

## World Heritage Sites

### Protected Areas and World Heritage



## RIO ABISEO NATIONAL PARK PERU

*The Park was created to protect the very rich fauna and flora of the Andean montane and cloud forests of north-central Peru where there is a high level of endemism and the yellow-tailed woolly monkey, previously thought extinct and known only from there, was rediscovered. Research since 1985 has uncovered 36 previously unknown archaeological sites at altitudes between 2,500 and 4,000m built by a little known Pre-Inca culture.*

### COUNTRY

Peru

### NAME

Rio Abiseo National Park

### MIXED NATURAL & CULTURAL WORLD HERITAGE SITE

1990: Inscribed on the World Heritage List under Natural Criteria vii, ix and ix.

1992: Designation extended under Cultural Criterion iii.

### STATEMENT OF OUTSTANDING UNIVERSAL VALUE [pending]

### IUCN MANAGEMENT CATEGORY

II National Park

### BIOGEOGRAPHICAL PROVINCE

Northern Andean (8.33.12) / Yungas (8.35.12)

### GEOGRAPHICAL LOCATION

In the Cordillera Central of the Andes of north-central Peru 120 km east-northeast of Trujillo and 10 km east of Bolivar. The Abiseo basin lies on the Amazon slope southwest of Juanjui on the Huallaga river, between 7°24' to 8°03'S and 76°58' to 77°32'W (Church, 1999).

### DATES AND HISTORY OF ESTABLISHMENT

1983: A National Cultural Heritage site declared by Law 23633 to protect the ruins, and the National Park established by Supreme Decree No.064-83-AG to protect rare wildlife;

1996: Resolución Directoral No.073-86-AG-DGFF passed to ensure protection of the fauna and flora.

### LAND TENURE

State. In the department of San Martin, Huicungo district. The community of Los Andes ceded to the Park the lands it had claimed within its boundaries on the basis of the Agrarian Reform of 1976 (Moore, *in litt.*, 1989). The Park is administered by the Dirección General Forestal y de Fauna of the Ministry of Agriculture.

### AREA

274,520 ha

### ALTITUDE

350m to 4,200m

## PHYSICAL FEATURES

The Park lies up to the crest and down the eastern slopes of the Cordillera Central between the two great valleys of the Marañón and Huallaga rivers, both major tributaries of the Amazon, which run parallel from south to north on either side of the range. The Park covers the valleys of the Montecristo, Tumac and Abiseo rivers, covering 70% of the last. Surrounded by mountains, this runs from the Huallabamba tributary of the Huallaga to the crest of the Cordillera above the Marañón River canyon. Their topography is relatively moderate until the higher levels where it is rugged and deeply dissected. From the very mountainous western border where there are many small lakes, the mountains drop steeply to the river at slopes often exceeding 50°. On the less precipitous east side of the Park are several gorges. The rocks underlying the region are preCambrian metamorphosed sediments with some areas of Tertiary and Quaternary volcanism and late Triassic-Jurassic, Tertiary and Quaternary sedimentary formations (Young *et al.*, 1997). Deglaciation in the northern Andes occurred between 12,000-6,000 years ago, leaving glacially shaped valleys above the many ravines (Young *et al.*, 1994). The entire region has very acidic poorly developed shallow and unstable soils; almost all remain undisturbed by agriculture or logging (Narvaez, 1989).

## CLIMATE

The climate is very humid tropical, cool and cloudy at high altitudes due to moist air rising from the Amazon basin to the east, condensation from which probably doubles the rainfall measured in the cloud forest. No climatic data is available for the site, but annual precipitation at the bottom of the rainshadowed Marañón River valley is less than 750mm (SENAMHI, n.d.). From there to the crest, rainfall increases to about 1500mm per annum, with a dry period between May and September. Rainfall is heavy from November to April when the Intertropical Convergence Zone moves south of the equator (Young *et al.*, 1997). Church (1999) notes rainfall of 2-4,000mm at the elevation of Gran Pajatén, 2,850m. Mean annual temperatures drop on the same gradient from well above 18°C in the valleys to less than 10°C.

## VEGETATION

The ecological importance of the National Park is based on its ecosystems: the Paramo de Loricaria, the high Andean grasslands, the great number of lakes, pools, rivers and gorges, the tropical cloud forest, and isolated small woods as well as its typical montane forests. The cloud forest is considered a relic of the preglacial Huallaga Pleistocene refugium, and the reason for the area's high degree of diversity and endemism. 5,000 plant species have been recorded. High altitude grassland inventories alone have resulted in the identification of 980 species, among them, 779 angiosperms, two gymnosperms, 159 pteridophytes and 13 endemic species (Mendoza, 1996; Young & Leon, 1989).

The Park has six main ecological zones: dry forest up to about 2,300m on the slopes of the Marañón River valley, high bunch grasslands (*jalca* or *wet puna*) above 3,700m, of which there are 18,400 ha in the Park (Young *et al.*, 1997) and four forest types on the eastern slopes and valleys, bathed in the moisture rising from the Amazon basin. These are pre-montane forests (25%), tropical montane deciduous and evergreen forest (*yunga*) from 2,300m to 3,600m and montane cloud forest (*selva*) to 3,600m, together totalling 145,500 ha or 53% of the area (Young & Leon, 1999), and tropical alpine forest above -3,300m with thickets of *Podocarpus* and scrub. Typical dry forest trees include *Acacia* spp., *Parkinsonia praecox*, *Eriotheca discolor* and *Tessaria integrifolia*. The tropical alpine zone straddles the mountain crest, where valleys are largely grassland subject to periodic fires, with sedge or shrub-dominated wetlands in poorly drained bottoms; dominant grasses are *Calamagrostis*, *Cortaderia* and *Festuca* spp. Moist montane rainforest species include *Alnus acuminata*, *Lomatia hirsuta*, *Randia boliviana* and *Clethra cuneata*. Epiphytes and ferns flourish in the understory, with vines, bromeliads, orchids and palms at lower elevations. Typical species of the rainforest and its bordering grasslands include *Hedyosmum scabrum*, *Ruagea hirsuta*, *Weinmannia auriculata*, *Ilex* and *Miconia* species (Young, 1993a).

## FAUNA

As a quaternary refuge and centre of evolutionary endemism the Park's forests are exceptionally biodiverse (Brown, 1977). Researches on the upper Montecristo River basin between 2,000 and 4,200m are claimed in Mendoza (1996) to have recorded 227 species of birds, 47 mammals, 27 anurans, 4 reptiles and 17 vertebrates not then scientifically described: 10 frogs, 1 lizard, 6 rodents and one subspecies of bat. Among the mammals is the endemic Peruvian yellow-tailed woolly monkey *Oreonax flavicauda* (CR), a species previously believed to be extinct by 1926 (Mittermeier *et al.*, 1975; Leo, 1980). There are four other species of monkey: white-bellied spider monkey *Ateles belzebuth*

(EN), white-fronted capuchin monkey *Cebus albifrons*, northern night monkey *Aotus trivirgatus* and howler monkey *Alouatta seniculus*. Other larger mammals are spectacled bear *Tremarctos ornatus* (VU), jaguar *Panthera onca*, jaguarundi *Puma yagouaroundi*, pampas cat *Leopardus colocolo*, possibly mountain tapir *Tapirus pinchaque* (EN) and the taruca or north Andean deer *Hippocamelus antisensis* (VU) (Mittermeier *et al.*, 1975). Other species include giant armadillo *Priodontes maximus* (VU), hairy armadillo *Dasybus pelosus* and prehensile-tailed porcupine *Coendou bicolour*, rat opossum *Thomasomys apeco* (VU), black-eared opossum *Didelphis marsupialis*, spotted paca *Cuniculus paca*, mountain paca *Cuniculus taczanowskii* and ring-tailed coati *Nasua nasua* (Mittermeier *et al.*, 1975; Leo & Ortiz, 1980; Narvaez, 1989; Mendoza, 1996).

Altitude zonation strongly influences the avifauna. Over 132 bird species were recorded between 3,000m and 4,100m alone (Narvaez, 1989), nine species endemic to the country and five species of restricted distribution, found otherwise only in the northern part of Bolivia. The Park is the northern limit for the distribution of several scarce species and a new location for species such as yellow-browed toucanet *Aulacorhynchus huallagae* (EN) and yellowheaded parrot *Amazona ochracephala*. Other notable species considered in danger of extinction are golden-backed mountain tanager *Buthraupis aureodorsalis* (EN), marvellous spatuletail *Loddigesia mirabilis* (EN), plain-tailed warbling finch *Poospiza alticola* (EN), ash-breasted tit-tyrant *Anairetes alpinus* (EN), golden-plumed parakeet *Leptosittaca branickii* (VU) and southern pochard *Netta erythrophthalma* (Mittermeier *et al.*, 1975; Narvaez, 1989). The cloud forest supports a wide range of species including the king condor *Sarcoramphus papa*, the near threatened Andean condor *Vultur gryphus*, turkey vulture *Cathartes aura*, Salvin's curassow *Mitu salvini*, Andean guan *Penelope montagnii*, scarlet-fronted parakeet *Aratinga wagleri*, golden-plumed parakeet, lyre-tailed nightjar *Uropsalis lyra*, cock-of-the-rock *Rupicola peruviana*, hepatic tanager *Piranga flava*, russet-mantled softtail *Phacellodomus berlepschi* and grey-bellied flower-piercer *Diglossa carbonaria* (Mittermeier *et al.*, 1975).

In the same altitude range the herpetological fauna includes 15 unique species of highly site specific anurans (Narvaez, 1989). Studies of the invertebrates also reveal a high level of endemism, a key example being the Ithomiidae, the glass-wing butterflies. Native aquatic systems were altered in diversity and trophic structure by the introduction of rainbow trout *Oncorhynchus mykiss* in the 1970s. This alien species is now the top predator in streams and rivers from 3,600m to 1,700m (Young *et al.*, 1994).

## CONSERVATION VALUE

Rio Abiseo is considered one of the highest priority Andean sites as a pristine cloud forest, for its ten endangered animal species, its pre-historic sites and the Abiseo basin as a whole (Narvaez, 1989). The cloud forest is a Pleistocene refugium of great species diversity and high endemism and the Park has proved an important geobotanical laboratory. The area's archaeological significance lies in cultural remains that span at least 8,000 years of Peruvian pre-history and history. The Park lies within a Conservation International-designated Conservation Hotspot, a WWF Global 200 Freshwater Eco-region, a WWF/IUCN Centre of Plant Diversity, and a BirdLife-designated Endemic Bird Area.

## CULTURAL HERITAGE

Important pre-Columbian ruins extend over 1,500 sq km in and around the Park from 2,500 to 4,000m, mainly on the west side, some of which have been dated to approximately 8,000 BC (Mendoza, 1996). The number and variety of later sites indicate a high level of past human occupation. Since 1985, 36 archaeological sites have been mapped, 29 in the high elevation grasslands and seven in the montane forests within the Park. Key systematic studies have concentrated on relics of the pre-Incan Chachapoya culture at the Manachaqui cave, the 20 or more circular buildings of Gran Pajatén, a notable ruin at 2,850m on a ridge deep in the rainforest at the head of the Montecristo valley, which was only discovered in 1963, and the funerary complex at Los Pinchudos which still preserves wooden hanging idols. The ruins domestic and ceremonial structures, storage buildings, feature rock shelters, roads, fences, platforms, agricultural terraces and burial sites.

Manachaqui Cave contains stratified cultural deposits that span the latter Paleo-Indian period, and the pre-ceramic periods approximately 1800 BC to 1532 AD. Radiocarbon dating of remains from Gran Pajatén confirm human occupation in 406 BC and over the Early Horizon, 900-200 BC to Late Horizon periods, 1476-1532 AD (Mendoza, 1996; Narvaez, 1989). Los Pinchudos shows stylistic influence from the Moche culture (100-800 AD) (Mendoza, 1996). A pre-Hispanic track, the 'Inca Road' which once linked Huanuco to the south with Chachapoyas to the north, crosses the western boundary of the Park, and archaeological sites have been found throughout the zone of influence of this route. The relative

inaccessibility of the region protected these sites from the time of their apparent abandonment in the late 16th century after the Inca conquest, perhaps because of disease, until the scientific discovery of Gran Pajatén in 1963 (Narvaez, 1989).

### **LOCAL HUMAN POPULATION**

There are not many people living within the Park but there are several human settlements around it. The communities of Los Andes and Pias have been notable for their extensive cooperation with the Park authorities (Moore, *in litt.*, 1990). Access has improved as a result construction of dirt tracks from 1960 onwards, and illegal cultivation and livestock tending still occurs within park boundaries in places (Narvaez, 1989). These remote rural communities, mostly in the Marañón valley foothills, have a total population of approximately 22,700. They are very poor and it is quite common for residents to trap animals and birds in the Park for food. Moreover, immigration has recently increased, prompted by the hope of income from mining developments in the area (Obenson, 2002).

### **VISITORS AND VISITOR FACILITIES**

Owing to the fragility of the archaeological ruins and the difficulty of access, Rio Abiseo has not been open to tourism since 1986 (Bustamente, 1989) even though Gran Pajatén has been compared in quality to Tikal in Guatemala. There is inadequate visitor infrastructure although the local authorities have improved tourist facilities such as the road from Juanjui-Dos to Mayo-Gran Pajatén, a tourist hotel at Juanjui and a proposed museum at Huicungo. The international division of the US National Park Service offered the services of a trail specialist to mark and construct trails and establish camp sites (Moore, *in litt.*, 1990).

### **SCIENTIFIC RESEARCH AND FACILITIES**

This area was botanised for the first half of the 20th century by A. Weberbauer who added 57 species to the known flora, 50% of them being type specimens. In 1982 WWF-International provided initial support for field surveys which led to the establishment of the Park. WWF-US supported the Park since 1985, providing funds to create an operational structure for the western sector (Bustamente, 1989). A wide range of multidisciplinary research studies has since been undertaken: on pollen and climatic changes in the Amazon basin, geology and soil, vegetation, ornithology, mammalogy and archaeology, the last largely based on an agreement between the Ministry of Agriculture and the University of Colorado, the National Institute of Culture and the National University of Trujillo. Studies have also been undertaken by the Museo de Historia Natural of the Universidad Nacional Mayor de San Marcos and the Servicio Forestal y Caza of the Ministry of Agriculture (Mittermeier *et al.*, 1975). Rio Abiseo has remained closed to all but scientists and support personnel since 1986 (Moore, *in litt.*, 1990). Three sites, Gran Pajatén, Los Pinchudos and La Playa were cleared of vegetation, mapped and partially excavated in the 1960s and 1970s and again in 1985-7, but the other sites have not been investigated in detail and there have been no further programs of archaeological rescue, restoration, and stabilization (Young *et al.*, 1994). A legal study on the protected area and its surroundings was prepared by the Peruvian Society of Environmental Law (Narvaez, 1989).

### **MANAGEMENT**

The Agrarian Reform of 1976 superimposed the National Park on the land of the community of Los Andes de los Alisos, creating land tenure problems that had to be resolved through the intervention of the Unidad Agraria Departamental IV-La Libertad and the Peruvian Environmental Law Society Protection. In 1982 the National Agrarian University La Molina prepared a preliminary master plan which became the basis for Rio Abiseo National Park as well as the guide for the first management and protection initiatives in 1986. The first operative plan for the conservation of the natural and cultural resources of the Park was completed in January 1989 (Bustamante, 1989). The Park has been zoned into three: a Restricted zone for natural resource research and for protection of the ruins; a Protection and Recuperation zone; and a Buffer zone (Moore, *in litt.*, 1990). The present responsible administration is the Dirección General Forestal y de Fauna.

Control of prohibited activities improved after the Park Administrator began work in 1986. These activities include extraction of firewood, hunting and fishing, cultivation, felling of woodland and burning of pasture, construction of dwellings and the raising of cattle (APECO, n.d.). It is not permitted to modify or transform the scenic beauty of the Park (Narvaez, 1989). Public use of the Park is restricted because of the fragility of the ruins and limited park infrastructure, and it is treated as a strict scientific reserve rather than as a National Park (Moore, *in litt.*, 1990). Protective measures since 1986 have reduced illegal hunting especially in the western sector. The eastern side is more isolated and suffers less illegal hunting pressure. WWF supported the establishment of an administration post on the

access trail to the Park, and of a third guard post on the park's west-central border to control the entry of people and cattle. Park guards are trained to work with the inhabitants of neighbouring communities on the appropriate use of renewable natural resources. The efforts of the Peruvian Environmental Law Society and park personnel led to several herders exchanging their cattle for alpacas which are ecologically less damaging to the local environment and whose grazing requirements do not necessitate the periodic harmful burning of grasslands (Moore, *in litt.*, 1990). The NGO *Asociación Peruana para la Conservación de la Naturaleza* (APECO or the Peruvian Association for Nature Conservation) is the steward for Rio Abiseo Park, charged with its preservation and promoting sustainable development in the surrounding communities. It discovered that the area's fodder, fisheries, and drinking water were severely affected by water pollution due to mining and agriculture and have worked to improve these conditions (Obenson, 2002).

## MANAGEMENT CONSTRAINTS

Management and protection of the Park has suffered from inadequate staffing and funding most of which has been invested in rural development projects in the buffer zone, rather than in the Park itself. The illegal hunting that occurred in the past especially on the western side of the Park led to a drastic reduction of huemul deer, but is uncommon now (Moore, *in litt.*, 1990). Monkeys and bears among other animals have been hunted for food and for their skins (Mittermeier *et al.*, 1975). Burning of high level pastures for pastureland, although less since the prohibition of grazing in 1986 continues to be a medium to serious threat in the high country of the western sector (Bustamante, 1989; Moore, *in litt.*, 1990): Dillon reported cattle grazing near the ruins in 1998. In 1994 ten families were reported to be growing crops in the montane forest zone of the Abiseo valley (Young *et al.*, 1994). Habitat destruction on the steep slopes, and trees cut down for charcoal and farmland were also reported, though timber was not considered by one source to be under grave threat (Moore, *in litt.*, 1990).

Until 1960 no roads entered the region. Subsequently, dirt tracks have been made and huts have encroached close to the boundary (Mittermeier *et al.*, 1975). A proposed highway from the port of Salaverry to San Martin east of the Park passing a few kilometres north of it, could be disruptive (Moore, *in litt.*, 1990) and the numerous mining claims in the Park already pollute the local waters (Obenson, 2002). The possibility of conversion of the premontane forest zone for coca *Erythroxylon coca* cultivation for the expanding cocaine trade, has been hindered so far by the rugged terrain and distance from good roads, but the area is suitable for coca and more accessible forests outside the Park have already been converted. Continued degradation threatens the archaeological sites. Gran Pajatén has been cleared of vegetation several times, and the roots of the resulting re-growth of bamboos and light-demanding shrubs have caused considerable damage to walls. The ruins require programs of archaeological rescue, restoration and monument stabilization that were not pursued in the 1990s (Young *et al.*, 1994; 1997).

## STAFF

An administrator and eleven park guards were listed in 1990 (Bustamante, 1989; Moore, *in litt.*, 1990).

## BUDGET

The only direct contribution made by the Ministry of Agriculture is the salary of the Park Administrator. Funding from 1985 to 1988 from the University of Colorado, USA, totalled US\$626,000 for species inventories, archaeological and palaeo-environmental studies and the operative plan workshop. Since 1982, WWF/IUCN has given US\$175,000 for park administration, management, protection and education projects through the administration of the Peruvian Foundation for the Conservation of Nature on behalf of the National Directorate of Forestry and Wildlife. (Moore, *in litt.*, 1990).

## LOCAL ADDRESSES

Administración del Parque Nacional Rio Abiseo, Jr. Leticia 777 Mariscal Cáceres, San Martín, Perú.

Dirección General Forestal y de Fauna, Ministerio de Agricultura, Natalio Sánchez 220, Jesús María, Lima

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The principal source for the above information was the original nomination for World Heritage status.

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## DATE

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