



World Heritage Sites

Protected Areas and World Heritage



SIMIEN NATIONAL PARK ETHIOPIA

The Park was one of the first four sites to be inscribed on the World Heritage List in 1978. Massive erosion of the Ethiopian plateau has created one of the most spectacular landscapes in the world: jagged mountain peaks, deep valleys and precipices sheer for 1,500 metres. The Park is the refuge of the extremely rare Ethiopian wolf, gelada baboon and Walia ibex, a goat unique to Ethiopia. After the site's management was transferred from Addis Abeba to the Amhara region in 1997, a committee for the Park's rehabilitation was set up, the budget and staff increased, there was local participation in decisions, resettlement of farmers, excision of villages and extension of the Park.

Threats to the Site: The World Heritage Committee placed the Park on the List of World Heritage in Danger in 1996 because of decline in the population of the Walia ibex due to human settlement, grazing, agriculture and road construction. The ibex may now number over 500 and be on the increase but the Ethiopian wolf remains extremely rare.

COUNTRY

Ethiopia

NAME

Simien National Park

NATURAL WORLD HERITAGE SITE IN DANGER

1978: Inscribed on the World Heritage List under Natural Criteria vii and x. One of the first four natural World Heritage sites to be established.

1996: Listed as a World Heritage site in Danger due to the effect of encroachment on wildlife habitat.

2005: Area expanded under the same criteria.

IUCN MANAGEMENT CATEGORY:

II National Park

BIOGEOGRAPHICAL PROVINCE

Ethiopian Highlands (3.18.12)

GEOGRAPHICAL LOCATION

In northern Ethiopia on the Amhara plateau in the western Simen Mountains, 120 km northeast of Gondar. Location: 13° 11'N, 38° 04'E. The town of Adi Ark'ay lies to the north, Debarq, 50 km to the south-west and Deresge to the south east.

DATES AND HISTORY OF ESTABLISHMENT

1969: Simen Mountains National Park established by Order 59 in the Negarit Gazeta 29 (4):6-8 (original area: 22,500 ha), including several villages and farmlands;

1983-99: The Park was closed to the public during a 17-year civil conflict;

- 1996+: Listed as endangered due to heavy encroachment by farmers and grazing cattle, and declining numbers of Walia ibex.
- 1997: Management transferred from the national to the Amharan regional government;
- 2005: The National Park boundaries altered to excise settlements and increase the area of protected wildlife habitat, especially for ibex and wolf. The extensions included the reserves of Mesareriya (southeast) and Lemalino (west) and will include the Silki Yared and Kiddis Yared Mountains to the northeast and Ras Dejen Mountain to the south with linking wildlife corridors.

LAND TENURE

Government, in Gondar province, Amhara region. Administered by the Amhara Parks Development and Protection Authority (PaDPA) of the Amharan National Regional State government.

AREA

22,000 ha (UNESCO, 2009). The WHC/IUCN Report *Reactive Monitoring Mission to Simien Mountains National Park* states that the Park's area had been increased to 23,200 ha (Debonnet *et al*, 2006). The proposed extensions will add some 265,000 ha to the existing site.

ALTITUDE

1,900m to 4,430m.

PHYSICAL FEATURES

The Park lies on the spectacularly rugged and dissected northern edge of the vast undulating Geech plateau in the western part of the Simien Massif. It occupies a narrow strip on top of an 1,000m escarpment and a strip at its foot. The area is just north of the highest peak in Ethiopia, Ras Dazhen (4,624m), which with other mountain peaks overlooks the Park. This massif, part of a vast dome of igneous basalts, was formed some 75 million years ago, and experienced a period of vulcanism which ended 4-5 mya, followed by glaciation and powerful erosion (Hürni & Ludi, 2000). It is now deeply cut by forested gorges and sheer cliffs, some 1,500m high which extend for 35 km along the north escarpment. The plateau is bisected north to south by the Mayshasha River, of which it is the principal catchment. There are fast-flowing permanent streams and high waterfalls draining on the north-east and south to deep valleys tributary to the Tekeze River, which drains eventually into the Atbara. Soils from the volcanic substrate are fertile but very degraded from overgrazing and have very low productivity. They become lithosols in alpine and rocky areas. From its creation, the Park enclosed several villages, and was about 30% cultivated land.

CLIMATE

The mean annual rainfall is 1,550mm falling in two wet seasons, from February to March, and July to September which is said to have become much lower since the 1960s (Magin, 2001). Temperatures range from a minimum of -2.5°C to 4°C to a maximum of 11°C to 18°C. There are often drying winds during the day; frosts may occur at night, and snow sometimes settles on the summit of Ras Dazhen.

VEGETATION

The Simen Mountains are a part of the Afro-alpine Centre of Plant Diversity, with high unquantified levels of endemism due to past isolation (5-10 species), though as a result of their recent post-volcanic post-glacial history they are low in diversity compared with other Afro-alpine regions (Magin, 2001). The Park, on the margins of the Palaeartic biome, preserves a representative part of the Ethiopian Tropical Seasonal Highland biome and contains vegetation characteristic of each. The floristically rich vegetation grows in four belts related to altitude: Afromontane forest, *Hypericum* woodland, Afromontane grassland and Afro-alpine moorland. Species in the latter two biomes show xeromorphic adaptations to extreme high altitude conditions, and much speciation. However the heavy overgrazing has eroded and degraded the grassland which is now very unproductive. In 1996, of 900 ha of Afro-alpine vegetation, 25% was heavily overgrazed, 60% heavily grazed and 15% more or less natural (Debonnet *et al*, 2006).

The rather species-poor forest below 3,000m is mostly felled except in the gorges where some *Syzygium guineense*, *Juniperus procera* and *Olea europaea* ssp. *africana* remain (Nievergelt, 1998). The escarpment cliffs, gorge sides and ridge tops are vegetated with coarse tussock grasses, cliff-hanging herbs and small shrub thickets of *Rumex nervosus*, scattered *Otostegia minucci*, *Geranium arabicum*, *Thymus* spp., *Trifolium* spp., and the creepers *Clematis simensis* and *Galium spurium*. From 3,000m to 3,800m was once *Erica arborea* - *Hypericum revolutum* (tree heather - giant St. John's wort) heath-woodland but few trees remain since the area was cleared for growing cereals and there is no regeneration. From 3,800m to the alpine zone is subalpine grassland dominated by giant lobelia *Lobelia rhynchopetalum* with tree heather *Erica arborea*, torch lily *Kniphofia foliosa*, African rose *Rosa abyssinica*, yellow primrose *Primula verticillata* (a Palaeartic species), *Solanum* sp., everlasting *Helichrysum citrispinum*, lady's mantle *Alchemilla alpina* and *Urtica* spp. Lichens *Usnea* spp. drape the trees. A stonecrop *Rosularia simiensis* is endemic to the Simien mountains as are ten of the grass species. The endemic tussock grass *Festuca gilbertiana* is known only from the Geesch plateau. This tufted grassland, formerly a rich mosaic, has been largely replaced by short-grass turf of *Festuca macrophylla* with *Carex erythrorhiza*, and has been worn down by cattle which also pollute the streams. Above this level is alpine moorland with mosses of the *Grimmiaceae* family (Ashine, 1982).

FAUNA

A total of 21 mammals has been recorded, including seven endemic species. However, human disturbance and habitat alteration has reduced the range of habitats available to wild animals in the Park as also has the competition from grazing livestock. The Walia ibex *Capra walie* (CR), nearly endemic to the Simien Mountains, has taken refuge on the cliffs of the northern escarpment and outside the Park. It was reduced to some 250 animals before designation in 1968, plus 50 beyond the Park, but had revived before the 1985-1991 conflict (Ashine, 1982). After that it became far more dispersed and wary. Numbers in 1989 were estimated at 400 individuals, decreasing to about 200 in 1996 after poaching had driven animals further east (Shackleton, 1997; Nievergelt *et al.*, 1998); but in November 2005 after the incorporation of two further reserves, were estimated to number 623 (Debonnet *et al.*, 2006). The Ethiopian wolf (or Simien fox) *Canis simensis simensis* (CR), endemic to Ethiopia and the rarest canid in the world, depends on rodent prey in the decreasing area of tufted grass habitat. In 1977 it numbered only 20; 40 were seen in the Park in 2003 (Hürni & Stiefel, 2003) and 71 in and around the Park in 2005, nearly all outside it (UNESCO, 2006) Other mammals include gelada baboon *Theropithecus gelada*, hamadryas baboon *Papio hamadryas*, anubis baboon *Papio anubis*, green monkey *Chlorocebus aethiops*, eastern black-and-white colobus monkey *Colobus g. guereza* spotted hyena *Crocuta crocuta*, golden jackal *Canis aureus*, leopard *Panthera pardus*, caracal *Caracal caracal*, serval *Leptailurus serval*, African wild cat *Felis silvestris lybica*, and several large herbivores including bush pig *Potamochoerus porcus*, bushbuck *Tragelaphus scriptus*, common duiker *Sylvicapra grimmia*, and klipspringer *Oreotragus oreotragus* also now retreating from the Park (Nievergelt *et al.*, 1998). Five small mammal species are nationally endemic.

The Park lies within one of the world's Endemic Bird Areas (Stattersfield *et al.*, 1998). The 137 recorded bird species noted in Fishpool & Evans (2001) include 16 endemic to Ethiopia: wattled ibis *Bostrychia carunculata*, spot-breasted lapwing *Vanellus melanocephalus*, black-winged lovebird *Agapornis taranta*, black-headed oriole *Oriolus monache*, Ethiopian siskin *Serinus nigriceps*, Abyssinian catbird *Parophasma galinieri*, Abyssinian longclaw *Macronyx flavicollis*, white-billed starling *Onychognathus albirostris* and thick-billed raven *Corvus crassirostris*; and on the cliffs, white-collared pigeon *Columba albitorques*, white-winged cliff-chat *Myrmecocichla semirufa* and Rüppell's chat *M. melaena*. Typical of Afrotropical highlands are chestnut-naped francolin *Francolinus castaneicollis*, African hill-babbler *Pseudoalcippe abyssinica* and chough *Pyrrhocorax pyrrhocorax*. There are also 25 species of raptors including lammergeier *Gypaetus barbatus*, four other vultures and four species of eagle (Hillman, 1993).

CULTURAL HERITAGE

The Simien region, surrounded by old cultural centres like Aksum, Lalibela and Gondar, has been inhabited by cultivators for at least 2,000 years (Kirwan, 1972). Erosion indicates that cultivation first started on the gentler slopes of the highland valleys but later extended onto steeper slopes. Simien is also near the crossing of old trade routes, and records of various local features were made in the 18th and 19th centuries (Hürni, 1986).

LOCAL HUMAN POPULATION

Originally some 2,500 Amhara people lived in the area, where the people are very poor but the conditions favour agriculture. On nomination 53-80% of the Park was said to have been grazed or farmed. In 1978-9 and 1985-6 the population was reduced by the forced relocation of approximately 1,800 people from the lower slopes of the northern escarpment, which was very unpopular. Following civil unrest in the 1980s and 1991, the villagers returned (Nievergelt *et al.*, 1998). An expanding refugee camp added to the problem (Abebe, 2000). By 2005 17% (2,281 ha) was under cultivation. Eight communities have part or all of their lands within the boundary which cuts through most of the villages. Grazing cannot be prohibited as long as there are local residents within the Park, and the population is growing at the rate of 2% a year (Hürni & Ludi, 2000). There are about 30,000 people in 30 villages around the Park and two within it; with some 4,650 poor cereal farmers and perhaps as many herders, woodcutters and others, the numbers of livestock increasing with the population (Magin, 2001). In October 2005 the Park office found 3,171 people in 586 households living in the Park and 1,477 householders outside the Park but owning farmland within it. By the mid 1990s over 60% of the area was under this pressure and the land was fast becoming seriously degraded (UNESCO, 1996; IUCN, 2001). Further settlement in the Park was stopped and further grazing restricted, but effective enforcement was expected to take years (UNESCO, 2010).

VISITORS AND VISITOR FACILITIES

Before the unrest, there were 100-200 international visitors annually and access routes and facilities were poor. From 1983 to 1999 the region was barred to visitors by war. Tourist numbers increased from 655 in 1999 to 1,000 in 2000, to about 6,019 in 2006 and 11,648 in 2009 (UNESCO, 2010). Construction of new park infrastructure including the Debark visitor centre, entrance gate camp, outpost camps, and visitor facilities at campsites was funded by the Austrian-funded Integrated Development Project (IDP). The visitor centre has an information desk, entrance fee office, conference hall, park warden and staff offices, a library/museum (not yet functional), souvenir shop, cafeteria and guide association office. Guides, porters and cooks are now provided by private concessionaires. The entrance gate at Sawre camp will have an information desk, office and four solar-powered scout houses. The Sankaber and Chennek camps have the basic camping facilities of springs, showers, toilets, recreation huts and recreation benches. The usual method of travelling is on muleback with hired guides. A 4WD road built to the Park from Debark has caused erosion and increased local traffic as well as tourist development (Nievergelt, 1996). By 2006 a high quality 60-bed private tourist lodge had been built at Buyit Ras just outside the Park, and new hotels at Debark (Debonnet *et al.*, 2006).

SCIENTIFIC RESEARCH AND FACILITIES

Studies have been made of Walia ibex, habitat conservation, and the ecology of gelada baboon. Bibliographies of research are given in Schaerer (1979) and Hürni (1986). An in-depth study of the flora and fauna was conducted in 1996 (Nievergelt, 1996; Nievergelt *et al.*, 1998). Under the regional management, monitoring of agricultural encroachment and human population are under way.

CONSERVATION VALUE

The Park, perched above a spectacular basalt escarpment, was created to protect an area of north Ethiopian Afromontane moorland with a rich fauna relatively intact due to the extreme topography, now under threat. It is a refuge for threatened Walia ibex, endemic to the Simien Mountains, Simien wolf and gelada baboon. The mountains are an important catchment for the Tekeze River which is used downstream for irrigation. The Park is in a WWF Global 200 Ecoregion a WWF/IUCN Centre of Plant Diversity and is a BirdLife-designated Endemic Bird Area

CONSERVATION MANAGEMENT

Because of its biological importance the Park has been the focus of much conservation activity and was one of the first designated World Heritage sites. It was administered until 1996 by the Ethiopian Wildlife Conservation Organisation (EWCO) of the Ministry of Natural Resources Development & Environmental Protection which still sets management policies. But from 1997 it has been managed by the Amhara Parks Development and Protection Authority of the Amharan National Regional State government.

A detailed management plan was prepared in 1986, with WWF support, but the plan and zoning were not implemented owing to civil war during which the Park's infrastructure was destroyed. Until the

conflict the catchment and wildlife were protected between 1978-86 by evicting the people, prohibiting any development or use of the Park's resources, and excluding local communities from any planning or management decisions. The central government's concern for wildlife rather than its inhabitants was much resented and fuelled local opposition to the Park. Owing to the subsequent pressure of increasing human use of the area the policy was superseded by the need to manage the Park in cooperation with its inhabitants (Nievergelt, 1996). The Park was placed on the List of World Heritage in Danger in 1996 because of the effects of the construction of the access road from Debarq to Mekane Birhan nearer Ras Dejen, and because of agricultural encroachment on the ibex and wolf habitat and the previously undisturbed *Erica-Hypericum* forest which has come to supply much of the local firewood (UNESCO, 1996). The listing was not approved by the national authorities despite long discussion.

In 1997, preceded by a meeting with stakeholders, the Park's management was transferred from the central to the regional authorities. A regional representative promised increases in the Park's budget and staff, discussions with local people, a committee for the Park's rehabilitation, cooperation with donors, realignment of the road through the Park and the voluntary relocation of four villages on its edge, relocation of farmers, excision of villages and extension to include two nearby wildlife reserves. Decision-making shared with local stakeholders became accepted and effective (UNESCO, 2002). A management plan was drafted and was to be updated in 2006-7. 165 households from Arkwasiye village have already voluntarily relocated from a critical wildlife corridor and given compensation; the three other villages are to follow. Over two-thirds of the cost of US\$1,175 per household were borne by the regional government, the rest by foreign donors (UNESCO, 2010). It was suggested that tourists be encouraged to see for themselves the situation in the Park and the countryside which is being degraded by encroachment, despite the impacts that tourism itself brings. A regional tourism plan is needed.

During a mission in 2003, Hürni & Stiefel reported that the ibex population had increased due to improved management by the Amharan authorities, through funding by the state and donors, increase in staff and equipment, regulation of the use of the Park's resources, an integrated approach to solving site problems, and the definition of new boundaries. By 2006, 100 of 110 concrete border markers were installed to include the two wildlife reserves of Mesareriya in the east and Lemalino on the west, enclosing a total area of some 23,000 ha with a large population of ibex and wolves and excluding several villages from the Park. The extension of the Park to include the Silki Yared and Kiddis Yared Mountains to the northeast was demarcated by over 300 beacons but the extension with a linking corridor to Ras Dejen Mountain to the south remains unmarked (UNESCO, 2010). Legal inclusion of this area into the property and new park boundaries including the Lemalimo and Mesarerya extensions and village excisions required re-gazettement but in 2009 this had yet to be done. The impacts of the traffic and erosion from the present road from Debarq will be monitored and mitigated. A second road (Bwahit-Dilybza) was relocated to avoid wildlife habitat. A new road avoiding the Park, from Debarq to Mekeneberhan, has been planned but not funded.

By 2009 a WHF-funded ten-year comprehensive management plan had been completed. However, the density of humans and livestock has grown no less and heavy overgrazing continues. Ten-year strategic and three year action plans are needed to reduce grazing pressure and to support alternative livelihoods for the people in and around the Park to limit their impact on its resources and free the land for rehabilitation. But these will take considerable funding which is not yet available (IUCN, 2008). An animal health clinic has been built in the buffer zone to provide against the transmission of livestock diseases to the wildlife (Debonnet *et al*, 2006) and the Austrian Development Cooperation is already funding a six-year Integrated Sustainable Resource Management Programme for the area, introducing new crops, plant nurseries, beehives, irrigation projects and livestock breeding (Martin, 2008).

MANAGEMENT CONSTRAINTS

Ethiopia's highlands are among the most densely populated agricultural areas in Africa, and wildlife habitats and populations in the Park have been fragmented by extensive development: road construction, widespread deforestation and grass burning, agriculture, firewood collecting, hunting and domestic livestock grazing. Wardening of the Park had to cease in 1977 and by 1980 it was estimated that 1,000 ha of forest had already been cleared (Hürni, 1980). Several animals might become locally extinct even if the Park were fully protected: the carnivores, notably serval, leopard and Simien wolf, and larger ungulates of the lower Afromontane areas. A further risk is that of hybridisation between

Walia ibex and free-ranging domestic goats (Hürni, 1986; Shackleton, 1997). Observations of the Simien wolf have become increasingly rare since much of the habitat of its chief prey, the mole rat, has come under cultivation. The Walia ibex population has dispersed and its range and presence within the Park has decreased; large areas of former habitat have been abandoned, and sightings have been made only in the most remote and inaccessible areas. However, it may be expanding its range outside the Park (Hürni & Stiefel, 2003). Bushbuck and bush pig populations have also become extremely sparse due to trapping of wild animals harmful to crops and livestock.

During the years of civil unrest the Park's buildings and equipment were destroyed and the management was severely constrained by lack of money (EWCO, 1991). The central government's policy of excluding settlers from the Park and local people from decision-making resulted in a breakdown in communication, diminished control over the site and caused much antagonism. Subsequently, the Park came under increased pressure from subsistence cultivation, sometimes of very steep slopes, livestock grazing and from wood and grass cutting. In 2000 an expanding refugee camp was fuelled by the very sparse *Erica arborea* trees. Its inhabitants ought to have been resettled outside the Park but the authorities were too concerned for the people to question their impact on Park resources (Abebe, 2000). 24% of the Park remained under cultivation, most of it farmed ever since the Park was gazetted in 1969, and grazing cannot be prohibited while there are local residents within the Park (IUCN, 2001). The grazing of streamsides has affected water quality and increased sediment load from eroded banks. Some 60% of grassland habitats surveyed in 1996 were considered to be heavily grazed, 25% seriously overgrazed, and only 15% was in a natural state (Nievergelt, 1996). This caused severe erosion and changes in the ecosystem. The road from Debarq has aggravated erosion and ecological damage and made access easier for the increasing numbers of peasant farmers (Nievergelt *et al.*, 1998; Beltran, 2000). The population and its livestock within the Park is still expanding by 2% per year (Beltran, 2000).

STAFF

In 2006 the staff numbered 57 under the Chief Warden comprising 4 senior staff, 17 others and 36 wildlife scouts mostly based at one of the 10 manned outpost camps (Debonnet *et al.*, 2006).

BUDGET

Between 1968 and 1984 several projects were funded by the WHC. US\$70,000 was granted from UNESCO via UNDP to rebuild infrastructure in 1996, and grants totalling US\$30,000 from Austrian Aid, GEF and the government were also made (UNESCO, 1996). Government funding increased from US\$56,000 in 1998 to US\$83,000 in 2001 (IUCN, 2003). US\$30,000 was approved in December 2005 for the development of an alternative livelihood strategy for local residents. The total amount provided to the property by WHF in 2006 was US\$149,307 for technical cooperation and training (UNESCO, 2006). In 2007 the Government released \$63,000 of the entry revenues of \$90,000 for the Park's use. The Integrated Development Project funded by the Austrian Development Corporation continues to increase funding for salaries, operational costs and technical advice and ensures that \$1,890,000 will be released between 2007 and 2012 for infrastructure, maintenance and community-based projects (Martin, 2008). In 2006 this was 600,000Birr (US\$72,300). In 2006-7, it allocated 500,000Birr (US\$60,200) for infrastructure projects, and WHF with ARG granted 220,000Birr (US\$24,000) to develop alternative livelihood strategies (Debonnet *et al.*, 2006). In 2007 US\$185,000 had been found from international sources to provide for technical cooperation and training (UNESCO, 2007). In 2008 it was noted that US\$215,000 had been provided from international sources for technical cooperation and training and US\$27,000 to review the draft management plan (IUCN, 2008).

LOCAL ADDRESS

The Chief Park Warden, Simien Mountains National Park, Debarq, Gondar, Ethiopia.

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