

The Pro-Forest Foundation (Fundacion Pro-Bosque) (Ecuador)

The Pro-Forest Foundation was established by a decree of the Ecuadorian Ministry of Agriculture in 1993 through the initiative of Holcim Ecuador S.A. In conjunction with one of the founding members of the Guayaquil chapter of Fundacion Natura, an Ecuadorian conservation organization. The principal objective for creating the Pro-Forest Foundation was to focus on the conservation, protection and restoration of globally endangered Ecuadorian Dry Forests in coastal Ecuador. This unique ecosystem is listed by several international conservation organizations as critically endangered and of high conservation value, do to the high rates of endemism found especially in vascular plant and bird species (20%).

The work of the Pro-Forest Foundation is focused on the Cerro Blanco Protected Forest (CBPF), which protects 6,078 hectares of Ecuadorian Dry Forest in the Cordillera Chongon-Colonche on the outskirts of the city of Guayaquil. The protected forest designation in Ecuador is the equivalent of a biological reserve and pending legislation would reflect this change and permit private protected areas to be included in the national system of protected areas. The majority of the land protected in Cerro Blanco (c4, 000 ha.) is owned by Holcim Ecuador S.A. and the Pro-Forest Foundation, which has a policy of buying the lands of other landowners within the protected forest in order to facilitate its protection and management in the future.

The Cerro Blanco Protected Forest, although small in size, protects high levels of biodiversity, including more than 500 vascular plant species, of which approximately 20% are endemic to the Tumbesian Bioregion of Southwest Ecuador to Northwest Peru, 219 bird species, including eight globally threatened species, and 54 mammal species, ranging from the Jaguar (*Panthera onca*) to the Fishing Bat (*Noctilio leporinus*). A report by a researcher from the Missouri Botanical Garden states that Cerro Blanco provides one of the few protected areas for the conservation of 100 endemic plant species and Birdlife International designated the reserve Ecuador's second Important Bird Area in 1998.

To carry out its objectives, the Pro-Forest Foundation implements a number of programs including:

*** Dry Forest Restoration**

Some of the land making up the protected forest is secondary scrub and abandoned pasturelands, the result of slash-and-burn agriculture practiced in Cerro Blanco (and continues in much of the Cordillera Chongon-Colonche) before it was officially protected. Since 1993, the Pro-Forest Foundation has worked to restore scrub and pasturelands within the protected forest, through the planting of seedlings of native forest trees produced in the Foundation's nursery. This effort was significantly increased through the financial support of the World Land Trust beginning in 2007 with the planting of 18 hectares with approximately 18,000 trees and in 2008, 90,000 trees have been planted in 90 hectares. Overall tree mortality rates have been under 10% and the

heavy and sustained rains in coastal Ecuador in 2008, while causing flooding and impacts on local people who have been forced to abandon homes and agricultural lands, has no doubt been beneficial to the newly planted trees in Cerro Blanco.

* Land Purchase

When the Cerro Blanco Protected Forest was given protection by authorities in 1989, the reserve had a total extension of 2,000 hectares, 90% owned by Holcim Ecuador and the other 10% a private landowner, who was subsequently bought out by Holcim, and the land deeded over to the Pro-Forest Foundation. Subsequent expansions of the reserve boundaries through ministerial decrees have expanded the protected forest boundaries to its current 6,078 hectares, which included property of eight other landowners. Do to the restrictions on land use, most landowners have retired their guards and caretakers and placed this responsibility on the Pro-Forest Foundation. In order to insure that lands will be adequately protected in the future and provide unimpeded access by foundation staff to implement its conservation programs, the foundation has worked to consolidate its ownership of land within the CBPF, by buying land of other property owners with the financial support of Holcim Ecuador, the Netherlands Committee of the IUCN and the World Land Trust US.

* Environmental Education/Interpretation

In 2007, the Cerro Blanco Protected Forest received a total of 5,390 visitors, of which 4,724 or 88% were Ecuadorians and 666 or 12% international visitors, predominately from the United States and several European countries. Cerro Blanco offers visitors a network of both self-guided and guided trails with guides trained by the foundation. The protected forest also offers visitors the Foliage Gleaner Ecolodge, a camping and picnic area, amphitheatre for talks and other presentations, and interpretative signboards and laminated field guides for birds and plants. The CBPF also features Centers for the Conservation of the Great Green or Guayaquil Macaw with an outdoor exhibit on this species of macaw adjacent to a flight aviary that exhibits three macaws, as well as the Center for the Conservation of Ecuadorian Dry Forests, which features exhibits on the natural history of the dry forests, the threats they face and the Pro-Forest Foundation's conservation programs. The Center also has a small forestry library, and seed bank.

* Investigation

The Pro-Forest Foundation in conjunction with Fundacion Natura, has recently completed the initial phase of the study, "Rapid Evaluations to Sample Populations of the Great Green Macaw (*Ara ambiguus guayaquilensis*) in the Cordillera Chongon-Colonche. A total of four zones were selected within active macaw habitat and six transect lines established. All bird species were registered along the transect lines, which has provided valuable information on local bird populations and led to the discovery of a new population of five macaws outside of existing protected areas.

Periodic sightings of Jaguars (*Panthera onca*) as well as tracks and scat give hope that despite its close proximity to the city of Guayaquil (1.9 million inhabitants), Cerro Blanco and surrounding undeveloped areas still harbor a small population of this

magnificent species. A study using transect lines and strategically placed camera traps along trails and roads known to be used by Jaguars, has recently begun to determine the local population of Jaguars in and around Cerro Blanco, as well as provide photographic evidence of their presence, which is hoped will serve as an impetus to continue studies to determine critical habitat for the species in the Cordillera Chongon-Colonche and work to develop and implement a conservation strategy for the Jaguar in coastal Ecuador.

The alarming decline of amphibians on a global scale as well as the extinction of some species in Ecuador, have led the Pro-Forest Foundation to join forces with the Pontificia Universidad Catolica del Ecuador, Faculty of Natural Sciences, School of Biology to carry out surveys of the amphibian populations of the CBPF. A student has recently begun his dissertation entitled, "Territoriality, Social Behavior, Reproduction and Vocalization of *Hyloxalus infraguttatus*", in Cerro Blanco.

* Anti poaching, Tree Cutting and Forest Fire Control

The close proximity of the CBPF to the rapidly expanding city of Guayaquil has in recent years led to a marked increase in hunters and tree cutters illegally entering the protected forest to hunt predominately deer, peccary, agoutis and pacas. Tree cutters search out mostly second growth hardwood species like Guayacan (*Tabebuia chrysantha*) to cut and haul out to an access road bordering much of the CBPF reserve boundary on the Northeast side of the reserve, which is also adjacent to several squatter settlements that have been built in recent years. Forest fires can pose a threat to the protected forest, especially the reforestation parcels, which have been planted in mid to heavy fuels, which can burn rapidly. To meet the challenge, the Pro-Forest Foundation with the support of both the Netherlands Committee of the IUCN and World Land Trust have in the last two years, constructed and manned three new guard stations located in strategic areas near recently purchased land parcels and forest restoration sites. A noted decrease in incursions has been noted in areas adjacent to guard stations. In common with other park guards in Ecuador, the Cerro Blanco guards are legally limited to an observer role and do not intervene directly to confiscate weapons or prey items or in exceptional cases, to make arrests. These functions are carried out by members of the Environmental Unit of the Ecuadorian National Police, who carry out twice weekly patrols with our park staff in and around Cerro Blanco. Most poachers are given a warning, have their weapons, etc confiscated and sign a document stating they will not return. If they are caught a second time, they are then arrested and usually end spending one to two weeks in jail, before being released on bail, which usually provides sufficient incentive for them to not return.

The Pro-Forest Foundation has recently been contracted by the Municipality of Guayaquil to prepare a forest fire prevention, detection and control plan for the Canton Guayaquil, and its efforts to respond to and liquidate fires before they reach the CBPF boundaries will be strengthened with the support of local authorities, especially the Guayaquil Fire Department. In 2007, a forest fire-training course was carried out for the field personnel of the Jocotoco Foundation that also served as a refresher course for FPB staff, with the financial support of the World Land Trust.

* Community Development

The Pro-Forest Foundation as part of its strategy to incorporate local communities in its conservation programs has since 1995 until the present, focused much of its efforts on the town of Puerto Hondo, which is located in a transition zone between the dry forests of Cerro Blanco and the mangrove forests of the Gulf of Guayaquil. The Ecological Club of Puerto Hondo, a group of children and youth from the community administer their own ecotourism project with the support of the Pro-Forest Foundation and international donors, including the Netherlands Committee of the IUCN, which supported a project to strengthen the community ecotourism program, through the creation of a home stay program where local families rent furnished rooms to tourists and international volunteer groups who come to Cerro Blanco and Puerto Hondo to carry out projects. With the support of the U.S. Agency for International Development and the National Fish & Wildlife Foundation, a community environmental education center was constructed in Puerto Hondo in 2004, and is open to the public as well as for community members.

The Pro-Forest Foundation has recently initiated the project, "Implementation of a Conservation Program for the Great Green Macaw (*Ara ambiguus guayaquilensis*) in the Cerro Blanco Protected Forest and Adjacent Areas". The project builds on the foundation's previous experience setting up and working with honorary park wardens in communities adjacent to Cerro Blanco and will focus its work on squatter settlements adjacent to the Northeast boundary of the protected forest and the town of Chongon. Through a mobile environmental education unit, children in local communities will receive presentations and participate in various activities. A multi-use station has been built in the protected forest adjacent to the squatter settlements and addition to its use as a guard station by foundation park guards, will also serve as a meeting place and base for the honorary park wardens.

Developments

* Land Purchase

With the support of the Netherlands Committee of the IUCN, the 230-hectare El Canelar property located in the Northwest sector of the CBPF was purchased and the land title put in the name of the Pro-Forest Foundation in 2007. With project funds, a guard station was built on land adjacent to and overlooking the property and is manned by foundation park guards. One of the transects of the Rapid Evaluation Project focusing on the Great Green Macaw traverses part of the land, which will also be included in the Jaguar monitoring program.

Another 130 hectare parcel of land located in the Southwest sector of the CBPF and adjacent to forest restoration parcels planted in 2007 with the support of the World Land Trust, has also been selected for purchase, which we hope to obtain funding for and complete in 2008.

* Education and Outreach

As part of a program to mitigate its impacts in the exploitation of limestone for cement in the CBPF buffer zone, Holcim Ecuador S.A. will finance the construction of the Ecuadorian Dry Forest Conservation Center in Cerro Blanco, located adjacent to a former country club owned by Holcim, which has also been given to the foundation to administer. The Center will include the administrative office of the foundation, tree nursery, visitor center and educational center, which will feature live animal exhibits of native wildlife obtained through confiscations by the authorities, as well as a ranarium that will be built and administered with the support of the PUCE-Quito, which has a similar facility.

Monitoring Techniques

The project "Rapid Evaluations for the Sampling of Populations of the Great Green Macaw (*Ara ambiguus guayaquilensis*) in the Cordillera Chongon-Colonche", utilizes the methodology Multi-time Window Transect Mapping (MTW) developed by Olaf Jahn, a German Ornithologist who has worked on bird inventories and studies for a number of years in Ecuador, and who also served as the project consultant, to teach the methodology to the participating biologists, and oversee their work.

Staff Numbers

Due to the demands of a number of projects; the Pro-Forest Foundation has hired an accountant, who works 3-4 days a week in conjunction with a full-time assistant. A total of six park guards have been contracted to work at two new backcountry guard stations and a total of between 15-30 temporary workers are involved in the dry forest restoration program in both tree planting and periodic maintenance, with the support of the World Land Trust.

Problems

* Political

The country of Ecuador is in the process of going through some fundamental changes to the agenda of the recently elected national government and the National Assembly, which is in the process of re-writing the Ecuadorian constitution. While there have been some encouraging signs, including the project to not exploit the ITT petroleum concession within the boundaries of Yasuni National Park, which will depend on obtaining a yearly compensation to off-set the projected income from exploiting the oil deposits, other natural resource issues such as shark finning, have been managed politically. In the later case, without any concrete data on local and regional shark populations, the national government relaxed a ban on the exploitation of shark fins, which are dried and sent to

China, allowing for "incidental catch", with fisheries inspectors limited to censusing sharks already caught and landed.

Within the National Assembly, environmental organizations seem to have had little or no impact, and the groups of Assembly members working on natural resource and biodiversity issues have put a strong emphasis on indigenous communities rights to making decisions on exploitation of their ancestral lands. While efforts have been made in the past to pass legislation in the National Congress that would permit private protected areas to form a part of the national protected area system as biological reserves, it is uncertain whether or not the National Assembly will take this into consideration.

Local Communities

A long-standing power conflict between two groups in Puerto Hondo has effectively divided the community into two groups with often conflictive visions of the future of this small town of approximately 1,000 inhabitants. The Pro-Forest Foundation has maintained a neutral stance in the conflict, while at the same time continuing to support the Puerto Hondo Ecological Club.

A law passed by the National Congress in 2007 has led to a large scale effort to legalize land in squatter settlements on the Northeast boundary of the CBPF and one of the main land traffickers (who has actively supported a previous project carried out in the squatter settlements with the support of NC/IUCN) is allied with the national government and is a National Assembly member.

Education

A decrease in visits of school groups to the CBPF has been noted; do in part to expanded options in Guayaquil, including the Parque Historico and Parque Lago. With the expanded infrastructure of the Ecuadorian Dry Forest Conservation Center, to be completed in 2009 coupled with an aggressive promotional campaign, the Pro-Forest Foundation hopes to increase overall visitor numbers to the Center and CBPF in 2009.

Monitoring/Research

Holcim Ecuador initially funded the Great Green Macaw Rapid Evaluation project in its first phase, and the project has been temporarily suspended, until additional funding is obtained. The Jaguar Monitoring Program has funding for approximately four months of field work and again, continued funding will need to be obtained in order for the project to continue.

Future Plans

Approximately six land parcels remain to be purchased within the CBPF for a total of approximately 2,00 hectares (one parcel alone, the Predio La Maria has 850 ha.) to consolidate the Pro-Forest Foundation's ownership of the lands making up the reserve, which facilitates their protection and administration.

As the city of Guayaquil continues to expand rapidly towards and beyond the boundaries of the CBPF, a critical issue for the survival of larger and wider ranging species such as the Great Green Macaw, Red-lored Amazon, Jaguar, Western White-fronted Capuchin and Mantled Howler Monkeys, is the establishment of biological corridors to link the CBPF with adjacent forest patches on private lands. A proposal has been developed for the implementation of a biological corridor for the Great Green Macaw, and efforts are being made to obtain funding to implement it, focusing on developing and implementing conservation plans for key parcels of land.