



Park Profile – Venezuela Pico Codazzi Natural Monument

Date of most recent on-site evaluation: June 2003

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Location: States of Vargas, Aragua, and Miranda

Year created: 1991

Area: 11,850

Ecoregion: Cordillera de la Costa montane forest

Habitat: Submontane rainforests, evergreen montane forests (cloud forests), submontane, semi deciduous seasonal forests



Summary

Description

Pico Codazzi Natural Monument was created in 1991 to connect Henri Pittier National Park and Macarao National Park, as well as serve as an ecological corridor between San Esteban National Park and the cloud forests of the Cordillera de la Costa. The monument covers 11,850 hectares of mountainous terrain. Headwaters of four rivers are found within the monument: Tuy River, Petaquire River, Maya River, and El Limón River. These rivers provide drinking water to several towns in north-central Venezuela, including Petaquire, Carayaca, Colonia Tovar, and Caracas. Agustín Codazzi led the first expedition to the monument and climbed the highest peak known as “El Picacho” at 2,429 meters above sea level (almost 8,000 feet) in 1841. Because of this expedition, a German settlement established nearby and founded the town of Colonia Tovar on April 8, 1843.

Biodiversity

In Pico Codazzi’s cloud forest, cedar (*Cedrella montana*) and the prapa palm (*Wettinia praemorsa*) are common species. Another aesthetically valuable palm species is *Ceroxylon interruptum*. The area serves as important habitat for fauna, including the ocelot (*Leopardus pardalis*), and Venezuelan endemic birds such as the red-eared conure (*Pyrrhura hoematotis*), the handsome fruit-eater (*Pipreola formosa*) and the Venezuelan bristle-tyrant (*Pogonotriccus venezuelanus*).

Threats

ParksWatch has determined that Pico Codazzi is **critically threatened**, meaning that there is an extremely high risk that the protected area will fail to protect and maintain biological diversity in the immediate future. Incompatible uses within the protected area include agriculture and expanding urban areas. Urgent solutions are needed to

stop deforestation of the cloud forest and to maintain this ecological corridor's connectivity. Implementing a management plan is desperately needed, as it will help to control these and other threats in the area including illegal water diversions, illegal harvesting of forest resources, poaching, and unregulated tourism.



View of the Maya River Valley, Photo: Rodolfo Castillo

Description

Physical description



Map of Pico Codazzi Natural Monument relative to the other parks, Henri Pittier and Macarao (INPARQUES)



Orto-photo-map of the central sector of the monument. The red lines show the northern and southern borders. Towards the center, the image shows deforested areas, result of agricultural activities and urbanization (Modified by Castillo, R. with Ortofotomapa of Instituto Geográfico de Venezuela Simón Bolívar)

Pico Codazzi Natural Monument forms part of an ecological corridor that protects 80,000 hectares of Cordillera de la Costa cloud forest habitat. It unites Macarao National Park (to the east), Henri Pittier National Park, and San Esteban National Park (both to the west) (Yerena and Romero 1992). It spans parts of Vargas, Aragua, and Miranda states and is bordered to the southeast by the town of Colonia Tovar.

The landscape is predominantly mountainous, with rounded peaks and steep slopes that vary between 15% and 60%. The altitude ranges from 600 meters above sea level to 2,429 meters. Cordillera de la Costa mountain range runs through the park (east-west). The highest peak, Codazzi Peak, is 2,429 meters above sea level. Codazzi Peak is also known as “El Picacho.” Other high peaks include Cogollal (2,420 m), La Florida (2,240 m), El Encantado (2,220 m), Geremba a.k.a. El Palmar (2,280 m) and Alto Lagunazo (2,360m). The monument is found over Las Brisas and Peña de Mora lithological formations, which are rather unstable and create conditions for landslides (Tumino y Romero 1988). Within the monument, there are mostly submontane rainforests, and evergreen montane forests (a.k.a. cloud forests), submontane, semi deciduous seasonal forests, and in the highest altitudes, shrubby subparamo vegetation is common. The climate is high altitude tropical, with heavy annual rainfall (1,00 to 1,500 mm) and a short dry season between January and March. The average annual temperature is between 13°C and 16°C.

Biodiversity

The cloud forests of Pico Codazzi National Monument are densely vegetated, with many species reaching heights of more than 30 meters (100 ft). Tree species include cedar (*Cedrella montana*), *Prumnopitys harmsiana* and *Sapium* sp. On the La Florida peak (2,240 m) there is an impressive cedar known as the “Cedro Gigante,” that is 47 meters tall (over 150 ft) and 22 m in diameter (72 ft). This cedar is a tourist attraction. Other species include a Cordillera de la Costa endemic tree called niño (*Gyranthera caribensis*), many guama trees (*Inga* sp.), *Protium* sp., *Alchornea triplinervia* and *Micropholis crotonoides*. There are also several outstanding palm trees, including the prapa palm (*Wettinia praemosa*), which gives the forest a distinctive look. On the slopes of the Codzzi Peak, the majestic palms *Ceroxylon interruptum*, *Euterpe precatória*, *Chamaedorea pinnatifrons*, *Dictyocaryum fuscum* and *Bactris setulosa* are found.



The *Cedro Gigante*, photo: Pedro Borges

Other important species found within the understory are *Guarea kunthiana*, *Posoqueria coriacea* and *Prestoea acuminata*. Epiphytes flourish throughout the protected area; the most abundant is Spanish moss (*Tillandsia usneoides*).

Masdevallia towarensis is an endemic orchid species of Codazzi Peak. Ferns are also characteristic of cloud forests, where there are ferns measuring only centimeters to large tree ferns. In the monument, ferns of the genres *Alsophila*, *Asplenium*, *Blechnum*, *Cyathea*, *Diplazium* and *Polypodium* are common.



Tree fern, photo: Pedro Borges

It is assumed that Pico Codazzi Natural Monument is an important habitat for many Cordillera de la Costa fauna, but this is mostly based on the fauna registers done in Henri Pittier and Macarao national parks. Some studies have been conducted in the monument, but it lacks a complete biological inventory.

Mammal species include the red-brocket (*Mazama americana*), crab-eating fox (*Cerdocyon thous*), agouti (*Dasyprocta leporina*), paca (*Agouti paca*), armadillo (*Dasyopus* sp.), tapir (*Tapirus terrestris*), collared peccary (*Tayassu tajacu*), red howler monkey (*Alouatta seniculus*), and felines like the ocelot (*Leopardus pardalis*).

Within the monument, one study reported 88 bird species (Sharpe 1999), including the white-tailed hawk (*Buteo albicaudatus*), the brown-throated parakeet (*Aratinga pertinax*), long-tailed sylph hummingbird (*Aglaiocercus kingi*), groove-billed toucanet (*Aulacorhynchus sulcatus*), collared trogon (*Trogon collaris*), and yellow-knobbed curassow (*Crax daubentoni*). There are also three Venezuelan endemic birds: red-eared conure (*Pyrrhura hoematotis*), the handsome fruit-eater (*Pipreola formosa*) and the Venezuelan bristle-tyrant (*Pogonotriccus venezuelanus*).

Reptiles in the protected area include the reptiles *Bothrops* sp. and the boa constrictor (*Boa constrictor*). Insects include the scarab *Golofa porteri* and the butterfly *Heliconius Clysonymus*.

Management

Decree 1637 created Pico Codazzi Natural Monument on June 5, 1991 to connect Henri Pittier National Park and Macarao National Park, and serve as an ecological corridor between San Esteban National Park and the cloud forests of the Cordillera de la Costa. It was also created to protect the geographical features associated with Colonia Tovar's cultural and historical values.

The National Parks Institute (INPARQUES) is responsible for administering and managing the monument. At the time of this evaluation, there was no management plan in place. It is, however, being managed according to general law applicable to protected areas: the Partial Regulations for National Land Use, National Parks, and Natural Monuments Organic Law. The monument lacks sufficient personnel in order to apply the regulations spelled out in the law (República de Venezuela 1989).

In the Petaquire River Basin (819 ha), the monument partially overlaps with the Caracas' Metropolitan Protected Zone, an "Area Under Special Administration" (ABRAE). The Caracas' Metropolitan Protected Zone was created in 1972 to define the city's boundaries and to preserve open spaces for conservation and recreation. In 1993, the zone's land use and regulations plan was promulgated. The plan permits agricultural and forestry activities in the section of the ABRAE that overlaps with Pico Codazzi Natural Monument. According to the natural protected areas laws, however, these activities should be prohibited in natural monuments. This overlap of protected areas represents a weakness for Pico Codazzi. In cases of overlap, such as this one, the most stringent regulations should prevail for the area.

There are three INPARQUES personnel assigned to Pico Codazzi Natural Monument: a superintendent, a division manager, and one park guard. There is only one office—a small space found within the Ministry of Agriculture and Land building. There are no park guard stations. The superintendent for Pico Codazzi is also responsible for Macarao National Park and the same vehicle is used for monitoring activities in both protected areas. Colonia Tovar's municipal mayor's office provides another vehicle and fuel. The management office does not have telephones; the radios have been donated by INPARQUES and Tovar's municipal mayor's office.

There is a fire fighting station located outside of the protected area and two vehicles dedicated for fire fighting. The first vehicle is a 4 wheel drive and is owned by INPARQUES. The other is a tanker truck that was donated by Vargas' municipal mayor's office. It should be noted that mayor's offices are not obligated to provide materials or equipment to help the protected areas located within their jurisdictions. In Pico Codazzi's case, the local governments have been important supporters of the park's management.



INPARQUES administrative office at the Ministry of Agriculture, photo: Viviana Salas



Vehicles used for vigilance and fire fighting, photos: Rodolfo Castillo

Human influence



El Limón River Basin, severely degraded, photo: Rodolfo Castillo

Colonia Tovar, an important agricultural center and tourist destination, is located on the southeastern boundary of the natural monument. Colonia Tovar was founded April 8, 1843 by German immigrants and currently has approximately 8,555 habitants. The main agricultural products in the area are legumes, fruits, and vegetables. The yearly peach crop produces between 6,000 and 30,000 kg/ha and the strawberry crop produces about 26,000 kg/ha (Castillo 2003).



A view of Colonia Tovar with Codazzi Peak in the background, photo: Pedro Borges

Colonia Tovar and its agricultural areas have been expanding since the town's establishment in 1843. Because of this, there are several farming communities within Pico Codazzi Natural Monument. The following communities were already present in the area when the monument was declared: Costa de Paraulata, Costa de Maya, La Florida, Piedra Cachimbo, El Incienso and Loma del Medio. As of 1990, there were 1,064 people in these communities (OCEI 1994). These farming communities mostly grow fruit crops, vegetables, and coffee.

In the section of the monument that overlaps with Caracas' Metropolitan Protected Zone, there are additional settlements. Two residential settlements, Jengibrillar and Alto Lagunazo,

were established before the natural monument was declared. There are also two tourist destinations: Circuito Carive and Villa Bahareque.



A new construction in the Jengibrillar residential area, photo: Rodolfo Castillo



Tourists in Villa Bahareque, a tourist area within the protected area, photo: Viviana Salas

Although these areas were established before the protected areas, they continue to be haphazardly developed without any regard to the established regulations within the protected zone's land use plan. Development within these settlements is related to urban expansion of Caracas and other nearby cities, and it is related to the recreational opportunities along the road between El Junquito and Colonia Tovar, including Macarao National Park. Tourism development within Colonia Tovar has also spurred development within the protected area because people are drawn by the pleasant climate, architectural style, and German-style food of the area.

Several roads cross the protected area. The principal highway, El Junquito – Colonia Tovar – La Victoria, makes up part of the southeastern border. There is a secondary road off this principal road that goes from Colonia Tovar north through the natural monument and then northeast along its border towards Puerto Cruz onto the coast. The tourist destinations, hotels, Jengibrillar community and agricultural lands are found along this road. There are also several dirt roads throughout the natural monument.

Additional infrastructure found within the protected area includes Colonia Tovar's aqueduct system (comprised of a dyke, pumping station, and treatment plant). This system was constructed in 1981, before the area was declared a protected area. There are also 4 electrical power lines passing through the natural monument that provide electricity to the settlements within the protected area and to the communities north of the monument along the coast.

Conservation and research

Agustín Codazzi's expedition in 1841 was the first registered expedition to the zone. He led a team to the top of the highest peak, El Picacho, which now has his name: Codazzi Peak. Soon after, German immigrants founded Colonia Tovar (April 8, 1843). In the following years, the first floristic studies were completed by German Kart Moritz, who lived in Colonia Tovar from 1843 to 1866 (Röhl 1943), and by German August Fendler, who collected numerous plant species from all over the north-central region of Venezuela (Todzia 1989). Despite the fact that the first studies began in the 19th century, only a few research projects have been initiated since in Pico Codazzi Natural Monument.

Henri Pittier's botanic collection from Pico Codazzi is included in Venezuela's National Herbarium, but he never published anything specific to Pico Codazzi. Two research projects worth mentioning include a study of the flora of Hacienda El Limón by La Salle's Society of Natural Sciences (Delascio 1976) and one study about land use conflicts in the semi-urban areas west of Caracas (Rodríguez 1998). Recent studies on the monument include a Master's thesis (University of Edinburgh) on the monument's vegetative dynamics (Howorth 1999), and biological capstone research projects on tree ferns (Cortez 2000), ferns (Mostacero 2000) and a series of studies on land use and forest intervention (Castillo 2003).

Recently, with support from the British Embassy, an environmental education program called "EDUCodazzi" was carried out. This program was directed at middle school students of Colonia Tovar. An informative pamphlet, with information about the resources and characteristics of the monument, was also created and distributed.



Statue of Agustín Codazzi, explorer who "discovered" Pico Codazzi in 1841

Threats

The most significant threats to Pico Codazzi Natural Monument and its biological integrity include:

- Expanding agriculture
- Urban and residential expansion
- Illegal water diversions
- Illegal extraction of tree ferns
- Lack of personnel
- Poaching

Expanding agriculture

The majority of the people who live along the monument's edges are farmers. The most important agricultural areas are located within the northern slope's water basins in the sectors of Costa de Paraulata, Costa de Maya, La Florida, Piedra Cachimbo, El Incienso, and Loma del Medio. Loma del Medio sector has seen the most growth over the last 40 years (Castillo, 2003), probably because it is where Colonia Tovar's water comes from and it is located in El Limón River Basin.



Deforestation and farming in “El Incienso,” photos: Pedro Borges

The following agricultural practices are common in Pico Codazzi (Avilán y Eder 1986):

- *Commercial horticulture*: This is most common and is mostly small parcels with rows of crops. Farmers use significant amounts of water, fertilizers, and pesticides for these crops. The principal crop is strawberry; cabbage, carrots, radishes, and tomatoes are also grown.
- *Plantations*: Monocultures of coffee, characterized by an intense harvest. Bucare trees (*Erythrina* sp.) provide the coffee shade.
- “*Conucos*”: A traditional agricultural system, normally small-scale, and characterized by crop rotations. This type of agriculture is usually subsistence, with any excess crops going to market.
- *Commercial fruit growing*: In this system, fruit trees are planted in rows spaced for optimum growing. Weeds are controlled and there is heavy pesticide use. The main fruit crop is peach.



Fumigation of the peach tree, photo: Rodolfo Castillo

Deforestation of cloud forests is the number one problem associated with expanding agriculture in the natural monument. Ironically, cloud forest conservation is one of the principal objectives of Pico Codazzi Natural Monument. The small farming villages, where fruit and vegetables are primary crops, have been expanding since 1961. In 1994, these

agricultural areas covered 1,624 hectares—687 hectares more than they did in 1961. Coffee cultivation covered 1,236 hectares in 1961 and 2,222 hectares in 1994 (Castillo, 2003). Savannahs and scrubland have also expanded in the area; in some cases because of degraded soils and in others because of temporary abandonment of agricultural land. Cloud forest loss and fragmentation directly impacts biodiversity and threatens the integrity of this ecological corridor. In addition, the intact cloud forest ecosystem serves to capture and store water, but with forest cover loss, erosive processes are advanced and water storage capabilities lost. Aside from potentially reduced water quantity, there is also a problem with water quality because of excessive pesticide and fertilizer use. In El Limón River, nitrates level has been recorded at 9.2 mg/l, which is extremely close to the maximum allowable value of 10 mg/l (Castillo 2003).

Without a proper vigilance and control program and without any park guard posts, agricultural expansion within the natural monument continues uninhibited. Although current data is unavailable, deforestation rates were 10.36% from 1984 to 1994, and only 5.52% from 1974 to 1984 (Castillo, 2003). Without remedial action, cloud forest deforestation will continue.

Urban and residential expansion

The principal residential settlement located entirely within the protected area (in the Petaquire River Basin) is Jengibrillar. The settlement began before Pico Codazzi Natural Monument was declared and originally included 300 homes. Caracas' Metropolitan Protected Area, however, had already been declared and urban development was supposedly prohibited in the area where Jengibrillar was constructed. Land parcels were sold starting in 1984, and the majority of the builders did not realize that they were required by law to secure permits from the Ministry of Environment. The other residential settlement is Alto Lagunazo. It is a smaller area and is next to Macarao National Park. Both residential areas are used as vacation, weekend homes (Contreras 1995). The number of habitants in these areas is unknown.



House located in Jengibrillar, photo: Rodolfo Castillo

Two tourist complexes—Villa Bahareque and Circuito Carive—are also located in the natural monument. Villa Bahareque covers almost 4 hectares. There are 24 cabins, a chapel, offices, and stores. It was built before the area was declared a natural monument. Circuito Carive has 15 campsites, two office buildings, restaurants, a water reservoir, and two module homes (Contreras 1995). The exact number of visitors to these tourist complexes is unknown.



Villa Bahareque is a tourist complex functioning in the natural monument, photos: Viviana Salas

Other infrastructure within the monument include a gas station and two sheds owned by food companies; all of these were constructed before the area was declared a natural monument.

As with expanding agriculture, the biggest problem associated with urbanization is cloud forest degradation and loss. In addition, these settlements and urban installations have brought exotic plants and probably exotic animals. Most of the residential structures found within Pico Codazzi Natural Monument are located next to Macarao National Park, thereby compromising Pico Codazzi's ability to function as an ecological corridor. Another negative consequence of urbanization is an increase in poaching. Although there is a lack of precise demographic data regarding the population, an analysis of aerial photographs indicates that the residential area has increased (Castillo, 2003).

Illegal water diversions and use

Colonia Tovar is supplied by water from El Limón River basin, and all of the aqueduct installations of its "Hydro-Center" (HidroCentro in Spanish) are located within the monument. They too were constructed before the area was declared a natural monument. Other important basins in the monument are Tuy River (which supplies water to Caracas) and Petaquire and Maya Rivers (which supply water to the central coastal areas). Throughout the natural monument, there are many illegal water diversions, mostly by people/communities who take the water from the rivers and route it to homes and agricultural fields. There are many water tubes and pipes passing through the forest, and because these tubes need constant repair, there are many trails and paths as well.



Water supply tubes in Petaquire basin, photo: Rodolfo Castillo

Lack of personnel and infrastructure

Three people are in charge of 11,850 hectares (3950 hectares/person). There are no guard posts within the monument. Lack of personnel and proper management infrastructure results in the expanding agriculture, and a growing number of residential homes within the protected area. The management team has tried to stop some of these illegal activities by initiating legal steps to impose sanctions; the General Prosecutor's Office of the Republic has yet to decide on the pending cases.

Illegal extraction of tree ferns and timber

Tree ferns (*Cyathea* spp.) are abundant throughout the area. They are also frequently cut in order to harvest the “cospe”—the roots and trunks—for sale as substrate material for orchid commercialization. Aside from tree ferns, cedro (*Cedrella montana*) and pinabete (*Podocarpus* sp.) are also sought after for use in construction and carpentry. Extractors take advantage of the park's lax security and the numerous access routes to illegally harvest these forest products.



Stump left after the tree fern was cut, photo: Pedro Borges

Poaching

Poaching is carried out mostly by the monument's residents and immediate neighbors, although the extent of the activity is unknown. According to park managers, the armadillo (*Dasypus* sp.) and the paca (*Agouti paca*) are prey, mostly for auto-consumption. Poaching also occurs to collect animals as pets. During our visit to the area, we saw a blue-headed parrot (*Pionus menstruus*) trapped in a cage, kept as a pet.



Blue-headed parrot (*Pionus menstruus*) caged as a pet, photo: Pedro Borges

Future threats

Opposition to the protected area

Conflicts arise between habitants and INPARQUES because of incompatible land uses within the protected area. This could create a situation where habitants oppose the protected area, thereafter leading to proposals to change the legal status of some sectors within the protected area so that they are no longer part of the natural monument and the land uses can then continue legally instead of illegally. Within the Vargas State Land Use Planning project, such a proposal has already been put forward. The project suggests redefining the monuments limits in the “Loma del Medio” sector (found within El Limón River Basin), and in Petaquire River’s headwaters. El Limón River Basin currently provides connectivity between Macarao National Park (on the East) and Pico Codazzi Natural Monument. By changing the limits to exclude this basin, the project essentially eliminates Pico Codazzi’s ability to serve as an ecological corridor.



Deforestation to cultivate crops is a threat now and for the future, photo: Pedro Borges

Unregulated tourism

Colonia Tovar is a well-visited tourist destination. There are no data regarding the number of tourists coming to this town, but during the weekends, when all the hotels and restaurants are full of tourists, we can conclude that there are many visitors. Up until now, this high tourism traffic flow in Colonia Tovar has not resulted in an overload within the natural monument. That said, the monument is affected because the main road to Macarao National Park passes through Pico Codazzi and tourists can rent horses, buy food, etc. along this route. These tourists tend to simply toss their garbage along the roads, which aside from being unsightly, can affect animal behavior and is a source of contamination. There are no areas designated specifically for recreation in Pico Codazzi, despite the existing potential.

Two tourism operators in Colonia Tovar organize ecotourism day trips into forest where they visit La Florida Peak to see the magnificent trees: “Cedro Gigante” and “Granadillo Centenario.” It seems that these tours are low intensity, low impact, are not offered on a consistent basis, and are not considered a serious threat to the monument. A study should be conducted, however, to determine the maximum tourism density for the area and to determine if these tours approach that density. In addition, the tour companies must be held responsible for the garbage left during their visits.

Recommended solutions

Urban and agricultural expansion, illegal extraction of tree ferns, poaching, lack of personnel

The Partial Regulations for National Land Use, National Parks, and Natural Monuments Organic Law declares that the following activities are prohibited in a national park or natural monument: any agricultural activity, construction and/or establishment of human settlements, urban development, and construction of vacation homes, hotels and accommodations.



Posted regulations in Pico Codazzi Natural Monument, photo: Pedro Borges

Following the strict code of the law, all of these activities, which exist in Pico Codazzi Natural Monument, should be relocated to outside the protected area's borders. Yet, this is an impractical solution since Venezuela's political and financial situation would impede such a relocation program. Therefore, park authorities should stop any attempts to expand agricultural fields and any additional residential constructions. They should control for existing activities, but also offer incentives for economic alternatives for the farmers relying on agricultural production for their livelihoods. For example, farmers should have access to credit to be able to implement more environmentally friendly farming techniques while at the same time, park officials gain (or regain) land ownership within the protected area. Deforestation done to clear land for new agriculture should be strictly prohibited. Erosion control methods on existing agricultural plots should be put into place. Also, fertilizer and pesticide use needs to be regulated and water quality need to be monitored. Farmers could also be provided economic incentives to lessen their agricultural activity and promote businesses within the ecotourism industry.

In order to stop illegal tree fern harvesting, additional staff is essential. Not only that, training and professional recognition of the staff should be improved. Park guard stations are needed in the area, especially in places like Loma del Medio – El Incienso, Petaquire and Costa de Maya, which are important river basins and where the majority of agricultural activities within the monument are located. The National Guard should be involved to help safeguard the environment and to support INPARQUES work. Close to the monument, in fact, are two National Guard bases: one in Colonia Tovar (Aragua State) and another is in Carayaca (Vargas State). Finally, additional sign posting is needed throughout, especially along the roads passing through and around the monument.

Illegal water diversions

According to the law, hydro-installations are prohibited in natural monuments. Therefore, the water usage within Pico Codazzi is illegal and should be stopped and replaced with a regulated system. Many of the rivers and basins within Pico Codazzi are important, they serve both as natural water reservoirs and as water supplies to human populations. But, the illegal water diversions are inefficient and could threaten the quantity and quality of water coming from the area. Therefore, INPARQUES, the National Guard, and HidroCentro (the water company) should work together to improve the water system. Such a plan was proposed by a previous superintendent at Pico Codazzi, but the plan lacked follow-up and illegal water usage continues.

Unregulated tourism

Tourism activities within the monument, mostly consisting of trips to La Florida Peak, should be regulated. The tourism companies should have a concessionary contract to operate within the monument and should either directly or indirectly provide financial support to the monument's administration and management. The trail to Cedro Gigante should be converted into an interpretive, educational trail to better promote the monument and instill greater appreciation for the protected area and its ecosystems. Additional areas appropriate for low-impact ecotourism, including Codazzi Peak, should be promoted. Before undertaking any additional ecotourism promotion, however, a management plan must be written and regulations established for such activities and better control mechanisms put into place.

Conclusion

Pico Codazzi Natural Monument is an extremely valuable component to Cordillera de la Costa's biological diversity conservation, as well as an important water source for nearby communities, including Caracas. Yet, within the monument the agricultural lands and residential settlements have been expanding further into the cloud forest, even after the monument was declared in 1991. A management plan is desperately needed to start providing direction and establish park controls to stop these advancing, incompatible land uses. A relocation program should be contemplated, and planned and funds secured for its implementation. More personnel and management support is needed to continue and expand the already existing environmental education program and strengthen park security. ParksWatch determined through this evaluation that Pico Codazzi Natural Monument is **critically threatened**.



View from Codazzi Peak, photo: Pedro Borges

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