century AD. It has one of the most notable collections of rock art of the world, representing human beings and many animal species, as well as man’s relationship with his environment. Examples of an extremely refined culture, the paintings constitute —given their dimension, precision, composition, variety of colours, and, above all their abundance— a unique artistic testimony of its kind. The work is around 11,000 years old.</td>
<td><img src="image" alt="Rock art of the Sierra de San Francisco" /></td>
</tr>
</tbody>
</table>
Nomination of Chiribiquete National Park "The Maloca of the Jaguar", for inscription in the World Heritage List

<table>
<thead>
<tr>
<th>SITE</th>
<th>DATE OF DECLARATION AS WORLD HERITAGE</th>
<th>DESCRIPTION</th>
<th>IMAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cueva de las Manos (Argentina)</td>
<td>1999</td>
<td>Archaeological rock art site found in the depths of the ravine of the Pinturas River, in the Lago Buenos Aires department, west of the province of Santa Cruz, in Argentina. To date, the oldest painting found dates back 9,300 years. The paintings depict a collection of figures that represent the daily life of the Tehuelches Indians and their ancestors, old hunter-gatherer communities. There are outstanding positive and negative figures of hands (829 have been counted), in some cases superimposed. The silhouettes were painted using old airbrushing techniques; the chromatic material was applied as an aerosol by blowing through small holes in animal bones.</td>
<td><img src="image1.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Parque Nacional Capivara (Brazil)</td>
<td>1991</td>
<td>Archaeological and natural site located in the southeast section of the state of Piauí. Scientific studies have proven that the Sierra Capivara was densely populated in prehistoric times. To date, 912 archaeological sites have been recorded; among which 657 contain rock art, with approximately 30,000 coloured figures that represent scenes of hunting, sex, dance, and childbirth, among others. The other sites are constituted by caves, shelters or hunter-gatherer camps, ceramist-farmer villages, tombs and bone deposits. The Meio and Caldeirao dos Rodriguez sites date back to 18,000 and 12,000 B.P. The objects found go back 50,000 years.</td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Facatativá Archaeological Park</td>
<td>1946*</td>
<td>The archaeological park has a rich complex of rock art. Located in the municipality of Facatativá, 40 km from Bogotá (Colombia), in the northwestern extreme of the Bogotá savannah, it is made up of approximately 27 hectares of visually and environmentally rich landscapes, and sits at an altitude of 2,600 MSL. This archaeological monument, also known as Piedras de Tunja or Cercado de los Zipas, is made up of a series of rocks with shelters used for pre-Hispanic rock art –possibly from the Paleo-Indian Era- broadly known and revered by its inhabitants. The site has many pictographs distributed over 60 very large murals. The pictograms are schematic and geometric in style although they do include a number of zoomorphic, anthropomorphic and some biomorphic figures. All of them are red except some white figures found on rock 16 in the 2004 restoration.</td>
<td><img src="image3.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>

* Declared Archeological Park of Colombia, not World Heritage.

It is interesting to note that Chiribiquete National Park is one of the sites with the oldest rock art in the world and is among the oldest in America. The dates and history of the prehistoric rock art found at Capivara in Brazil, is of a surprising magnitude and importance given that it groups, in a single site, thousands of pictorial examples of different styles and origins, including the Seridó sub tradition related to the Chiribiquete Cultural Tradition. However, despite the very old dates documented in Capivara, the evidence directly associated with the paintings dates back to 11,000 to 10,000 BP, which are the oldest dates recorded for rock art in the
torrents. Measuring 2,810 MASL, it is the highest point of rises up from the savannahs and has many rivers and the same rock formation of Mount Roraima. This formation is national Park Monte Roraima, both which are set on the structural geology of the Park are more strongly marked than those of the tepuis in Venezuela and Brazil and they have a great geomorphic influence on the Sierra de Pacaraima tepui range in South America. The geological feature that the tepuis in Roraima have in common is their position on top of the central massifs of the Guyana Shield, and their geology associated to Precambrian sedimentary rock with horizontal stratification. Morphologically, the tepuis have great, well-preserved, extensions.

The geographic position of the Chiribiquete National Park makes it different from those of Roraima, as it is situated at over 3,000 km from that shield, and 300 km from the Colombian Andes. Its high basement due to tectonics is particularly different to the tepuis of the central craton. The rock in Chiribiquete tends to be made up of soft sandstone with a level of Palaeozoic quartzite from the Araracuara formation. The tectonics and the structural geology of the Park are more strongly marked than those of the tepuis in Venezuela and Brazil and they have a great geomorphic influence on the Sierra de Pacaraima tepui range in South America. The geological feature that the tepuis in Roraima have in common is their position on top of the central massifs of the Guyana Shield, and their geology associated to Precambrian sedimentary rock with horizontal stratification. Morphologically, the tepuis have great, well-preserved, extensions.

In contrast to pictorial contexts in other parts of the American continent, Chiribiquete presents stylistic features and attributes which give rise to very similar manifestations in other rock art sites of the continent. It is evident that its pictorial allegories and explicit hyperrealist designs of the first stages of pictorial development, are exclusive to the Serrania of Chiribiquete and, in contrast to any other site on the continent, they document a lifestyle and a set of nomadic-shamanic and warrior customs set in place from very early times and very closely associated to the iconic figure of the jaguar.

Criterion (viii): be outstanding examples representing major stages of Earth’s history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features

Geological formations associated to the Guyana Shield and the Amazon Craton in Venezuela and Brazil are home to natural heritage sites situated in outstanding landscapes of plateaus or tepui such as the Canaima National Park and World Heritage Site, with the most visited tepui in the world, the Auyan-Tepui or Auyan-tepui in the State of Bolívar, Venezuela. It has the highest waterfall in the world, El Ángel, with a length close to 1,000 metres. The Park limits with the Brasillian National Park Monte Roraima, both which are set on the same rock formation of Mount Roraima. This formation rises up from the savannahs and has many rivers and torrents. Measuring 2,810 MASL, it is the highest point of the Sierra de Pacaraima tepui range in South America. The geological feature that the tepuis in Roraima have in common is their position on top of the central massifs of the Guyana Shield, and their geology associated to Precambrian sedimentary rock with horizontal stratification. Morphologically, the tepuis have great, well-preserved, extensions.

The presence of rock art in the tepuis of Venezuela and Brazil is inexistet or localized to small paintings. The availability of minerals for the production of the paint and the presence of the guide layer of quartzite between the sandstone and the morphology of the shelters, are relevant factors for this cultural development in Chiribiquete.

To sustain the importance of the area nominated as having universal value, it is important to highlight that in no other physical space is there such a confluence of people, ecosystems, and landscapes that are home to such a wide-ranging and vulnerable biodiversity. Chiribiquete National Park is home to an outstanding number and category of endangered species providing the opportunity to compare the evolution of the different species in different scenarios of biological pressure in adjacent spaces.

Criterion (ix): Be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals

There is no other place on Earth with the combination of ecosystems and biogeographic histories as that present in Chiribiquete National Park. The geomorphological, biological and cultural elements in Chiribiquete are outstanding individually, but much more so is the unrepeatable nature of the interaction between all these elements. Due to the location and extension of Chiribiquete, there are very few world heritage properties with a biogeography comparable to the property here proposed (Table 11 and Table 12). Those most similar to Chiribiquete are the Noel Kempff Mercado National Park in Bolivia (due to its biogeographic context), and the Canaima National Park due to its physiographic features and extension.
Table 11. Biogeographic context of the proposed site: World Heritage sites containing similar ecosystems and ecological processes.

<table>
<thead>
<tr>
<th>CLASSIFICATION SYSTEM</th>
<th>UNIT</th>
<th>WORLD HERITAGE SITES</th>
<th>TENTATIVE LIST SITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biogeographic province (Udvardy 1975)</td>
<td>Amazonian</td>
<td>Sangai National Park (Ecuador) Manu National Park (Peru) Noel Kempff Mercado National Park (Bolivia) Central Amazon Conservation Complex (Brazil)</td>
<td>Anavilhanas Ecological Station (Brazil) Parc national du Pico da Neblina (Brazil) Serra do Divisor National Park</td>
</tr>
<tr>
<td>Terrestrial realm - biome combination (Olson et al. 2001)</td>
<td>Neotropics – Tropical and subtropical moist and broadleaf forests</td>
<td>Same as in the biogeographic province</td>
<td>Anavilhanas Ecological Station (Brazil) Serra do Divisor National Park</td>
</tr>
</tbody>
</table>

Table 12. Comparison of similar elements between the proposed site and other selected existing World Heritage sites.

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>CHIRIBIQUETE NATIONAL PARK</th>
<th>SANGAI NATIONAL PARK</th>
<th>NOEL KEMPFF MERCADO NATIONAL PARK</th>
<th>MANU NATIONAL PARK</th>
<th>CANAIMA NATIONAL PARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (ha)</td>
<td>2,782,354 ha</td>
<td>271,925 ha</td>
<td>1,523,446 ha</td>
<td>1,716,295 ha</td>
<td>3,000,000 ha</td>
</tr>
<tr>
<td>Altitudinal range (m.a.s.l.)</td>
<td>200 – 900 (approx.)</td>
<td>Not available</td>
<td>200-1000 (approx.)</td>
<td>150-4200</td>
<td>0-3000 (approx.)</td>
</tr>
<tr>
<td>Adjacent ecoregions</td>
<td>- South America: Southern Venezuela, northern Brazil, western Guyana, and eastern Colombia Comprises several, including Andean ecoregions</td>
<td>Seasonally flooded river basins of Brazil, Peru and Bolivia Central Amazonia in Brazil and parts of Bolivia Comprises several, including Andean ecoregions</td>
<td>Northern South America: Northeastern Venezuela and northwestern Guyana Northern South America: Guyana, Suriname, French Guiana, northern Brazil, and eastern Venezuela</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corridor/Refuge function</td>
<td>Described</td>
<td>Not available</td>
<td>Suposed</td>
<td>Not described</td>
<td>Not described</td>
</tr>
<tr>
<td>Ecosystems contained</td>
<td>Endemic tepui-top ecosystem, varillal, Amazon rainforest, palm forest (cananguchales), white and dark water systems</td>
<td>Not available</td>
<td>Evergreen rainforest, palm forest, cerrado, swamps, savannahs, semi-deciduous dry forests</td>
<td>High Andean Puna grasslands, mountain cloud forests, Yunga forests and lowland rainforest</td>
<td>Pantepui, savanna.</td>
</tr>
</tbody>
</table>

The relatively low elevations of the Colombian tepuis (up to 900 m of altitude, compared to the 3000 m Venezuelan tepuis) and their practically equidistant position between the Andes, Guyana and Orinoquia, allow the migration of Amazon elements towards the sides of the plateaus which constitute the peaks, while their slopes (steep but not precipitous) favour the altitudinal migration of the Amazon biota. At the same time, the biota of the Andean foothills is represented in the area, due to processes of variance or migration and to the particular climate which determines a plant physiognomy similar to high-Andean and sub-paramo forests but at altitudes of 2000 or 2500 lower in Chiribiquete.

Only in this privileged location is it possible to contemplate the unique natural marvel of the combination of biogeographic processes and patterns, in an area limited to a few dozen hectares. In fact, this is perhaps one of the only places in the world in which, in biological groups with short lifecycles and with accessible sample collections (such as the ant group), it would be relatively simple to describe the explosion of biological and cultural diversity that the configuration of the area provides and the processes that led to its emergence.
Criterion (x): Contain the most important and significant natural habitats for in situ conservation of biological diversity, including those containing threatened species of Outstanding Universal Value from the point of view of science or conservation.

Due to the extensive pictographic records within the property, only here is it possible to study 20,000 years of the history of the populations of wild flora and fauna and their interaction with human communities. The expeditions carried out until now have shed light on the fact that, as well as a unique confluence of habitats, the property provides healthy ecosystems to sustain populations that are not pressured by hunting, deforestation or pollution (the most common reasons for biodiversity loss in the Neotropics).

Being one of the biggest and perhaps best-preserved terrestrial protected areas on the continent, it is worth noting the quantities and categories of endangered species and the health of the populations that were revealed in the latest expeditions. It is also worth noting the opportunity provided by the area to compare the evolution of the species in different scenarios of biological pressure in adjacent areas. Unique characteristics for the habitats were also found which prompted over 50 endemic species to be documented to date (plants, mammals, amphibians, arthropods, birds and reptiles), and the expectation to find four times this diversity restricted to the as yet unexplored tepuis.

Comparing the number of ecosystems included in the area of Chiribiquete National Park with those represented in ten other protected areas of the Colombian Amazon, Chiribiquete is the richest in ecosystem diversity, given that it is home to 41 different ecosystems. As such, this is an extremely rich area, with high ecosystemic complementarity and representativeness, when compared to other protected areas of the Amazon (Figure 4 and Figure 5).

Figure 4. Percentage of ecosystems included in each of the Colombian National Parks in the Amazon. Source: SPNN.

Figure 5. Percentage of exclusive ecosystems in each of the Colombian National Parks in the Amazon. Source: SPNN.

3.3. Proposed Statement of Outstanding Universal Value

Chiribiquete National Park, with an area of 2,782,354 ha is the largest protected area in Colombia and one of the largest of the Neotropical realm. With its exceptional integrity and mosaic of tepui, Guyanese and Amazon landscapes, its level of conservation is exceptional and it is home to the biodiversity of four converging biogeographic regions (Orinoquia, Guyana, Amazon, North Andes). Its location is also fundamental for processes of hybridization, speciation and endemism, constituting a unique feature with respect to the rest of the tepuis in South America and the Guyana Shield. The pictorial records of an extraordinary magnitude with their symbolic and cosmogonic content constitute the oldest found evidence (20,000 years old to be precise), in an uninterrupted sequence of ritual use from the Paleo-Indian Era to present times, as uncontacted or voluntarily isolated native groups continue to engage in such practices that account for a unique location of important symbolic and shamanic connotation for the region.

The area is considered a key site for the conservation of healthy populations of charismatic and endangered species, including the jaguar, the pink dolphin, the tapir, the macaw and the giant newt. The area is of great importance as a neuralgic point of connection for the stability of South America’s jaguar population, whose presence is very important for the indigenous communities. These communities consider the Park the great maloca of the jaguar. This so-called maloca is understood as a representation of the universe on Earth, and a place which is especially emblematic as a centre of cultural and shamanic origin.

Geologically, Chiribiquete constitutes a window onto the origin of the Earth and onto Colombian and Amazon geology. Here are found exceptional tepuis that rise no more than 850 MASL and in which structural, denuda-
tional, and hydric processes give rise to numerous geomorphologic patterns.

**Criterion (iii):** Chiribiquete National Park contains the oldest, largest, densest and most impressive archaeological pictographic complex in America which stands out with its fifty monumental murals including more than 70,000 different representations arranged into designs and styles with original characters. The paintings contain symbolic and emblematic references to the figure of the jaguar and all the rest of the fauna which inhabits the region. Chiribiquete contains a stratigraphic and chronological sequence of more than 70 absolute dates which document – through numerous archaeological excavations – the use of murals since ancient times (19,500 BP) to the present day (dates subsequent to 1968, 1976 and, possibly, to the present).

The landscape features of Chiribiquete National Park constituted a favourable scenario for the mobility of ancestral human populations. This mobility has been identified throughout periods of occupation and is manifested in the paintings found on the rocky substrate. The rock painting complex provides evidence of hyperrealist aesthetic, artistic and cultural refinement with explicit and detailed representations of ritualistic scenes, hunting, dance, mythological images and emblematic symbols. The paintings continue to be a reference point in the cosmovisions of indigenous groups which have not been contacted and of other communities existing in the Colombian Amazon region.

**Criterion (viii):** Chiribiquete National Park represents a unique feature in the geological history of Colombia and the world, as the mountain range rose when the Precambrian basement moved towards the Andes, away from the Guyana Shield in the Amazonian Craton. This tectonic pillar is made up of the oldest rocks on Earth from the Precambrian-Proterozoic (2000-1800Ma) and Palaeozoic (485-440Ma) Eras, which emerge between the Amazon plains formed by rocks and sediments from the tertiary to the present. The interactions of geological factors such as lithology, structure, hydrology, and mineralogy have promoted the singular existence of this exotic mountain range or *serranía* rising up on the jungle plains. The *serranía*’s particular structure includes horizontal layers of rock and perpendicular structures (fractures-faults), which together with the waterways have allowed the formation of a diversity of contiguous geoshapes providing a great variety of habitats and processes of endemism. A very thick quartzite rock guiding horizon (40-50 m) within this great sedimentary sequence, associated to the presence of titanium oxide minerals (Ilmenite), determines the appropriate conditions for the elaboration of rock art.

**Criterion (ix):** Chiribiquete National Park is the only protected area in the world that borders simultaneously with the Orinoco Savannah (with Caribbean affinity), the Andes Mountain Range, the Guyana Shield, and the Amazon forest. However, it does not exclusively represent any of these regions. Rather, it constitutes an enclave with contrasting and complementary adjacent ecosystems. Biogeographically speaking, it is considered a centre of diversity in which – given its position in the middle of two Pleistocene refuges (Napo and Imeri) and its function as a corridor between four biogeographic provinces – are present historical and ecological processes of local diversification and regional latitudinal, longitudinal, and altitudinal migration. These processes include both the variance due to the obvious isolation of the mountaintops, and the dispersion between contiguous biomes and ecosystems connected through the park. As such, the park sustains a biological mosaic of its own elements combined with those characteristic of near-by ecosystems in a restricted area.

**Criterion (x):** Chiribiquete National Park is home to 30% of the ecosystems and flora (1,802 sp.) of the Colombian Amazon, as well as 30% of the bat diversity (58 sp.) and 10% (209 sp.) of the country’s known butterfly diversity. The park is also unique for its high endemism levels of amphibians and freshwater fish, which are two of the most endangered groups of vertebrates in the world. At a global level, this is extremely relevant given that Colombia has the highest bat diversity in the western hemisphere and the second highest diversity globally of vascular plants, butterflies, freshwater fish, and amphibians. The 22 different types of land ecosystems and the multiple clear and black water aquatic systems provide habitats and essential resources for the populations of nine mammal species and three fish species that are endangered. Chiribiquete’s ecosystemic singularity, which includes white sand savannahs and extensive paramo grasslands in rainy seasons or xerophyte enclaves in intense droughts, house over 30 endemic and near endemic species of birds, amphibians, fish, butterflies and vascular plants which are either exclusive to the protected area or that exist in an adjacent ecosystem. The existing populations of large predators (jaguar, newt, puma and margays, among others), and species that play a role in structuring the landscape (tapirs, agoutis, woolly monkeys), together with the huge diversity of pollinating insects and bats, reflect the healthy functioning of the area’s ecosystem.
• **Statement of integrity**

Chiribiquete National Park has been maintained in an exceptional state of conservation, given its geographic isolation and ancestral cultural rules that have stopped any modification or alteration of the area for centuries. Dynamics of colonization and of other productive activities have not been allowed in the area. Besides the deterioration due to natural agents, the state of conservation and preservation of the rock art is unsurpassable and in total harmony with the requirements which ancestral groups have culturally impressed in the area in order to keep the site protected from external pressures to this day.

Chiribiquete National Park plays a fundamental role in maintaining the norms and the law of origin that is part of the cultural and natural heritage of many communities in the region. The conservation actions imposed by the Colombian State, together with those imposed in spiritual and cultural levels by indigenous groups, will allow the protection of this unique World Heritage Site to be continued.

• **Statement of authenticity**

The archaeological and anthropological manifestations in Chiribiquete National Park have been documented in over 50 rocky shelters with extraordinary murals containing over 70,000 pictograms, painted through many periods throughout the past 20,000 years, by groups uncontacted or in voluntary isolation. The chronological framework of the paintings is made up of more than 50 Carbon-14 dates, found in different excavations over recent years, in archaeological contexts associated directly to pictographic records. This has provided archeologically and scientifically supported reliable stratigraphic sequences, carried out in certified radiometric analysis laboratories and backed up by a number of scientific publications. The pictographs identified in Chiribiquete National Park present an excellent state of conservation as their level of isolation has impeded processes and dynamics other than ancestral ones to modify the ritual processes associated to the existing rock art.

• **Protection and management requirements**

Chiribiquete National Park is property of the Colombian State and is managed by the System of National Natural Parks. It was reserved, delimited and declared in 1989 in perpetuity, with an approximate area of 1.3 million hectares, which in August 2013 were amplified to an approximate total of 2.8 million hectares.

The authority in charge of managing the Park’s rock art sites is the Colombian Institute of Anthropology and History (ICANH). To guarantee their conservation, monitoring is based on the parameters of minimum intervention and the articulation of management activities with the Parks Service, research institutes and other public conservation entities, within the framework of interinstitutional agreements. The postulation of the Park as a Mixed World Heritage Site is pertinent under this “mixed” form of management.

The buffer zone of the Park is made up entirely by Indian Reserves and the Amazon Forest Reserve. This particular Forest Reserve is classified by the Ministry of Environment and Sustainable Development into the strictest category possible for Forest Reserves, which does not allow the development of extractive activities. Managing the buffer zone is aimed at mitigating and preventing disturbances in the protected area, rectifying any alterations which may present themselves due to the pressures exerted in the area, harmonising the occupation and transformation of the territory with the conservation goals of the protected area, and promoting the safeguarding of associated cultural and natural elements.

The management plan guides the actions towards the achievement of the protected area’s short, medium and long-term conservation goals, and defines the effective management of the available financial, physical and human resources. The management plan articulates with local, regional and national level state entities, civil society organisations, indigenous authorities, and research institutes, amongst others.

Given that there are no direct pressures within the National Park, a good part of the management activities implemented by the National Parks Unit and other competent institutions, are focused on the buffer zone. Within the Park, management strategies guarantee the prevention, vigilance and control of sectors identified as having a higher degree of vulnerability. Additionally, the country has taken giant steps in constructing legislation to protect the isolated indigenous communities from any kind of pressure.

The management of the protected area is beginning to include and deal with the trends of transformation associated to the advancement of the agricultural frontier, the development of illegal extraction activities, unordered tourism, and road building in the buffer zone.
This is being carried out together with the competent authorities under the leadership of the Ministry of the Environment within the framework of the *Visión Amazonía* strategy, an initiative that articulates the Colombian government with international cooperation organisms for the reduction of deforestation and the funding of conservation efforts in the Amazon in perpetuity.
4. STATE OF CONSERVATION AND FACTORS AFFECTING THE PROPERTY
4.a Present state of conservation

A conservation analysis of Chiribiquete was carried out with the aim of evaluating integrity within the protected area. Concepts such as conservation values or comprehensive conservation priorities were used as the units of data collection for the assessment of indicators. Land coverings are used as the units of analysis. Each type of cover was delimited and classified in order to allow a comparative analysis of regional and national elements. Similarly, it was decided to use the land cover units of the natural component to evaluate the cultural elements (rock art) due to the fact that it is the environmental conditions that determine the macro-scale state of conservation of the archaeological heritage. This is explained in point 6a.

The indicators calculated in order to analyse the information and generate the results and thematic maps, which are the basis for the status analysis for each type of cover, are identified in the following table.

<table>
<thead>
<tr>
<th>KEY ECOLOGICAL ATTRIBUTE</th>
<th>DEFINITION</th>
<th>CATEGORY</th>
<th>INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterogeneity</td>
<td>Complexity of the spatial arrangements in terms of wealth and dominance.</td>
<td>Composition</td>
<td>Number of spatial units</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Extension of spatial units</td>
</tr>
<tr>
<td>Spatial configuration</td>
<td>The way in which the spatial units of analysis are organised in an area and thus the basic way to learn about the effects of the natural or anthropogenic processes that affect them.</td>
<td>Composition/Structure</td>
<td>Largest patch index of a spatial unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of patches from a special natural unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of transformed areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Effective core area</td>
</tr>
<tr>
<td>Continuity</td>
<td>Physical connections existing between similar or complementary spatial units</td>
<td>Function</td>
<td>Connectivity between patches of the spatial units</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Longitudinal continuity of the spatial units</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Altitudinal continuity of the spatial units</td>
</tr>
</tbody>
</table>

Source: Subdirección de Gestión y Manejo de Areas Protegidas, SPN

Photo 45. Panoramic view of an archaeological site with rock art allusive to the jaguar figure. S. Winter/National Geographic
Assessment and analysis of indicators

Landscape structure

Chiribiquete National Park covers a total area of 2,780,805.6 ha (Magna Colombia Bogotá), of which 98.8% corresponds to natural areas with a total of 17 identified units, and 1.164% correspond to transformed areas with a total of 3 identified units.

Of the whole area, the types of dominant cover are that of solid ground dense tropical forest (86.3% of the area - 2,401,412.8 ha), distributed through structural plains covered by sediment from the Tertiary and Quaternary periods; heterogeneous dense tall forests (3.1% - 88545 ha), distributed through erosional floodplains; and the solid ground dense grassland with shrubs (2.79% - 77,597.9 ha), characteristic of the mountainous-hilly, structural-erosional landscapes in sediment and igneous rock of the Palaeozoic, the so-called tepuis.
This analysis uses the results generated by the indicator “Extension of Spatial Units”, which calculates the extension of each natural unit within the area. This indicator responds to the ecological attribute of heterogeneity, which analyses the complexity of the spatial arrangements in terms of wealth and dominance. The highest levels of heterogeneity correspond to the forest matrix distributed through structural plains, from which it can be inferred that the levels of interconnection between these forests are high, playing a dominant role in the functioning landscape. However, the results apparently indicate levels of fractioning caused by the presence of Palaeozoic rock formations in which solid ground dense grassland predominate. These are configured within the area as a natural corridor that, from south to north, interconnects material, energy and species flows within the forest matrix. Last but not least is the cultural and ancestral importance of this tepui complex for the indigenous communities and cultures of the Amazon.
Spatial configuration analysis

According to the indicators proposed for the analysis of the spatial configuration of the cover in the area, it was identified that the tall dense forests present higher values of spatial configuration, given that according to the number of patches, this type of cover is the most representative in the area. Additionally, according to the index values for the biggest patches, the tall dense forest cover is the most dominant and structuring matrix. In turn, the tepui formations, despite presenting a high value for the number of patches, also present a high level of internal natural homogeneity. The forest matrix here is conditioned as a natural barrier of conservation and mitigation for the habitats characteristic of the tepui and covers identified in such orographic structures.

Map 13. Results of the spatial configuration analysis for Chiribiquete National Park.

This ecological attribute is made up of the three indicators of composition and structure: number of patches of a spatial unit (NP), largest patch index of a spatial unit (LPI), and total core area (TCA).

Number of patches of a spatial unit (NP): This indicator calculates the number of patches or fragments of each unit that makes up the area, analysing the way in which the spatial units are distributed through an area.
Largest patch index of a spatial unit (LPI): This indicator applies to the structuring matrices of the types of cover. The indicator calculates the index based on the number of patches of a unit and of the size of each one for each unit of analysis.

**Total core area (TCA):** This refers to the area of natural land cover outside of a minimum buffer area starting from the edge. This indicator is a measure associated to the extension of the cover.

**Continuity**

This factor analyses the physical connections between similar or complementary spatial units. This ecological attribute is made up by the three function indicators: cohesion, range and connectivity between Mean Euclidean nearest-neighbour (ENN), which measures the distance between the patches or fragments of each natural unit within the protected area.
Longitudinal continuity of the spatial units (COHESION) refers to the extent to which the original matrix of the natural land cover maintains its condition in terms of facilitating or impeding ecological flows. It responds to the ecological attribute of connectivity, which analyses the physical connections existing between similar or complementary spatial units.

Altitudinal continuity of the spatial units (RANGE) refers to the extent to which a fragment/patch belonging to the largest matrix or patch of a spatial unit is physically connected throughout an altitudinal profile. This indicator is a measure associated to the extension of covers and number of patches, whose variation is relative depending on the disappearance or increase in the area and number of patches.
According to the indicators proposed for the analysis of cover continuity in the area, it was identified that the grasslands, scrublands and heterogeneous dense tall forests present a high value of connectivity between patches, which, despite being numerous, allows to infer that these covers do not present relevant structural shocks. This favours ecological flows in the territory, while the matrix of tall dense forest coverage presents a medium level of connectivity in the area given the conditions of fragmentation generated by the presence of orographic configurations and covers characteristic of the Precambrian formations in the Chiribiquete complex. This combined with the high values given by the longitudinal continuity index, allows us to infer that this matrix presents low levels of functional alteration in its ecosystems and landscapes.

According to the altitudinal ranges present in the area, tepui formations were identified that stretch from 400 to 800 MASL and correspond approximately to 4% of the total area, in which grasslands and scrublands typical of these types of formations are predominant. These covers, according to the altitudinal continuity analysis, present medium levels of continuity, while for the tall dense forests, the levels of altitudinal continuity are high, given that this type of cover is distributed through altitudes that stretch from 75 to 400 MASL, corresponding to 96% the total area.

The integration of the indicator analysis revealed that the tall dense forest cover presents a high value of continuity in terms of its ecological function. In contrast, the covers typical of the tepui present medium values, according to the conditions given by the indicators of connectivity between patches and the distribution of patches, corresponding with their distribution and typical geomorphology.
Consolidation of the results given by the units of analysis and the state of integrity indicators shows that the area presents a high state of integrity, according to the spatial disposition of the cover, altitudinal forms and structural composition of the landscape, with high levels of heterogeneity, spatial continuity, connectivity, and low levels of transformation, typical of tropical rainforests that cover the structural plains of the Amazon. The rainforest fulfil their function as natural borders for the preservation of the characteristics and conditions typical of the units of grasslands and scrublands pertaining to the mountainous relief characteristic of the tepui, and are consolidated as a series of natural patches that together form a biological and cultural corridor. The function of this corridor is to allow material, energy, and species to flow from south to north through the landscape, and to facilitate the ancestral management of the territory by indigenous cultures.

Integrity analysis

The analysis of ecological integrity for Chiribiquete National Park is approached considering only general values such as conservation related to the ecosystems of dense forest, scrublands and grasslands found in the area. All this is undertaken taking land cover as a reference for the units of analysis, according to the Corine Land Cover Colombia methodology, at a scale of 1:100,000, for 2002 and 2012.

- **Indicators assessment**

These indicators were calculated bearing in mind all the types of cover identified in the study area corresponding to the polygon of Chiribiquete National Park, as shown in Table 14 and Table 15.
### Table 14. Results of the ecological indicators and attributes for Chirbiquete National Park (2002)

<table>
<thead>
<tr>
<th>Ecological attribute</th>
<th>Heterogeneity</th>
<th>Spatial configuration</th>
<th>Composition and structure</th>
<th>Continuity</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metrics</td>
<td>Total area</td>
<td>Spatial units</td>
<td>Proportion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator→</td>
<td>Indicator→</td>
<td></td>
<td>Indicator→</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVER</td>
<td>TA (has)</td>
<td>UEN</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid ground dense tropical forest</td>
<td>2399961.048</td>
<td>1</td>
<td>83.11983243</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous tall dense floodplain forest</td>
<td>87370.87672</td>
<td>1</td>
<td>4.751221783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dense grassland on solid ground with shrubs</td>
<td>77549.53439</td>
<td>1</td>
<td>1.182430637</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid ground low dense forest</td>
<td>44627.85301</td>
<td>1</td>
<td>0.840853564</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rocky open grassland</td>
<td>43298.11146</td>
<td>1</td>
<td>0.491060151</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dense grassland on solid ground with no trees</td>
<td>30065.58689</td>
<td>1</td>
<td>2.310741536</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dense scrubland</td>
<td>17413.54434</td>
<td>1</td>
<td>0.198321749</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dense grassland on solid ground with trees</td>
<td>15112.91594</td>
<td>1</td>
<td>0.313538934</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dense floodplain grassland with no trees</td>
<td>548.666925</td>
<td>1</td>
<td>0.035437062</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low dense floodplain forest</td>
<td>1509.788535</td>
<td>1</td>
<td>0.64886228</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 15. Results of the ecological indicators and attributes for Chiriquite National Park (2012).

<table>
<thead>
<tr>
<th>ECOCLOGICAL ATTRIBUTE</th>
<th>HETEROGENEITY</th>
<th>SPATIAL CONFIGURATION</th>
<th>CONTINUITY</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY</td>
<td>TA (ha)</td>
<td>UEN</td>
<td>NP</td>
<td>LPI</td>
</tr>
<tr>
<td>COVER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid ground dense tropical forest</td>
<td>23947.32</td>
<td>1</td>
<td>80.68</td>
<td>104</td>
</tr>
<tr>
<td>Heterogeneous tall dense floodplain forest</td>
<td>95773.97</td>
<td>1</td>
<td>4.96</td>
<td>405</td>
</tr>
<tr>
<td>Dense grassland on solid ground with shrubs</td>
<td>77649.95</td>
<td>1</td>
<td>1.18</td>
<td>89</td>
</tr>
<tr>
<td>Solid ground low dense forest</td>
<td>46718.15</td>
<td>1</td>
<td>0.89</td>
<td>107</td>
</tr>
<tr>
<td>Rocky open grassland</td>
<td>43629.96</td>
<td>1</td>
<td>0.5</td>
<td>54</td>
</tr>
<tr>
<td>Dense grassland on solid ground with no trees</td>
<td>32123.71</td>
<td>1</td>
<td>2.31</td>
<td>37</td>
</tr>
<tr>
<td>Dense scrubland</td>
<td>23974.48</td>
<td>1</td>
<td>0.3</td>
<td>55</td>
</tr>
<tr>
<td>Dense grassland on solid ground with trees</td>
<td>16400.97</td>
<td>1</td>
<td>0.31</td>
<td>63</td>
</tr>
<tr>
<td>Dense floodplain grassland with no trees</td>
<td>3095.39</td>
<td>1</td>
<td>0.07</td>
<td>17</td>
</tr>
<tr>
<td>Low dense floodplain forest</td>
<td>497.08</td>
<td>1</td>
<td>0.62</td>
<td>111</td>
</tr>
</tbody>
</table>
The indicators and attributes for all of the recorded covers must be considered in order to be able to carry out an ecological integrity assessment, using two selected periods as reference (years 2002 and 2012). This is undertaken through direct comparison and analysis, qualifying the states according to the categories pertaining to the state of integrity (Desirable - Undesirable) and the qualifications as defined in the methodologies that the National Park Service has put forth for carrying out ecological integrity assessments. See Table 16 and Table 17.

Table 16. Qualification of the state of integrity according to values assigned per indicator. Adapted from Parrish et al. 2003.

<table>
<thead>
<tr>
<th>CALCIFICATION</th>
<th>VALUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td>4</td>
<td>The indicator is in an ecologically desirable state and management actions should be continued for its maintenance.</td>
</tr>
<tr>
<td>High</td>
<td>3.5</td>
<td>The indicator is in an ecologically desirable state, but management actions need to be improved.</td>
</tr>
<tr>
<td>Medium</td>
<td>2.5</td>
<td>The indicator is in an ecologically undesirable state and requires more and improved management actions for its maintenance. If the area is not monitored there is a risk that the conservation object may be lost.</td>
</tr>
<tr>
<td>Low</td>
<td>1.0</td>
<td>If the indicator is left in this category in the long term, preventing the disappearance of the conservation object will be practically impossible (e.g., complicated, costly and with little certainty of reverting the alteration process).</td>
</tr>
</tbody>
</table>

When analysing integrity, it must be taken into consideration that the spatial configuration of the natural land covers in Chiriqui National Park are associated to a historical evolution of landscapes where geological and geomorphological processes have modelled the landscapes on which different types of cover have adapted.

Table 17. Qualification of the integrity of the protected area according to the simple average of the conservation status values assessed with the indicators. Adapted from: Herrera and Corrales, 2004.

<table>
<thead>
<tr>
<th>RANGE</th>
<th>VALUE INDICATOR</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 3.75</td>
<td>5</td>
<td>The ecological integrity of the protected area is in a desirable state; the management employed over recent years is recommended to continue</td>
</tr>
<tr>
<td>3.0 – 3.74</td>
<td>4</td>
<td>The ecological integrity of the protected area is in a desirable state, but the management schemes have to be improved to stop some of the conservation values being at risk.</td>
</tr>
<tr>
<td>1.75 – 2.99</td>
<td>3</td>
<td>The ecological integrity of the protected area is in an undesirable state and requires human intervention for its improvement. If not urgently intervened, the preservation of the conservation objects will be at risk.</td>
</tr>
<tr>
<td>&lt; 1.75</td>
<td>2</td>
<td>If the indicator is left in this category in the long term, prevention of the disappearance of the conservation object will be practically impossible (e.g., complicated, costly and with little certainty of reverting the alteration process).</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>Assessment has not been undertaken.</td>
</tr>
</tbody>
</table>

Finally, and according to the comparative analysis by state indicators and the qualifications assigned in terms of state and integrity, it can be concluded that Chiriqui National Park, presents a highly desirable state of integrity with a total assessment of integrity per cover of 3,456. Accordingly, it can be determined that the ecological integrity of the protected area is in a desirable state, but that management schemes have to be improved to stop some of the conservation values being at risk (Herrera and Corrales, 2004). However, it must be noted that natural rocky outcroppings and exposed savannahs minimize the value indicator obtained.
4.b Factors affecting the property

i) Development Pressures

The pressures directly related to the protected area are referred to as: 1) sporadic incursion of tour operators without the required authorization in the north (Cerro Campano) and southeast (Puerto Abeja) limits of the Park, and 2) the presence of settlers near the Apaporis River suspected to search for new areas for the establishment of illicit crops, which was revealed by overflights conducted during the expansion process of the National Park. In response, the area has been subject to intensified monitoring over recent months in order to detect and prevent intromissions.

In the buffer zone, the main areas of deforestation are in the Meta-Guaviare and the San José del Guaviare-Calamar sectors. The north and southwest sections (Caguán axis) of the buffer zone present dynamics that are fostering the expansion of the area of use, occupation and transformation for the following activities: conversion of forest into grassland for sale; conversion of forest areas into pasture for extensive livestock farming; illegal alluvial mining; coca and subsistence crops; and activities promoted by the State such as hydrocarbon exploration or exploitation, the construction of a section of the national road “Marginal de la Selva”, and the granting of titles for medium-sized mining. The latter occurs in areas outside the Amazon Forest Reserve (SPNN, 2015).

Among the above concerns, the most critical situation is the expansion of the settlement fronts located in the northern sectors (the township of Calamar, El Retorno and San José del Guaviare, in the department of Guaviare) and the Caguán axis (particularly in the township of Cartagena del Chairá, Caquetá department).
(ii) Environmental Pressures

Chiribiquete National Park helps to mitigate the negative effects of global climate change and regional climatic variability, and it promotes regional water regulation. The area constitutes an important nucleus of pristine protected forest and as such, a strong contributor to the mitigation of the negative effects of global climate changes. Besides the regulation of rainfall and temperatures, it has been estimated that the area captures 323 million tons of carbon, thereby preventing it from escaping into the atmosphere. The carbon is included in the air biomass, which corresponds, according to estimations made by the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM) (Phillips et al. 2011), to 9% of the total equivalent carbon dioxide stored in the Colombian Amazon Rainforest.

(iii) Natural disasters and risk preparedness

Landslides are common on the banks of rivers in Chiribiquete National Park. This is due to the fluvial dynamics and the type of soil (sandstone). Given that this is a natural process characteristic of the area, it has not been classified as a natural disaster. From an archaeological perspective (rock art) this may be considered a factor of instability and deterioration given the features of the crystalline and sand basements of the tepui which, in certain points, present significant build-ups of large, heavy overlapping rocks whose stability and balance would be affected with a telluric movement of great magnitude.

(iv) Responsible visitation at World Heritage sites

Currently tour operators and tourists visit the protected area occasionally without formal authorization from the National Parks Unit. This happens in the following two ways (Map 18):

By air: overflying the area in light aircrafts and helicopters privately hired by tourists in Villavicencio and San José del Guaviare.

By river: through two entry points to the park, one in the north, in the Cerro Campana sector of Calamar, and the other in the southeast from Araracuara in Solano (Caquetá), going up the Yarí and Mesay Rivers towards Puerto Abeja.

These visits do not include archaeological sites with rock art, as these are located in very remote areas, which are difficult to access, even by helicopter. Nevertheless, they are a threat to the isolated indigenous communities.
To mitigate this phenomenon, National Natural Parks has begun to implement procedures for the control and monitoring of the air space of Chiribiquete National Park. In addition, procedures are being undertaken to control and regulate the overflights according to the principles of precaution and inviolability defined by the Interior Ministry to protect the isolated indigenous communities. The Colombian Air Force is supporting the design and regulation of flights set up by tour operators over Chiribiquete National Park.

Using technical recommendations, a map was recently designed by the National Parks System with the recommended tourist air-routes, considering sites of interest and the zoning of the management plans. The assessment of the route and the most adequate equipment for the proposed route are still being considered, but in any case they do not consider a stop over inside Chiribiquete (Map 20).
(v) Number of inhabitants within the property and the buffer zone

Estimated population located within

The exact population within the nominated area is unknown. Studies reveal the possible presence of indigenous groups uncontacted or in voluntary isolation inhabiting Chiribiquete National Park, including a Karíjona group, located between the rivers Ajáju and Macaya; a Karíjona or Murui group, between the rivers Luisa and Yari; an Urumi group in the upper sections of the rivers Mirití, Yavilla and Metá; and a Murui group, between the rivers Cuemaní and Sainí. There is, as yet, no data on the possible size of the groups. However, it is important to point out that recent government policy points to safeguarding these communities from direct contact with people from mainstream society.

The buffer zone of the national park, on the other hand, is home to various indigenous communities which have their territories recognized as Indigenous Reserves. In total, there are 12 reserves and a great variety of settlements of native communities. See Table 18 and Map 21.
Table 18. Indigenous Reserves in the buffer zone of Chiribiquete National Park.

<table>
<thead>
<tr>
<th>INDIGENOUS RESERVE</th>
<th>ETHNIC GROUPS</th>
<th>AREA (ha)</th>
<th>LOCAL JURISDICTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>La Asunción</td>
<td>Tucano oriental</td>
<td></td>
<td>El Retorno</td>
</tr>
<tr>
<td>Gran Resguardo del Vaupés</td>
<td>Cubeo y 18 grupos más</td>
<td>3,375,125</td>
<td>Mitú y Carurú</td>
</tr>
<tr>
<td>Arara- Bacati- Carurú- Lagos de Jamaicaurí</td>
<td>Tucano y otras</td>
<td>264,800</td>
<td>Carurú y Miraflors</td>
</tr>
<tr>
<td>Vueltas del Alivio</td>
<td>Wanano</td>
<td>38,750</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Yavilla II</td>
<td>Cubeo</td>
<td>30,000</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Lagos del Dorado, Lagos de El Paso y El Remanso</td>
<td>Tucano y otras</td>
<td>43,980</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Puerto Viejo y Puerto Esperanza</td>
<td>Cubeo y otras</td>
<td>9,100</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Barranquillita</td>
<td>Tucano</td>
<td>22,265</td>
<td>Miraflors</td>
</tr>
<tr>
<td>La Yuquera</td>
<td>Tucano</td>
<td>7,708</td>
<td>Calamar</td>
</tr>
<tr>
<td>Puerto Montforth</td>
<td>Tucano</td>
<td>907</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Centro Miraflors</td>
<td>Tucano</td>
<td>545</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Puerto Nare</td>
<td>Tucano, Cubeo y Wanano</td>
<td>23,368</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Tucán Caño Giriza y Puerto la Palma</td>
<td>Tucanos, Desanos</td>
<td>5,877</td>
<td>Miraflors</td>
</tr>
<tr>
<td>Llanos del Yarí - Yaguara II (colindante)</td>
<td>Pijao, Tucanos, Piratapuyos y Nazas</td>
<td>146,500</td>
<td>San Vicente, San José del Guaviare y La Macarena</td>
</tr>
<tr>
<td>El Itilla (colindante)</td>
<td>Cubeos, Desanos, Carapanas y otras</td>
<td></td>
<td>Calamar</td>
</tr>
<tr>
<td>Miriti - Paraná (colindante)</td>
<td>Yukuna, Tanimuka, Matapi, y otras</td>
<td>1,603,294</td>
<td>Miriti Paraná, La Pedrera</td>
</tr>
<tr>
<td>Nonuya de Villa Azul (colindante)</td>
<td>Andoque, Letuama, Muinane y otras</td>
<td>260,933</td>
<td>La Chorrera, La Pedrera, Santander, Araracuara</td>
</tr>
<tr>
<td>Aduche</td>
<td>Andoque</td>
<td>62,178.3</td>
<td>Santander y Solano</td>
</tr>
<tr>
<td>Mesai</td>
<td>Huitoto</td>
<td>6,960</td>
<td>Solano</td>
</tr>
<tr>
<td>Puerto Zábalo - Los Monos</td>
<td>Huitoto</td>
<td>211,480</td>
<td>Solano</td>
</tr>
<tr>
<td>Monochoa</td>
<td>Huitoto</td>
<td>263,093.4</td>
<td>Solano y Santander</td>
</tr>
</tbody>
</table>


The indigenous population in the buffer zone of Chiribiquete is estimated in 3,485 inhabitants. It is also important to point out that the protected area does not overlap any of the existing indigenous Reserves although it has always been a space of material and immaterial use by the indigenous communities of the Amazon, especially those that label themselves “Gente de Centro” or “People from the Centre” (SPNN, 2013 and 2015).
Map 21. General localization map of the indigenous Reserves situated in the buffer zone of the Chiribiquete National Park.

Nomination of Chiribiquete National Park “The Maloca of the Jaguar”, for inscription in the World Heritage List

Photo 47. Landscape in the northern part of Chiribiquete National Park, Rio Negro watershed. J. Arango/Fundaherencia
5. PROTECTION AND MANAGEMENT OF THE PROPERTY
5.a Ownership

Chiribiquete National Park is property of the Colombian State in its entirety, as recorded in the property register No. 420-0052320, issue number 94 - 0221 of the registry office in the town of Florencia, Caquetá, and property register No. 480 - 0003977, issue number 94 – 042, of the registry office in the town of San José del Guaviare, Guaviare. It is managed by the Administrative Unit of the National Natural Park System of the Ministry of Environment and Sustainable Development of Colombia. The management authority for all the archaeological sites in the country, including the prehistoric rock art sites inside Chiribiquete National Park is the Colombian Institute of Anthropology and History, delegated by the Ministry of Culture.

5.b Protective designation

Chiribiquete National Park was reserved, delimited, and declared through Agreement No. 0045 of the 21st of September 1989, of the Board of Directors of the National Institute of Renewable Natural Resources and of the Environment (Inderena, today the Ministry of Environment and Sustainable Development), with an approximate area of 1,298,955 ha, in the departments of Guaviare and Caquetá, and approved through Executive Resolution No. 120 of the 21st of September 1989, issued by the Ministry of Agriculture.

The buffer zone of the protected area coincides almost totally with the Amazon Forest Reserve established by Law No. 2 of 1959. The areas surrounding the protected area corresponds to a Type A Forest Reserve Zone in which there has been a temporary suspension of the reception and processing of mining licenses and activities (Resolution No. 1518 of 2012, issued by the same Ministry in conjunction with the Ministry of Mines).

According to Article 31 of the Decree 2372 of 2010, the buffering function of national parks is aimed at mitigating and preventing shocks in the protected area, contributing to dealing with alterations that are presented due to pressures; harmonizing the occupation and transformation of the territory with the conservation objectives of the protected area; dealing with alterations that are presented due to pressures; and, preserving the natural and cultural elements associated to the area.

Through Resolution No. 1038 of the 21st of August 2013, issued by the Ministry of Environment and Sustainable Development, Chiribiquete National Park was augmented towards the townships of Cartagena del Chairá, San Vicente del Caguán and Solano in Caquetá, and Calamar in Guaviare, by approximately 1,483,399 ha, more than doubling the total surface area to 2,782,354 ha.

5.c Means of implementing protective measures.

Institutional guidelines for the vigilance and control of the National Park

The implementation of vigilance and control guidelines requires coordination between the National Parks Unit, the ICANH and other institutional and social entities that contribute to and support the development of actions that tend towards preventing the deterioration of the natural and cultural resources of the Park. This applies to both the protected area and its buffer zones. According to the competencies and responsibilities of each institution involved, a collaboration framework allows the institutions to work together to improve the natural conditions of the area and the well being for populations outside the protected area.

The development of the Protocol for the Vigilance and Control of Chiribiquete National Park is structured according to the components within the framework of the National Natural Parks Institutional Guidelines (2015). The actions currently developed within the park and its buffer zone, are listed in Table 19.
### Table 19. Actions aimed at vigilance and control developed inside Chiribiquete National Park and its buffer zone

<table>
<thead>
<tr>
<th>PREVENTION</th>
<th>VIGILANCE</th>
<th>CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation of use within the protected areas (research, monitoring, and filming)</td>
<td>Joint circuits established together with ethnic communities and other competent authorities.</td>
<td>Preventive confiscation of products, elements, means or implements used to commit infringements.</td>
</tr>
<tr>
<td>Governance strengthening with indigenous groups</td>
<td>Follow-up of the measures adopted within the framework of sanctioning processes.</td>
<td>Preventive seizure of specimens, products and sub products of wild flora and fauna.</td>
</tr>
<tr>
<td>Construction of use and management agreements established with indigenous groups.</td>
<td>Follow-up of the use and management agreements made with the indigenous Reserve Authorities with which the Previous Consultation for the Expansion of the Chiribiquete National Park was carried out.</td>
<td>Suspension of work or activity when this can lead to damage or danger for the environment, natural resources, landscape or human health or when the project, work or activity has been started without permission, concession, authorisation, or environmental licensing, or when it is executed against the terms of such licensing.</td>
</tr>
<tr>
<td>Incorporation of prevention measures into life plans, ethno-development plans, and other indigenous planning instruments.</td>
<td>Research for information gathering.</td>
<td>Begin the chain of custody for specimens, products and sub products, materials and/or seized equipment.</td>
</tr>
<tr>
<td>Research and monitoring to obtain information on the presence and/or variation of pressures on the communities, which have had no contact with civilisation or are uncontacted.</td>
<td>Articulation of the data recorded on the SICO – SMART platform</td>
<td>All activities, reports and decisions that require the application of Law 1333 within the framework of competencies of the entity and that are detailed in the environmental sanctions procedures of the entity approved for quality control on the 29th of April 2014.</td>
</tr>
<tr>
<td>Verification of the borders of Chiribiquete National Park</td>
<td>Feedback based on the analysis and decisions made in the articulation of the three levels of management.</td>
<td>Guarantee institutional presence in critical sites, among them control posts.</td>
</tr>
</tbody>
</table>
Following is a description of the most relevant advances of the vigilance and control strategies of the Management Plan.

Circuits for Vigilance and Control 2015-2016

Chiribiquete National Park prioritises certain land and river circuits to carry out vigilance and control actions in order to monitor the threats and understand the transformation dynamics in the buffer zone (see Annex 12).
**Control Actions**

The National Natural Parks System, in association with the environmental NGO WWF, has developed a tool for the analysis of the Effectiveness of the Management of Protected Areas with Social Participation (AEMAPPS). This is a methodological tool aimed at supporting and guiding the National Natural Parks System in the verification of the fulfillment of the conservation objectives. AEMAPPS enables a type of analysis that interrelates the processes of ecological conservation with their associated social processes. This methodology is underpinned by the National Policy for Social Participation in Conservation. The tool incorporates different methodologies aimed at analysing the fulfillment of the conservation goals and the quality of the processes. AEMAPPS also integrates an analysis of the participatory social processes in the areas, both within the area and the proposed buffer zone, and their relationship with the conservation objectives. This denotes another effort towards widening the perspective when it comes to setting out comprehensive management and conservation alternatives.

Thus, AEMAPPS analyses the effective management of the National Natural Parks System protected areas, and determines the progress of the areas in reaching their conservation objectives, mainly in terms of biodiversity. The assessment of the effectiveness of the management of the protected areas is a strategic process that serves to measure progress, provide insights into the strengths, identify weaknesses, understand whether the efforts have been effective and efficient, analyse the benefits of certain processes within an area, gather information, share experiences, promote responsibilities, verify the impact of the management and, above all, promote adaptive management (Annex 13).

In addition, some of the protection measures are implemented through the initiative “Forest Conservation and Sustainability in the Heart of the Amazon”, led by the Ministry of Environment and Sustainable Development, the National Parks System, IDEAM, SINCHI and Patrimonio Natural, funded by the World Bank. The initiative has developed a mechanism of technical meetings to deal with the lines of work that require articulation between the partner organisations. A special mention goes to the coordination between the National Parks System’s vigilance and control strategy and IDEAM’s early warning system; the articulation of the Amazon research institute SINCHI, the National Parks System, and local social organisations, to define the villages that will join the agreement for conservation and no deforestation in Calamar and Cartagena del Chairá; the inventory drawn up by the National Parks System and the regional environmental authority (CDA) of the thematic and geographical information available to begin the process of declaration of regional protected areas in the buffer zone of Chiribiquete; the definition of the methodology to model the ecosystemic connectivity and the scenarios of deforestation in the buffer zone of the national road being built in the Amazon; and the structuring of a finance project for the Amazon as part of the GEF initiative “The heart of the Amazon” (Annex 14).

5.d. Existing plans related to municipality and region in which the proposed property is located (e.g., regional or local plan, conservation plan, tourism development plan)

Territorial planning and development is rendered even more important when considering the property’s biotic characteristics, the biogeographical and archaeological significance of the nominated area, its strategic location, its role in regional climate and water regulation, as well as its potential for the formulation and implementation of a process of conservation-based territorial management. Planning, use, occupation and land ownership in the buffer zone are complementary components to a strategy aimed at stabilising and preventing the expansion of the settlement areas of southern Meta, the north of Guaviare and the foothills of Caquetá and Putumayo, onto the protected area, which includes the Amazon Forest Reserve in the departments of Guaviare and Caquetá, and the reserve belt of western Amazonia. The aim is to harmonize conservation and development strategies, procuring alternative ways of inserting the previously isolated region into the country’s dynamics.

In order to continue strengthening governance and improving the social legitimacy of the conservation objectives inherent to Chiribiquete National Park, the National Park System, through its different levels of management, is actively participating in different initiatives with interinstitutional coordination bodies in the region. For example, the inclusion of the protected area as an environmental determinant both in the definition of the buffering function of neighbouring towns in the municipal land plans, as well as the definition of the priority zones to be declared regional protected areas by the regional environmental authorities (Corpoamazonia and CDA). There is also a framework for cooperation established with the ICANH for the implementation of actions associated with cultural heritage. Table 20 presents a list of national and regional projects and initiatives associated with Chiribiquete National Park.
Photo 50. Territorial planning and development is rendered even more important when considering the property’s biotic characteristics, the biogeographical significance of the protected area, its strategic location, its role in regional climate and water regulation, as well as its potential for the formulation and implementation of a process of conservation territorial management. S. Winter /National Geographic.
Table 20. National and regional projects and initiatives associated with Chiribiquete National Park

<table>
<thead>
<tr>
<th>INITIATIVE</th>
<th>OBJECTIVES</th>
<th>ENTITIES INVOLVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visión Amazonia 2020 (Amazon Vision 2020)</td>
<td>Reduce net deforestation to zero in the Amazon by 2020, and foster a sustainable development model, which is low in carbon emissions for the region.</td>
<td>MADS, IDEAM, SINCHI, the National Natural Parks System</td>
</tr>
<tr>
<td>Corazón de la Amazonía (Heart of the Amazon)</td>
<td>Improve governance and sustainable land-use activities to reduce deforestation and preserve the biodiversity in the Colombian Amazon Rainforest.</td>
<td>GEF, MADS, the National Natural Parks System, IDEAM, SINCHI, Fondo Patrimonio Natural</td>
</tr>
<tr>
<td>REDD+ Amazonia</td>
<td>Avoid deforestation and degradation in approx. 418,000 ha of the Amazon tropical rainforest, in a reference area of 1,117,937 ha in the department of Guaviare.</td>
<td>MADS, The National Natural Parks System, IDEAM, SINCHI, FPN</td>
</tr>
<tr>
<td>Consolidation of protected areas in the Colombian Amazon.</td>
<td>Development of indigenous agendas brought about by the previous consultation for the expansion of Chiribiquete National Park.</td>
<td>The National Natural Parks System</td>
</tr>
<tr>
<td>Conservation of the biodiversity in the Amazon region</td>
<td>Contribute to the conservation of the biodiversity in the Amazon region through the consolidation of the National System of Protected Areas (SINAP) in the buffer zones of four protected areas of the Amazonia: Orito Ingi Ande, “Serranía de los Churumbelos”, Chiribiquete, and Yaigojé-Apaporis.</td>
<td>The National Natural Parks System</td>
</tr>
<tr>
<td>Cooperation agreement between the Colombian Institute of Anthropology and History and the National Parks System</td>
<td>Join technical, logistical and administrative forces in order to implement plans and projects and to develop actions aimed at the protection, conservation, management, research, divulgation, community management, and ecological and cultural tourism management in the areas belonging to the National Natural Parks System.</td>
<td>ICANH and the National Natural Parks System</td>
</tr>
</tbody>
</table>

There are a number of additional local level projects, which, although carried out far away from the protected area, are relevant to its environmental management as they can contribute to the mitigation of conflicts arising due to the use and occupation of the more remote areas of the Amazon Forest Reserve in the buffer zone of Chiribiquete National Park. Such projects are listed in Table 21.

Table 21. Local initiatives and projects with an impact on Chiribiquete National Park.

<table>
<thead>
<tr>
<th>MUNICIPALITY</th>
<th>INITIATIVE OR PROJECT</th>
</tr>
</thead>
</table>
Below is a summary of the different subnational management and protection plans, which directly or indirectly affect the nominated area and its buffer zone (Annex 15).

Conservation zone management plan of the “Serranía de La Lindosa” and its buffer zone (ZPSLL)

The ZPSLL management plan is a form of scoping, agreement and negotiation chart for the conservation objectives and the type of management agreed for the Lindosa mountain range. Serranía de La Lindosa is not just one of the strongholds of the Guyana Shield—a living laboratory with an impressive landscape—but also an area that is strategic for the water supply of the department of Guaviare.

The plan constitutes an exercise of management planning of a regional protected area under the category of preservation, inserted into a special management area. The document is based on the context of the regional Special Management Area of the Macarena, Chingaza Natural National Park, and Chiribiquete National Park. This management plan contains all the elements that allow the regional environmental authority responsible for the regional protected area to exercise its authority, through a joint and participative process of environmental management construction based on the knowledge of the value of the biodiversity in the zone and of its social, cultural, political, economic, and environmental reality.

The ZPSLL proposes a co-management strategy for the conservation of the natural reserve with the participation of the community and institutions.

The document is divided into three parts: the first relates all of the elements inherent to the proposals, agreements, and validation for the adjustment of the management plan; the second develops the conceptual elements for the co-management of the area; and the third exposes the portfolio of projects required to fulfil the co-management proposals.

Environmental management plan for the South Production and Recuperation Zone (ZRPS) of the Ariari-Guayabero District of Integrated Management (DMI) protected area

The DMI is a protected area located within the Special Management Area of the Macarena (AMAM). The environmental management plan incorporates a proposal for the sustainable use and recovery of 514,000 located in the protected area’s ZRPS, following IDEAM’s methodologies regarding river basin planning and other national management guidelines. The formulation, execution, monitoring, and evaluation stages are developed as part of the strategies to meet the conservation objectives of the DMI, accompanied by a number of institutional agreements for the implementation of the Plan.

Short-term activities plan in the Special Management Area of the Macarena

This plan presents a short-term activity plan that allows the coordination of the most urgent tasks to be undertaken in the Special Management Area of the Macarena, which includes various protected areas of different levels. The Plan provides the technical and administrative guidelines for institutional and community management, allows the identification of the most urgent actions and investments, contributes to the organization of institutional actions, identifies gaps and limitations, and, finally, provides technical and methodological guidelines for the formulation of the Integrated Management Plan for the area.

Environmental determinants and issues for land management in the Caquetá department

This document is the result from the municipal land planning adjustment process. It presents the regulatory framework outlining the determinants of land management such as the regulation of the design and planning of sustainable land and natural resource use. The document provides a set of regulatory guidelines and an environmental reference framework for structuring the department’s settlement and development model.

Land management plan 2014-2027 Cartagena del Chaira, Caquetá

This document is an instrument of land planning which proposes a management model that can guide land development and management, involving policy, objectives, and strategies that together regulate land use, transformation and occupation.

5.e Property management plan or other management system

To deal with the different management situations certain key actions and/or concepts have been identified for the implementation of actions, as explained below, in line with the area’s management plan.
Specific conservation objectives for Chiribiquete National Park

1. Maintain the ecological integrity of the ecosystems of the western limit of the biogeographic province of Guyana, in order to continue the perpetuation of endemic and/or endangered species, and of the ecological processes that sustain the continuity between the biomes of the Andes, Guyana and Amazonia.

2. Maintain the functioning of the ecosystems present in the area, in order to guarantee: (1) the buffering capacity against the effects of climatic variability through water regulation in the basins of the Apaporis (Tunia), Yarí and bajo Caquetá rivers; and (2) regional level climate regulation, through forest maintenance, as a contribution to the adaptation to and mitigation of global climate change.

3. Preserve areas in which the interactions between the natural environmental/cultural systems have left archaeological remains which are important for the country’s tangible and intangible heritage, fostering cultural manifestations of spiritual and mythological significance for the indigenous communities ancestrally related to the region comprised between the Caquetá, Yarí, Apaporis and Itilla rivers.

4. Preserve areas where there are indications of the presence of indigenous communities of the Uitoto, Karib and Arawak linguistic families, which have not had permanent contact with civilization, in order to guarantee their condition of isolation.

5. Maintain the ecosystems’ capacity to generate the natural supply demanded outside of the protected area by local communities and, in particular, by the indigenous communities ancestrally related with the region comprised between the Caquetá, Yarí, Apaporis and Itilla rivers.

Comprehensive Conservation Priorities for Chiribiquete

Below is the list of Comprehensive Conservation Priorities corresponding to sites within the park whose protection is intricately related to conservation objectives of the nominated area:

1. The forest areas corresponding to the Amazon and Orinoquía Rain Forest biome, and the biogeographical districts Yarí-Mirití (Guyana) and Caguán-Florenca (Amazonia). These areas present a high level of ecological integrity because they contribute to the structural and functional connectivity between the Andes, Orinoquia and Amazonia, and are key in the supply of ecosystemic services, especially those related to: water regulation, carbon capture and fixing, regional climatic variability and global climate change prevention and mitigation, as well as the generation of the supply of ecosystem services demanded outside the protected area.

2. Part of the remnants of the Guyana Shield, in order to foster knowledge of its potential endemism, representativity and for being part of the Chiribiquete Cultural Tradition, and whose appropriation as a geographical cornerstone in the territory by local communities renders it an element of cultural identity and heritage.

3. Elements that are valuable for the country’s archaeological and living heritage, corresponding to the Chiribiquete Cultural Tradition and represented by the collection of pictographs and other archaeological remains in rocky shelters in the mountains, the petroglyphs in torrents or cascades, and the sites with traces of "tierras prietas".

4. Sites related to the cultural knowledge and traditions of indigenous communities, bearers of origin myths, shamanic thought, ceremonial centres and strategic traditional sites for the management of the territory, that define the importance of the protected area within the Chiribiquete Cultural Tradition and its components, such as culturally important networks of saltlicks, places of incantation, ancient malocas, petroglyphs in torrents or cascades, Home of the Jaguar (Karijona myth shamanic centre), amongst others.

5. The headwaters of the rivers Ajaju and Macaya, the Huitoto stream in the middle basin of the Yarí river and headwaters of the rivers Metá and Mirití. These are areas which hold clues as to the existence of indigenous groups that are in voluntary isolation, possibly from the Uitoto, Karib and Arawak linguistic families.

6. The network of saltlicks, which are related with part of the habitat of species of fauna used by local communities to meet their dietary needs, and for which there are regulatory systems established by
the indigenous communities that make their conservation possible.

7. The upper and middle basin of the Apaporis River, the Cuñaré stream of the Mesay River basin, and the lower basin of the Yavilla River; these are important for the supply of resources for the local communities settled in the buffer zone of the protected area, especially fish for local consumption. These rivers also maintain endangered species such as the big catfish and species of the Crocodylidae family.

Management priorities for the protected area

1. To potentialize the role of Chiribiquete National Park to be a relevant core area in the conservation of the Colombian Amazon. The starting point for this can and must be the implementation of the national public policy regarding ecosystem services and biodiversity and the national project Visión Amazónica 2020, with its role in generating knowledge.

2. To minimize deforestation in the Amazon Forest Reserve—established by Law 2 of 1959—, especially in the Caguán and Calamar-Miraflores axes, given the productive and extractive practices and the expansion of the settlement frontiers. Such activities foster conflicts of use and occupation of the Amazon Forest Reserve in Chiribiquete National Park buffer zone.

3. To coordinate with indigenous authorities the implementation of conservation actions both in the indigenous reserves located in the buffer zone of Chiribiquete National Park and in the park itself, within the framework of the complementary strategies established by the Amazon Territorial Unit of the National Parks System in its strategic territorial plan and of the commitments assumed in the prior consultation process for the expansion of Chiribiquete.

4. To maintain the natural conditions in the areas where there are indications of the presence of isolated communities.

5. To maintain the goods and services provided by the park and its buffer zone to local communities (peasant settlers and indigenous communities), with which they meet their consumption needs.

6. To implement coordinated activities with the armed forces to limit the illegal dynamics in the buffer zone of Chiribiquete National Park, which are directly related to the different expressions of the armed conflict that limit the exercise of environmental authority and governance in the region, and are a potential threat to the integrity of the protected area.
Photo 51. Scarlet Macaws flying over the tepius in Chiribiquete. J. Arango/Fundaherencia
Zoning for management

National decree 622 of 1977, which regulates Law 2811 of 1974, establishes a series of internal management categories or zones applicable to the National Natural Parks System protected areas. Similarly, Decree-Law 4633 of 2011, in its articles 17 and 18, deals with the issue of indigenous communities which have had no contact or that are in voluntary isolation or that are in the process of initial contact. In the first two cases, the State must guarantee the rights of these communities “...to remain in said condition and to live freely, according to their cultures in their ancestral lands”.

Zoning for management is defined as a process involving the subdivision of the protected area for adequate management leading to the fulfillment of the conservation objectives. One of the goals of the zoning for management initiative is that of managing each area differently in order to guarantee its perpetuation, providing each area with the most adequate protection for its needs. Below we provide, for each defined zone or area, the criterion that most influenced its determination and the most relevant activities for that zone, according to the management plan. Map 22 shows the location of each zone within the park.

Intangible 1 (I1):

*The criterion assigned the greatest weight in the definition:* the presence of indigenous communities uncontacted or in voluntary isolation.

*Five-year management plan:* Ban all activities within the area that can lead to contact with the isolated communities presumably inhabiting the area, as well as any type of impact or alteration in the territory that may become a source of pressure in the buffer zone of the protected area, especially any illicit activity.

Intangible 2 (I2):

*The criterion assigned the greatest weight in the definition:* the presence of indigenous communities uncontacted or in voluntary isolation.

*Five-year management plan:* Design and implement, in coordination with the Miriti and Villa Azul Reserves adjacent to the protected area, a protection strategy for the territory presumably inhabited by isolated communities in this area and in part of said reserves. Also, ban all activities within the area that can lead to contact with the isolated communities.

Intangible 3 (I3): The criterion assigned the greatest weight in the definition: the presence of indigenous communities uncontacted or in voluntary isolation.

*Five-year management plan:* Ban all activities within the area that can lead to contact with the isolated communities, as well as any type of impact or alteration in their territory generated by sources of pressure in the buffer zone of the protected area, especially the development sector or extractives projects.

Primitive 1 (P1):

*The criterion assigned the greatest weight in the definition:* cultural and archaeological importance and the particular biodiversity associated to formations of the Guyana Shield.

A decision was made to leave it as a primitive zone, given that the definition of its possible intangibility must be the object of analysis based on research that can foster greater knowledge of the elements present in the area and discussions with the indigenous experts to integrate their knowledge into management plans for the area.

*Five-year management plan:* Contribute to the maintenance of the Serranía of Chiribiquete as a cultural model of the indigenous communities ancestrally related with this territory within the Chiribiquete Cultural Tradition and foster knowledge in ecological, archaeological and cultural aspects that integrate the traditional knowledge.

Primitive 2 (P2):

*The criterion assigned the greatest weight in the definition:* A good conservation status for the land cover in the sector.

An analysis is carried out of the possible development of ethno- and eco-tourism activities, which would be highly localised, small scale –mainly restricted to the buffer zone of the protected area– with minimum impact on the natural environment, as it is considered pertinent to leave the area in as primitive a condition as possible.

*Five-year management plan:* Coordinate the implementation of the management plans of indigenous communities with the authorities of related indigenous Reserves, through joint management actions in sectors of common interest.
Primitive 3 (P3):

The criterion assigned the greatest weight in the definition: the conservation status of the sector and the specificity of the risks to which this area is exposed from the buffer zone of the protected area.

Five-year management plan: Prevent any kind of shock or alteration in the protected section of the Apaporis River (waterway and forest cover), generated by sources of pressure in the buffer zone of the protected area, especially those related with illicit activities in the Amazon Forest Reserve and the river.

Primitive 4 (P4):

The criterion assigned the greatest weight in the definition: pristine state of the forests and other natural land cover in the sector.

Five-year management plan: Prevent any kind of impact or alteration in the forests in a good conservation status within the protected area, which may be caused by sources of pressure in the buffer zone; contribute to the protection of the territories presumably occupied by the isolated communities.

High use density (HD):

The criterion assigned the greatest weight in the definition: the requirement for infrastructure for the logistic and operational support of the research projects developed in the protected area.

Five-year management plan: Provision of the conditions and logistic facilities to support the development of research lines defined for the area.
Management Strategies

The management strategies constitute the key management response priorities as detailed hereafter.

MS1. National, regional, and local level interinstitutional coordination strategy for the positioning of the conservation objectives for Chiribiquete National Park and the definition of its role in land management and public policy for the Colombian Amazon, in order to contribute to the maintenance and improvement of the region’s structural and functional connectivity, to the protection of climate change mitigation services, and to the protection of indigenous communities in isolation.

MS2. Implementation of an environmental management strategy for the Amazon Forest Reserve in the buffer zone of Chiribiquete National Park. This involves the development of sustainable conservation systems that deal with factors relating to the unsustainability of existing productive systems pertaining to peasant settlers, in order to guarantee the fulfilment of the requirements for the buffering function of the protected area and the maintenance of its services, in coordination with regional and local authorities, involving the communities and their base organisations.

MS3. Joint strategy between National Parks System and indigenous authorities to coordinate the conservation of the south sector of Chiribiquete National Park, within the framework of the guidelines for the complementary conservation strategies for the Amazon national parks. The strategy is aimed at meeting the conservation objectives of the park and its buffer zone, the maintenance of its services, its contribution to regional connectivity, and the strengthening of governance in the traditional territories, allowing progress to be made in terms of the mutual commitments assumed by the Parks System and indigenous groups in previous consultation processes regarding the expansion of the protected area.

MS4. Prevention addressing possible contact between the local non-indigenous communities or other outsiders with members of the isolated communities, in order to minimize the inherent risk for these communities.

MS5. Interinstitutional articulation regarding the possible negative affects on Chiribiquete National Park caused by illegal activities in its buffer zone, through the consolidation of existing coordination bodies and awareness raising among local communities.

In addition, the National Parks System together with the Colombian Institute of Anthropology and History propose the inclusion of a new management strategy to strengthen the cultural component:

MS 6. The definition of archaeological research as a key factor to amplify the management and zonification measures with the use of the National Park. Initially, most of the rock art sites were not included in the area corresponding to the intangible zones. However, with the gradual documentation of archaeological sites with evidence of recent ritual use, many of these may be classified in more strict zoning categories.

5.6 Sources and levels of finance

The funding allocated from the national budget for the management of Chiribiquete National Park is shown in Table 22. However, it is important to keep in mind that the Colombian government is able to channel additional funds to the area that can more than double the Nation’s assigned budget. The 2013 park augmentation must be taken into account when analysing the figures.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ASSIGNED AMOUNT (US)</th>
<th>YEAR</th>
<th>ASSIGNED AMOUNT (US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>$ 4,767</td>
<td>2011</td>
<td>$ 63,990</td>
</tr>
<tr>
<td>2005</td>
<td>$ 26,035</td>
<td>2012</td>
<td>$ 54,147</td>
</tr>
<tr>
<td>2006</td>
<td>$ 8,179</td>
<td>2013</td>
<td>$ 72,715</td>
</tr>
<tr>
<td>2007</td>
<td>$ 19,990</td>
<td>2014</td>
<td>$ 126,709</td>
</tr>
<tr>
<td>2008</td>
<td>$ 47,971</td>
<td>2015</td>
<td>$ 136,388</td>
</tr>
<tr>
<td>2009</td>
<td>$ 49,968</td>
<td>2016</td>
<td>$157,480</td>
</tr>
<tr>
<td>2010</td>
<td>$ 51,924</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Also in 2013, the Government of Colombia, through the Ministry of the Environment and Sustainable Development presented its “Low Deforestation Development Vision for the Colombian Amazon” (i.e., “the Amazonia Vision”), in which it articulated its commitment to build “a desired partnership model between Colombia and international parties, addressing Colombia’s overall vision for the establishment and scaling up of low-carbon development models in all of its forested areas.”
Photo 53. Funding research activities, such as the 2016 scientific expedition shown in this photo, is an important investment to improve the management strategies of the park. J. Arango/Fundaherencia.
The focal point for this project is Chiribiquete National Park and its direct intervention area. Through the implementation of this project (grant of US$10.40 million), with support from GEF and other international donors, Colombia is positioning itself to fulfill that vision. The Amazonia Vision calls for the establishment of a “results-based payment mechanism” to which international, national and private partners can contribute by rewarding the protection of climate change mitigation services provided by the Colombian Amazon Rainforest (MADS, 2013).

The project is consistent with the World Bank Group Country Partnership Strategy (CPS) 2012-2016 for Colombia (Report 60620-CO) discussed by the Executive Directors on July 21, 2011, which supports the country’s development goals as expressed in the National Development Plan (NDP) 2010-2014. Bank support is focused on three strategic themes: (a) expanding opportunities for social prosperity; (b) sustainable growth with enhanced climate change resilience; and (c) inclusive growth with enhanced productivity. The project is also consistent with the Country Partnership Strategy Progress Report for Colombia (Report 83966-CO) for the period FY12-FY16, dated July 16, 2014.

The Colombian government is also engaged in fighting climate change, as evidenced by the existence of four mutually reinforcing strategies: (a) Strategy for Low-Carbon Development; (b) National Strategy for Reducing Emissions related to Deforestation and Forest Degradation (ENREDD+); (c) National Climate Change Adaptation Plan; and (d) Financial Protection Strategy against Disasters. These strategies are also part of the Government’s NDP 2010-2014. Colombia is one of 53 partner countries that are participating in the UN-REDD Program that supports the development and implementation of such national strategies.

The ENREDD+ for Colombia is in advanced stages of development: the Readiness Proposal Preparation (R-PP) for the National Strategy was carried out by MADS between June 2010 and April 2013. A key strategic partner for the UN-REDD Program, the Forest Carbon Partnership (FCPF), will provide a US$3.6 million grant to help fund some of the activities related to institutional strengthening, strategic environmental and social assessment to further engage stakeholders, and the preparation of a grievance mechanism for REDD+ activities (Annex 23). Overall, the development and implementation of such activities is estimated to cost US$27.51 million.

<table>
<thead>
<tr>
<th>PROJECT PARTS</th>
<th>PROJECT COST (US$)</th>
<th>GEF FINANCING (US$)</th>
<th>% FINANCING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Protected Areas Management and Financial Sustainability</td>
<td>3,383,328</td>
<td>1,490,000</td>
<td>44.03</td>
</tr>
<tr>
<td>2. Forest Governance, Management and Monitoring</td>
<td>6,598,543</td>
<td>2,899,817</td>
<td>43.94</td>
</tr>
<tr>
<td>3. Sectoral Programs for Sustainable Landscape Management</td>
<td>31,594,933</td>
<td>4,780,028</td>
<td>15.12</td>
</tr>
<tr>
<td>4. Project Coordination, Management</td>
<td>1,772,028</td>
<td>1,230,155</td>
<td>69.42</td>
</tr>
<tr>
<td>Total Project Costs</td>
<td>43,348,832</td>
<td>10,400,000</td>
<td>23.99</td>
</tr>
</tbody>
</table>

5. Sources of expertise and training in conservation and management techniques

Below is list of the basic knowledge and study requirements for each of the positions at Chiribiquete National Park

<table>
<thead>
<tr>
<th>ESSENTIAL BASIC KNOWLEDGE FOR EACH POSITION</th>
<th>STUDY AND EXPERIENCE REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(*) General functioning and regulations of the Colombian State.</td>
<td>Expertise in: biology, marine biology, ecology, degree in biology, agronomic engineering, forest engineering, environmental engineering, agronomy, or geography.</td>
</tr>
<tr>
<td>National Development Plan</td>
<td></td>
</tr>
<tr>
<td>National environmental plans</td>
<td></td>
</tr>
<tr>
<td>State environmental policies</td>
<td></td>
</tr>
<tr>
<td>Conservation and management of natural resources</td>
<td></td>
</tr>
<tr>
<td>Management plans</td>
<td></td>
</tr>
<tr>
<td>Environmental monitoring</td>
<td></td>
</tr>
<tr>
<td>Planning, development, and assessment of plans, programmes and projects</td>
<td></td>
</tr>
<tr>
<td>Knowledge of management, operational, and office tools</td>
<td></td>
</tr>
</tbody>
</table>
**ESSENTIAL BASIC KNOWLEDGE FOR EACH POSITION**

<table>
<thead>
<tr>
<th>Knowledge Area</th>
<th>Study and Experience Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>General functioning and regulations of the Colombian State.</td>
<td>Law professional</td>
</tr>
<tr>
<td>Disciplinary law</td>
<td></td>
</tr>
<tr>
<td>Administrative law</td>
<td></td>
</tr>
<tr>
<td>Institutional policy</td>
<td></td>
</tr>
<tr>
<td>State environmental plans and policies</td>
<td></td>
</tr>
<tr>
<td>Knowledge of management, operational, and office tools</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge Area</th>
<th>Study and Experience Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>General functioning and regulations of the Colombian State.</td>
<td>Expertise in: biology, marine biology, ecology, geology, geography, agronomy, zootechnics, forest engineering, archaeological engineering, environmental engineering, fisheries engineering, agronomic engineering, agroindustrial engineering, environmental management, agribusiness management, sociology, anthropology.</td>
</tr>
<tr>
<td>National environmental plans</td>
<td></td>
</tr>
<tr>
<td>State environmental policies</td>
<td></td>
</tr>
<tr>
<td>Public law</td>
<td></td>
</tr>
<tr>
<td>Administrative law</td>
<td></td>
</tr>
<tr>
<td>Planning, development, and assessment of plans, programmes and projects</td>
<td></td>
</tr>
<tr>
<td>Knowledge of office tools</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge Area</th>
<th>Study and Experience Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulations for auditing and assessment system for management</td>
<td></td>
</tr>
<tr>
<td>Processes and procedures</td>
<td></td>
</tr>
<tr>
<td>Standard internal control models</td>
<td></td>
</tr>
<tr>
<td>Evaluation and control methodology</td>
<td></td>
</tr>
<tr>
<td>Information safety system</td>
<td></td>
</tr>
<tr>
<td>Knowledge of management, operational, and office tools</td>
<td></td>
</tr>
</tbody>
</table>

*University professional, Grade: 09, **University professional, Grade: 06, ***University professional, Grade: 11, **** Administrative technician, Grade: 13.

National Park technical and operational staff was trained to systematise the Prevention, Vigilance and Control circuits in a digital platform (SICO SMART). The data for 2014 and 2015 has already been digitalised.

**5. Visitor facilities and infrastructure**

Tourism, including ecotourism, is not currently permitted in the park (see point 4.b.iv). The activities permitted in the nominated area focus mainly on protection, research, and monitoring.

This measure is complemented by the strategy for the implementation of a heritage extension programme in the periphery areas of the national park which offer comparable characteristics and values in natural and cultural terms that will allow the possibility of visits and appreciating the area’s outstanding natural and cultural values. In the assessments made to date, two strategic locations have been identified that combine all of the conditions for visitation which would be closely related to the park and part of the overall management while physically being located outside of it. These areas are the Serranía de La Lindosa in the north, and the Araracuara area in the south (Annex 17).

**5.i Policies and programmes related to the presentation and promotion of the property**

The staff of Chiribiquete National Park has been working on the positioning, socialisation and articulation of the importance of this zone as a strategic region for the conservation and regulation of the natural dynamics between the Andes, Orinoquia and the Colombian Amazon due to all of its connectivity corridors. This is being carried out together with subnational and regional institutions (municipal authorities, governorships, environmental authorities), as well as the local communities and organisations. It is through communications and education that the National Parks System endeavours to position the protected area as an environmental determinant for the region’s land management and as a fundamental part of the protection of the Colombian Amazon’s climate change mitigation services to be considered of special importance (Phillips et al., 2011).

Chiribiquete National Park staff is currently working to articulate its Environmental Education Programme to its Communications Strategy. This articulation is an opportunity to shed light on the importance of this area in order to reveal the impacts fostered on the communities involved in the process. It also encourages the production of informational material, an important tool for the entity’s strategy. It is worth noting that there are currently many institutional gaps in terms of the availability of resources and personnel, generating difficulties in the articulation of the different levels of government.
Communications strategy for the National REDD+ Strategy

The formulation and implementation of the National REDD+ Strategy began by working on the required technical, administrative, institutional and social conditions, coordinated by the Ministry of Environment and Sustainable Development, with the aim of understanding the causes of deforestation and degradation in the country, and to take action to mitigate this.

The communications strategy that supports the preparation of the National REDD+ Strategy has the following objectives: a) increase the knowledge of the target audiences in order for them to exercise informed participation in decision-making processes relating to the construction of the National REDD+ Strategy and the assessment of its risks and benefits; and b) awareness raising among the general public in terms of the scope and importance of the REDD+ Strategy, through the media (institutional and private).

UN-REDD+

The UN-REDD programme is a UN collaboration initiative for REDD+ in developing countries. It supports the processes of preparation for REDD+ and it promotes the informed participation of all interested parties, including the indigenous communities and other communities that depend on the forests. In Colombia, the UN-REDD programme aims to support the strengthening of national capacities for the implementation of REDD+. The programme’s communication actions focus on supporting the strengthening of capacities in national institutions and social organisations.

UN-REDD works hand-in-hand with the Ministry of Environment and Sustainable Development, the IDEAM and with the ethnic and social organisations that represent the communities that depend on the forests. In Colombia, the UN-REDD programme aims to support the strengthening of national capacities for the implementation of REDD+. The programme’s communication actions focus on supporting the strengthening of capacities in national institutions and social organisations.

National Natural Park System communications strategy

The National Parks System has a social communications strategy for the conservation of the biodiversity in Colombia’s National Natural Parks designed and implemented by the System’s Communication’s Office, whose general objective is to “Strengthen the processes of social and institutional mobilisation around the valuing and conservation of the biological and cultural heritage through the development of community communication and public information at local, regional and national levels”. This strategy has a strong focus on “Community Communication” aimed to foster, stimulate and strengthen processes based on experience, resources and local and municipal perceptions.

These processes of community communication aim to strengthen the social organisation and expression capacity of the local stakeholders in the buffer zones or those that overlap with a particular National Park. The strategy has been implemented in some areas of the Amazon, and together with the formulation of Chiribiquete National Park’s communication and education strategy, the idea is to articulate the communities of the buffer zone into this initiative.

Conservation and Governance Project

The aim of the Conservation and Governance Project implemented in the Amazon foothills, funded by United States Agency for International Development (USAID) is to develop an approach of landscape management that sustains the integrity of the ecosystems of the Amazon foothills and promotes sustainable economic development.

The purpose of the programme’s communications strategy is to shed light on the progress made in three of its components: implementation of productive landscapes, development of technical information and information for environmental monitoring, and strengthening of territorial and institutional governance. The main audiences for the strategy are municipal authorities and the region’s farmers and peasants, among others.

Conservation project for development and peace in the Amazon foothills

This programme is aimed at improving natural resource management and locals’ quality of life, contributing to the peacebuilding processes in Caquetá. The department was selected in the EU’s New Territories of Peace contest, the department was selected and as a recipient, the Governor subscribed the subvention contract No. DCI-ALA/2014/349-331 that sets into action the Conservation Programmes for Development and Peace in the Amazon foothills.

The project promotes a “Territorial Peace Programme, based on models of socioeconomic inclusion, integrated management for local land management and governance in the central part of the Amazon foothills.” The Project’s
communications strategy seeks to shed light on the Project’s efforts to build a local sustainable development model and promote participative dialogue among civil society, and the public and private sectors in order to strengthen the capacities of the local, municipal and organisational stakeholders. The main audiences for this project are Caquetá’s private, public, and civil sectors.

Information and Dialogue Platform for the Colombian Amazon (PID)

This initiative is funded by the German Ministry of the Environment in alliance with Climate Focus, Fundación Natura, RedCaquetáPaz, and Fundación CINDBP. Its purpose is to open channels for dialogue and information to contribute to the implementation of Visión Amazónia. The main beneficiaries are the inhabitants of the Colombian Amazon, the government, international cooperation, the private sector and NGOs interested in the Amazon region. The PID will provide access to updated and consolidated information on stakeholders and initiatives in the territory, as well as spaces for dialogue and training workshops.

5.j Staffing levels and expertise (professional, technical, maintenance)

The Staff in charge of management, analysis, control and vigilance of Chiribiquete National Park is listed here after.

Table 25. Staff of Chiribiquete National Park.

<table>
<thead>
<tr>
<th>TYPE OF ASSOCIATION</th>
<th>POSITION</th>
<th>N° OF PEOPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full employee</td>
<td>Head of protected area</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>University professional, Grade: 09*</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>University professional, Grade: 06**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>University professional, Grade: 11***</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Administrative technician, Grade: 13***</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Operators</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Planning expert (3 sectors)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Technicians</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Operators</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>indigenous professional (GEF)</td>
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<tr>
<td></td>
<td>SIG Professional (GEF)</td>
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<tr>
<td></td>
<td>Link between National Natural Parks System and GEF (GEF)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PA (GEF)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Administrative staff</td>
<td>1</td>
</tr>
<tr>
<td>Contractor</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Infraestructure

Below is a list of the physical resources belonging to Chiribiquete National Park.

Table 26. Physical resources belonging to Chiribiquete N.P.

<table>
<thead>
<tr>
<th>RESOURCE TYPE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Basic.</td>
<td></td>
</tr>
<tr>
<td>Operational sites</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Related with processes</td>
<td></td>
</tr>
<tr>
<td>Control and vigilance post</td>
<td>0</td>
</tr>
<tr>
<td>2. Transport equipment and machines</td>
<td></td>
</tr>
<tr>
<td>2.1 Ground transportation</td>
<td></td>
</tr>
<tr>
<td>Pickups</td>
<td>1</td>
</tr>
<tr>
<td>25cc motorcycles</td>
<td>3</td>
</tr>
<tr>
<td>2.2 Maritime transport</td>
<td></td>
</tr>
<tr>
<td>Aluminium boats</td>
<td>2</td>
</tr>
<tr>
<td>Fiberglass boats</td>
<td>2</td>
</tr>
<tr>
<td>Outboard motors 15 h.p</td>
<td>3</td>
</tr>
<tr>
<td>Outboard motors 40 h.p</td>
<td>3</td>
</tr>
<tr>
<td>Life jackets</td>
<td>17</td>
</tr>
<tr>
<td>2.3. Cooking equipment</td>
<td></td>
</tr>
<tr>
<td>Gas table stoves</td>
<td>2</td>
</tr>
<tr>
<td>Electric refrigerators</td>
<td>3</td>
</tr>
<tr>
<td>2.5. Office equipment</td>
<td></td>
</tr>
<tr>
<td>Photocopy machine</td>
<td>1</td>
</tr>
<tr>
<td>2.6. Construction equipment</td>
<td></td>
</tr>
<tr>
<td>Air conditioning</td>
<td>3</td>
</tr>
<tr>
<td>Gas cylinders</td>
<td>2</td>
</tr>
<tr>
<td>Motor pump</td>
<td>1</td>
</tr>
<tr>
<td>2.7. Medical equipment</td>
<td></td>
</tr>
<tr>
<td>First-aid kits</td>
<td>2</td>
</tr>
<tr>
<td>2.8. Communications equipment</td>
<td></td>
</tr>
<tr>
<td>Digital camera</td>
<td>1</td>
</tr>
<tr>
<td>HP radio equipment</td>
<td>2</td>
</tr>
<tr>
<td>Telephone with Internet</td>
<td>1</td>
</tr>
<tr>
<td>Desk telephones</td>
<td>2</td>
</tr>
<tr>
<td>T.V.</td>
<td>2</td>
</tr>
<tr>
<td>Tripod for camera</td>
<td>2</td>
</tr>
<tr>
<td>Video projector</td>
<td>2</td>
</tr>
<tr>
<td>Telefax</td>
<td>2</td>
</tr>
<tr>
<td>Internet</td>
<td>2</td>
</tr>
<tr>
<td>2.9. Furniture</td>
<td></td>
</tr>
<tr>
<td>Filing cabinets</td>
<td>2</td>
</tr>
<tr>
<td>Wooden desks with two drawers</td>
<td>1</td>
</tr>
<tr>
<td>Stabilisers</td>
<td>3</td>
</tr>
<tr>
<td>Extinguishers</td>
<td>8</td>
</tr>
<tr>
<td>Conference table</td>
<td>1</td>
</tr>
<tr>
<td>Workstations</td>
<td>1</td>
</tr>
<tr>
<td>Office chairs</td>
<td>8</td>
</tr>
<tr>
<td>2.11. Computer equipment</td>
<td></td>
</tr>
<tr>
<td>Laptop computer: second generation Intel processor I5 2410 with 2.3 GHz or equivalent in AMD, 4 GB memory, 500 GB internal hard drive, Built-in network card and accelerator key 100/1000 Mb, Wireless network card 802.11 A/B/G/N, Bluetooth 2.1. Spanish keyboard, DVD+/-RW 16X drive, Internal memory, 1-year guarantee.</td>
<td>2</td>
</tr>
<tr>
<td>Printers: LASER (min. speed 30 Ppm, Full Duplex, 2 Paper feed trays)</td>
<td>2</td>
</tr>
<tr>
<td>Monitors: 19” colour LCD monitor</td>
<td>1</td>
</tr>
<tr>
<td>CPU: second generation Intel processor I5 2410 de 2.3 GHz or equivalent in AMD, 4 GB memory, 320 GB hard drive, RJ45 Gigabit-Ethernet 100/1000 Mb network adapter card, Wireless network card 802.11 A/B/G/N, DVD+/-RW 16X drive, soundcard, 4 USB ports (Integrated), Internal memory, 1 year guarantee.</td>
<td>1</td>
</tr>
<tr>
<td>keyboards: PS/2 /USB in Spanish</td>
<td>1</td>
</tr>
<tr>
<td>Mouse: optical mouse PS/2 /USB with two buttons and scroll</td>
<td>1</td>
</tr>
<tr>
<td>Scanner</td>
<td>1</td>
</tr>
<tr>
<td>2.12. Software and Licences</td>
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</tr>
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<td>2.12.1. Software</td>
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<td>Office Software Microsoft® Office 2010 Home and Business, Spanish. (The license must not be OEM)</td>
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</tr>
<tr>
<td>2.12.2. Licences</td>
<td></td>
</tr>
<tr>
<td>Licenses for operative software: Windows® 7 Professional Original Spanish Version 64bits</td>
<td>1</td>
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</table>
6. MONITORING
6.a Key indicators for measuring state of conservation

As part of Colombia’s protected areas’ planning processes comes the need to know how effective the management plan has been in terms of fulfilling the mission and meeting the conservation objectives, and with this the opportunity to meet these objectives based on the assessment of the conservation status of the biodiversity in the area.

Ecological integrity (see point 4.a) is measured considering that a protected area’s original components are intact, including the abiotic ones, the biodiversity and ecosystemic processes. The considerations “intact” and “original,” are framed within the definition of natural thresholds or ranges, in an explicit recognition of Principle 9 of the Ecosystemic Approach, which accepts the existence of natural changes in the composition and structure of elements in a biological system and the natural limits to their functioning.

The assessment of ecological integrity brings together a number of topics relating to the biophysical dimension within the planning scheme for the National Parks System. It is immersed in the effectiveness analysis and depends on the progress made in the monitoring programmes. As such, this must not be understood as an end in itself but rather as an alternative to know more about protected areas and their values and to establish or adjust the conservation goals.

The management measures of the nominated property have been structured taking into consideration all of the values of the Natural Park that include the macro level natural and cultural aspects. The key indicators used to monitor the state of conservation of the Park are listed in Table 27.

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>PERIODICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of spatial units</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Extension of spatial units</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Largest patch index of a spatial unit</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Number of patches from a special natural unit</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Number of transformed areas</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Effective core area</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Connectivity between patches of the spatial units</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Longitudinal continuity of the spatial units</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Altitudinal continuity of the spatial units</td>
<td>Bi-annually 2016 - 2018</td>
</tr>
<tr>
<td>Continuity in the representations of rock art</td>
<td>Annual</td>
</tr>
</tbody>
</table>

In the case of the rock art at a micro scale, research into the pictorial and archaeological records initiated in 2015 with an annual prospecting and verification campaign of the state of some of the murals. This has allowed the detailed recognition of the optimum state of conservation of most of the panels reviewed and the gathering of information on new sites, shedding light on relatively recent activities undertaken by the local indigenous groups, possibly ones that have had no contact with the outside world.

As part of this process, the assessments undertaken to date in the near 30 rocky shelters visited between 2015-2016 (which will continue to be reviewed in 2017), have allowed the definition of a monitoring and evaluation protocol of the state of conservation of the rock art in the National Park (Table 28).

This protocol is currently being structured and applied experimentally to the rocky shelters reviewed over the last 20 months. It evaluates the possible effects of natural threats (components: hydrological, climatic, geochemical, geomorphological, geophysical and biological), anthropogenic threats (components: tourism, mining, construction and agricultural and livestock), and can give an estimated measure of the degree of affectation (current and potential) on a scale of 1 to 5, where 1 equals the least magnitude and five, the greatest magnitude.

A more detailed approximation to a biological natural threat repeatedly found in different mural and pictorial panels is included in the protocol. The threat corresponds to eventual modifications of the physical-chemical and mechanical properties of the paintings, by microorganism or insects, which obviously leads to modifications of the aesthetic-visual aspect in some parts of the affected pictorial murals.

It is clear that the intensity of the deterioration depends on the environmental conditions. The elimination of deposits, covers and patches of any kind is a complex matter and, in this case in particular, rather inconvenient because of its symbolic and cultural implications. The fragility of the paint and the resistance and rebelliousness of destructive agents imply, in most cases, the use of solvents (for example, pulverisation with chloric or acetic acid-based acidulated water at a ratio of 1 to 5 per 1,000) with controlled risk. Nevertheless, there is evidence supporting a certain correspondence in the rituals between the presence of wasps and ants in the archaeological sites and the processes of ritualization used by the artists for their process of empowerment associated
to the paintings. From the available ethnography it is possible to deduce that the Karijona would cosmogonically propitiate the presence of these insects near their painting grounds, even on top of their own paintings (Photo 55, Castaño-Uribe, 2006).

Monitoring rock art deterioration by means of insect effects provides a key indicator for measuring the state of conservation of rock art, at a micro level. Such monitoring complements large-scale monitoring of the conservation of the Park.

### Table 28. Protocol to evaluate the effect of the insects on the rock art panels.

<table>
<thead>
<tr>
<th>Insects</th>
<th>Production</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wasps Nesting</strong></td>
<td></td>
<td>Modification of the material’s physio-chemical and mechanical properties; modifications of the aesthetic aspects produced on the affected panels.</td>
</tr>
<tr>
<td><strong>Termites Nesting or mounds</strong></td>
<td></td>
<td>Modification of the chemical and mineralogical composition of the rocky basement leading to the corrosion of the substrate and mechanical fracturing and disturbance of minerals, creating smaller particles than those of the original material, degrading the support rock and the rock art representations.</td>
</tr>
<tr>
<td><strong>Beetles Caves or grooves</strong></td>
<td></td>
<td>The physical-mechanical damage of the beetles’ activity adds to the alteration of the chemical action of its functions and residue on the rock surface.</td>
</tr>
<tr>
<td><strong>Bees Hives</strong></td>
<td></td>
<td>Dissolution of the varnish and other protective mineral layers in the rocky base.</td>
</tr>
</tbody>
</table>

### 6.b Administrative arrangements for monitoring property

Within the framework of the project Forest Conservation and Sustainability in the Heart of the Amazon, coordination agreements have been drawn up to articulate cooperation initiatives in the departments of Caquetá and Guaviare and to develop a space for informal periodic exchanges. The mechanism brought about the possibility to construct a common message and channels for the incidence of land planning processes to take place. The cooperation entities that are part of this articulation are: GIZ REDD, UN-REDD, USAID-Action Fund, Patrimonio Natural and Programa REM - Vision Amazonia.

The GEF coordination team for Corazón Amazonia has monitored various activities from which several lessons have been learned. At the same time, under the umbrella.
of Visión Amazonia, a number of strategic fronts in the operational planning and management of the area have been highlighted, amongst which are monitor-report-verification pillars; public adoption and validation of the intervention strategy; and the establishment of operational mechanisms for the coordination of planning, programming, execution, and monitoring activities.

The National Park System has also established a strategic alliance with FUNAI, a Brazilian governmental institution in charge of the formulation and implementation of policies for the protection of indigenous communities in isolation. This alliance has allowed exchanges and training basic to monitoring isolated indigenous groups within the property.

Photo 56. Chiribiquete’s geomorphological, biological and cultural attributes make it a unique and unrepeatable centre of diversity for organisms and ecosystems, and it determines a great vulnerability that must be reduced through the pertinent administrative and legislative measures. S. Winter/National Geographic.
6.c Results of previous reporting exercises

Since the “discovery” of Chiribiquete National Park in the 1980s, there have been five large-scale expeditions to the area, which constitute the most important exercises for reporting on the Park’s natural and cultural wealth, as well as its conservation state.

At the end of 1990, the Natural Sciences Institute of the Universidad Nacional de Colombia, in associating with the Spanish Cooperation Agency, made the first scientific approach to the area. In August 1992, the National Parks System carried out a second multidisciplinary expedition in order to undertake a preliminary assessment of the Park to define a management strategy. In this expedition, researchers were able to cover much of the territory in the northern sector of the Park, particularly in the Meseta de los Menhires and the inter-tepui Valle de los Jaguares, east of Dos Ríos. In November of the same year, there was another expedition, in which researchers established satellite camps on the main mountains of another corridor, mainly between the rivers Ajáju and Apaporis. These expeditions led to a first assessment of the elements that had to be taken into account in order to improve the levels of protection for this protected area. Undoubtedly, one of the most important aspects of these expeditions was the identification and characterisation of the Park’s natural and cultural offer.

In November 2015, the interdisciplinary team that began the biotical and cultural characterisation of the Park in the 1990s embarked on new expeditions. They established three camps: one on the upper plateau (tepui) at 400 MASL, and the other two near water bodies; the first in the River Negro and the second in an area of waterfalls near Valle de las Pirámides. The purpose of this expedition was to improve the quantitative and qualitative information of the main characteristics of the main species and of the landscape, to gather scientific information and to justify the role of Chiribiquete National Park in the protection of ecological processes. As for the archaeological heritage, progress was made in the improvement of the data recorded for the pictographs, given that in the previous expeditions the teams did not have digital cameras or mobile or personal GPS. Thus, information was gathered in situ and the qualitative-quantitative data was analysed in order to solve basic aspects pertaining to the spatial context, stylistic sequence, typology and chronology of the new sites. Both the archaeological and natural aspects found in the earlier expeditions were monitored during the more recent expedition.

The most recent expeditions was held in June 2016, in which two camps were established in the southern sector of the National Park, both in Solano, Caquetá, at a distance of 33 km from each other. Considering the previously mentioned aspects such as the fundamental approximations to solve inventory-related aspects and improve the baseline of the National Park, this new expedition provided an opportunity to broaden, improve and validate the information gaps so as to allow the incorporation of new biological and archaeological information as a complement to the data recorded to date (Annex 10).

Research and monitoring activities have also been carried out in the southern part of the Park in the Jacameya river and mountain, south of the Mesay River, near the Puerto Abeja scientific station. The research has been carried out with the support of the Puerto Rastrojo Foundation, and includes the establishment of vegetation plots established in the area for a number of years for the purposes of multitemporal studies that shed light on forest dynamics in the medium and long term.

The following Table presents the major results (scientific articles) from the reporting exercises implemented in the Park.
<table>
<thead>
<tr>
<th>ARTICLE NAME</th>
<th>CITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>observaciones sobre la composición, ecología y zoogeografía de la avifauna de la sierra de Chiribiquete, caqueta, Colombia</td>
<td>Hurd, F. G. S., Telleria, J. L., Y Diaz, M. Observaciones sobre la composición, ecología, y zoogeografía de la avifauna de la sierra de Chiribiquete, Caquetá. Caldasia, 17(82-85), 481-500.</td>
</tr>
<tr>
<td>Measuring impact and sustainability of Amazon hunting in colombia</td>
<td>Payan, E. Measuring impact and sustainability of Amazon hunting in colombia.</td>
</tr>
<tr>
<td>ARTICLE NAME</td>
<td>CITATION</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Chlorostilbon) from the Sierra de Chiribiquete, Southeastern Colombia, with a review of the C. mellisugus complex</td>
<td><em>The Wilson Bulletin</em>, 1-27.</td>
</tr>
</tbody>
</table>
7. DOCUMENTATION
### Table 30. Photographs and audiovisual image inventory.

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<th>COPYRIGHT OWNER (IF DIFFERENT THAN PHOTOGRAPHER/DIRECTOR OF VIDEO)</th>
<th>CONTACT DETAILS OF COPYRIGHT OWNER (NAME, ADDRESS, PHONE/FAX, AND E-MAIL)</th>
<th>NONEXCLUSIVE CESSION OF RIGHTS</th>
</tr>
</thead>
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<td>1-2</td>
<td>jpg</td>
<td>6/16</td>
<td>Steve Winter</td>
<td>Steve Winter</td>
<td>Steve Winter <a href="mailto:stevewinterphoto@mac.com">stevewinterphoto@mac.com</a> Phone (1) 202 857 7537</td>
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<td>Jorge Mario Álvarez Arango</td>
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<td>CONTACT DETAILS OF COPYRIGHT OWNER (name, address, phone, fax, and e-mail)</td>
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7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

- ANNEX 16: Management plan for Chiribiquete National Natural Park 2015-2019
- ANNEX 21: Protection Resolution: Chiribiquete National Park
- ANNEX 22: Visión Amazonia Project
- ANNEX 23: REDD Project

7.c Form and date of most recent records or inventory of property

- ANNEX 19: Expedition Results 2015
- ANNEX 20: Expedition Results 2016

7.d Address where inventory, records and archives are held

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Calle 12 No. 2-41 Bogotá D.C., Colombia
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Biodiversity Information System of Colombia (SiB)
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PBX (+ 57-1) 320 2767
sib@humboldt.org.co

7.e Bibliography


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Photo 58. Archaeological research below a rock art mural in Chiribiquete. S. Winter/National Geographic
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8.b Official local institution/agency

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8.c Other local institutions

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Address: Carrera 8 No. 8 – 55. Bogotá D.C., Colombia Phone: (+57-1) 3424100 Fax: (+57-1) 3816353 ext. 118 Email: atencionalciudadano@mincultura.gov.co

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8.d Official web address

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9. SIGNATURE ON BEHALF OF THE STATE PARTY

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