IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 10 November 2017

Please note: this is an archived Conservation Outlook Assessment for Talamanca Range-La Amistad Reserves / La Amistad National Park. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Talamanca Range-La Amistad Reserves / La Amistad National Park

SITE INFORMATION

Country:
Costa Rica, Panama
Inscribed in: 1983
Criteria:
(vii) (viii) (ix) (x)

Site description:
The location of this unique site in Central America, where Quaternary glaciers have left their mark, has allowed the fauna and flora of North and South America to interbreed. Tropical rainforests cover most of the area. Four different Indian tribes inhabit this property, which benefits from close co-operation between Costa Rica and Panama. © UNESCO

SUMMARY

2017 Conservation Outlook

Significant concern

The conservation outlook for the geological and physiographic features is good since these are robust and relatively immune from human activities. The outlook for values related to natural phenomena, scenic beauty, ecological processes, biodiversity, threatened species and species of particular conservation importance is one of significant concern. The cumulative level of current threats to the site is high, because of the high impact of dams on the aquatic habitats of some major watersheds. While component protected areas in both countries have relatively effective management system and legal framework, it is clear that the impacts of dams cannot be mitigated, reduced or eliminated only through management actions within the site. Some mitigation measures for some of the hydropower projects have been developed, but their effectiveness will need to be monitored. The management effectiveness is also seriously affected by poor relationship with local indigenous groups who opposed hydropower projects.

Current state and trend of VALUES

High Concern
Trend: Deteriorating

Taken as a whole, there is high concern for the site’s World Heritage Values. There is considerable danger related to the discontinuity of river systems caused by dam construction. This will have affected dramatically the species and processes in the dammed rivers. The high concern and deteriorating situation for ecological processes, biodiversity, and threatened species is offset by lesser levels of concern with respect to natural beauty and geological features.

Overall THREATS

High Threat

The current threats to the site's values and integrity include impact of dams that have changed the hydrological regimen and associated ecosystems and processes, and caused loss of natural terrestrial habitats; localised illegal logging and encroachment for farming and ranching. Overall, the cumulative level of current threats to the site is high, because of the high impact of dams on the aquatic habitats of some major watersheds. The highest potential threat in the long term is from climate change. In the short term construction of new dams would impose additional pressure on the site.

Overall PROTECTION and MANAGEMENT

Some Concern

There has been a strong opposition from local people to the dam development in the Panamanian part of the property. The World Heritage Committee has repeatedly expressed its concern over the different hydropower development projects in Panama and the absence of a Strategic Environmental Assessment for the entire property. As for the management of the property itself, legal protection and management of the component protected areas in both countries is adequate but the number of park rangers and patrolling squads is too low to properly protect and monitor the site. Information on research and monitoring activities is lacking.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Exceptionally beautiful landscapes**
Criterion:(vii)

The property holds exceptionally beautiful and diverse landscapes, deeply set in a vast area of natural Mesoamerican humid tropical mountain and lowland forests, which constitute one of the large last remnants of these ecosystems on the planet. It shows remarkable vestiges of the Quaternary glacial activity which shaped the earth crust by generating majestic relief forms such as lakes, lagoons and bogs which highlight the natural beauty of these mountains. The Site has additionally spectacular waterfalls which merge in a very rugged topography, offering panoramic views of a singular scenic and spiritual value (UNESCO, 2014).

▶ **Remarkable vestiges of the Quaternary glacial activity**
Criterion:(viii)

The Cordillera de Talamanca is the highest and wildest non-volcanic mountain range in Central America. It was formed by the folding of the Earth's crust and uplifting activity that created the land dividing the Pacific from the Caribbean. The Site is unique since the Talamanca Range is a very particular sample of the recent geological history of the Central American Isthmus, which in its time became a bridge between North and South America, separating the Pacific and Atlantic Oceans. The Property shows indelible marks that the Quaternary glacial activity shaped such as glacial circus with lakes and “U” shaped deep valleys which cannot be found

anywhere else in the Central American region. Thus, the Site is representative of the major stages of the Earth historic evolution (UNESCO, 2014).

► Ecological and evolutionary processes

Criterion:(ix)

The Property, as a bio geographical bridge, allowed the interaction of flora and fauna coming from North and South America which, together with the climatic variation, the heterogeneity of the soils and the relief configuration allowed the development of a complex of ecosystems with impressive species diversity. All these factors, during the evolutionary process, triggered the appearance of very important endemism levels. Many of the original North and South American species reach their distribution boundaries in the Talamanca mountain system. Thus far, in the Site, there is a wide gamma of ecosystems, among these, the pure oak groves (Quercus sp.) and other types of cloud forests, highland savannas, the subalpine paramo, the glacial lakes and lagoons and the high altitude bogs, the latter being the northernmost ones in the American tropics (UNESCO, 2014).

► Exuberant biological diversity

Criterion:(x)

The Site has an exuberant biological diversity and is considered an area with species richness by hectare not easily comparable to other sites. The Talamanca Mountains host some 10,000 flowering plants and over 4,000 non-vascular plants. There are approximately 1,000 fern species and about 900 species of lichen. This property also stands out by the high presence of endemism in groups such as fish, amphibians, reptiles, birds, plants and arthropods. There is a unique ecosystem: the “isthmus paramo” shared by Costa Rica and Panama which is the habitat for a meaningful quantity of species exclusive to this area. As it is located in a complex of protected areas along a wide altitudinal gradient, the Property offers a valuable opportunity in the region for the protection of species that require special conditions in order to perform daily, seasonal or altitudinal migrations. In addition, it is extensive and appropriate enough to insure the survival of viable populations of many rare, vulnerable and endangered species, which include all feline species of Central America including puma (Puma concolor), ocelot

(Leopardus pardalis), jaguarundi (Puma yagouaroundi), margay (Felis wiedii) and jaguar (Panthera onca), tapir (Tapirus bairdii), resplendent quetzal (Pharomachrus mocinno) and several species of raptor as well as endemic plant species (UNESCO, 2014).

Assessment information

Threats

Current Threats

High Threat

The current threats to the site’s values and integrity include impact of dams that have changed the hydrological regimen and associated ecosystems and processes, and caused loss of natural terrestrial habitats; illegal logging and encroachment for farming and ranching. Overall, the cumulative level of current threats to the site is high, because of the high impact of dams on the aquatic habitats of some major watersheds.

► Poaching

Data Deficient
, localised(<5%)
Outside site

The current level of poaching that might be taking place near the boundaries of the property is not known. The 2016 reactive monitoring mission noted that some stakeholders raised concerns about increased poaching. However, the extent of the threat could not be assessed by the mission (IUCN, 2016). Regular patrolling activities are being undertaken by the management authorities to prevent and detect illegal hunting and several cases have been prosecuted (States Parties of Costa Rica and Panama, 2017).

► Dams/ Water Management or Use

High Threat

Outside site

Several dams were constructed before the inscription of the site on the World Heritage list. These dams have changed the hydrological regimen and associated ecosystems and processes, and caused loss of natural terrestrial habitats. Aquatic species that migrate will largely be extirpated in the watersheds where the dams occur, and major secondary impacts will occur with respect to sediment dynamics, breakdown of vegetable matter, water and substrate chemistry, algal biomass and diversity and structure of stream fauna. The current projects in various stages of operation and construction (CHAN75 and Bonyic) are located in the Palo Seco Forest Reserve, adjacent to the property in Panama. Construction of these projects continued in spite of Decision 34 COM 7B.32 that requested halting dam construction until a SEA had been completed. Without adequate mitigation measures, the constructions would form a barrier for migratory fish and crustacean species. Since most of the Talamanca range fish species and many macroinvertebrates are migratory and depend on intact river systems from the brackish coast to cooler waters upstream, such a barrier would cause the disappearance of many species within the affected rivers that have their upstream area within the site (IUCN, 2013) (UNESCO, 2011; McLarney et al, 2010). In 2013 an Environmental Impact Assessment was approved for another dam project – Changuinola II. The World Heritage Committee has repeatedly expressed its concern over hydropower projects development in Panama which could have significant impacts on the property and has requested the States Parties of Costa Rica and Panama to undertake a Strategic Environmental Assessment (SEA) and not to approve any new projects until the SEA has been completed (UNESCO, 2016, 2017). In 2017 the contract for Changuinola dam was terminated. The States Parties have confirmed that a SEA for the entire property will be completed in 2018 (UNESCO, 2017).

► Logging/ Wood Harvesting

Low Threat
Inside site, localised(<5%)
Outside site

Illegal logging is largely under control at present, but the threat is ever present. Regular patrolling activities are being undertaken by the management authorities to prevent and detect illegal logging and several

cases have been prosecuted (States Parties of Costa Rica and Panama, 2017).

► Mining/ Quarrying

Very Low Threat
, not applicable
Outside site

All requests to explore for minerals within the Costa Rican part of the property have been turned down. Three requests for exploration in indigenous territories adjacent to the Property are still under consideration, but most likely will be turned down (State Party of Costa Rica, 2012). Costa Rica has also declared a gold mining moratorium, and there is now a public request to the national authorities in order to forbid any further mining activity in the country (IUCN, 2013).

► Livestock Farming / Grazing

Low Threat
Inside site, localised(<5%)
Outside site

Cattle ranching and other agricultural activities have always been carried out in the area and date back to the time before the formal establishment of protected areas that make up the World Heritage site. The conversion of lands for farming and ranching has slowed considerably and is limited to small areas, most likely due to lower profitability of ranching slash-and-burn agriculture is relatively widespread in the property's buffer zone. However, these activities are of low intensity and do not threaten the sites’ values and integrity (IUCN, 2013). Recent field patrolling and overflights indicate that there has been no increase in these activities in the area (States Parties of Costa Rica and Panama, 2017).

Potential Threats

High Threat

The highest potential threat in the long term is from climate change. In the short term construction of new dams would impose additional pressure on the site.

► Temperature extremes

Data Deficient
Inside site, throughout(>50%)
Outside site

It is expected that climate change will cause Costa Rica to become hotter and drier; cloud forests will be particularly susceptible.

► Dams/ Water Management or Use

High Threat
Inside site, extent of threat not known
Outside site

There are currently no other dam projects under construction on the Caribbean side, but several have been projected; the one most likely to have significant impacts being the Talamanca dam (Río Telire, upper part of the Sixaola watershed, Costa Rica). According to the Costa Rican governmental energy institute (ICE), it will be practically impossible that any of these will become a reality before 2025, including the Talamanca dam, because none of them are in the prefeasibility study stage (Mission report, 2013). In 2013 an Environmental Impact Assessment was approved for another dam project in Panama – Changuinola II. The World Heritage Committee has repeatedly expressed its concern over hydropower projects development in Panama which could have significant impacts on the property and has requested the States Parties of Costa Rica and Panama to undertake a Strategic Environmental Assessment (SEA) and not to approve any new projects until the SEA has been completed (UNESCO, 2016 and 2017). In 2017 the contract for Changuinola dam was terminated. The States Parties have confirmed that a SEA for the entire property will be completed in 2018 (UNESCO, 2017). However, until the results of the SEA are available concerns over hydropower development remain.

► Roads/ Railroads

Data Deficient
Inside site, extent of threat not known
Outside site

A road was proposed in the Government’s Strategic Plan for 2010-2014 to connect Chiriqui and Bocas del Toro Provinces in Panama, passing through

the property. (States Parties of Costa Rica and Panama, 2012). This road is a high potential threat due to the direct impact of construction (deforestation, erosion) and use (contamination), but much more due to the indirect impact of the consequences of road construction (logging, hunting and colonization due to increased access, more economic development in general) (IUCN, 2013).

Protection and management

Assessing Protection and Management

► Relationships with local people

Serious Concern

Relationship with local people is seriously affected by the hydroelectric dams projects and lack of consultation. Traditional indigenous leaders and many individual members of indigenous groups expressed opposition to dam development (UNESCO, 2013)

► Legal framework

Mostly Effective

The site consists of a mosaic of 1 Panamanian and 7 Costa Rican protected areas. Bilateral relations between Costa Rica and Panama are directed by the Agreement between the Government of the Republic of Costa Rica and the Government of the Republic of Panama on Cooperation for Cross-border Development and its Annex, ratified by Costa Rica by Law No. 7518 published in the Official Gazette no. 140 of 24 July 1995, and by Panama by Law No. 16 of 10 August 1994, published in the Official Gazette No. 22.602 of 17 August 1994 (Mission Report, 2013). A bi-national Trans-boundary Protected Area Technical Commission monitors the agreement for management of the site, and steers negotiations between the many private and public groups and agencies active in the site. Regular patrols by Park staff are carried out in each national jurisdiction, and 4 patrols per year are carried out on a bi-national basis along the border of the two countries (WDPA, 2011; 36COM.Talamanca.SPreport)

► Enforcement

Some Concern

Lack of human resources makes enforcement difficult and challenging. Illegal hunting is still a concern in the property's buffer zone.

► Integration into regional and national planning systems

Mostly Effective

Decisions regarding cooperation in the management of the site have been taken at the highest levels of authority in both countries and integrated into national planning. (WDPA, 2011; 36COM.Talamanca.SPreport)

► Management system

Mostly Effective

In Costa Rica, two Conservation Areas (La Amistad-Caribbean Conservation Area (ACLA-C) and La Amistad-Pacific Conservation Area (ACLA-P) are those responsible for coordinating efforts to protect and manage the World Heritage Site. The Costa Rican part of the property consists of seven protected areas, with a total of 39 park rangers. Costa Rica is in the process of updating the management plans of all seven protected areas that constitute the property. The plan of the Parque Internacional La Amistad is already approved, while the plans for Chirripó and Tapantí-Macizo de la Muerte are ready but awaiting formal approval. In Panama, the governing body for natural resources is the National Environmental Authority (ANAM). The property in Panama comprises the Parque Internacional La Amistad (PILA) (Mission report, 2013). Management of the whole transboundary property is guided by an Agreement and Regulations for the Trans-boundary Protected Area Technical Committee and Trans-boundary Annual Operational Plans. (36Com.Talamanca. SPreport). The Amistad National Park Management Bi-national Executive Technical Unit (UTEB-PILA) was created in 2009. The Unit has met twice yearly since 2009 and in addition, several joint activities have taken place both in the field as well as at the level of central administration (coordination of management and reporting) (SOC report, 2013).

► Management effectiveness

Mostly Effective

Costa Rica applies annually a monitoring tool for monitoring the management effectiveness of protected areas. In the World Heritage Site, effectiveness is monitored per individual protected area, but reported in two clusters (ACLA-P and ACLA-C). In general, the monitoring of the management effectiveness of the areas resulted in high scores for planning, participation and administration and lower scores on operative activities, staff numbers and general financial situation. In Panama, an annual analysis of data on management effectiveness is conducted every 4-5 years. Since the Pacific and Caribbean side of PILA are separate administrations, the effectiveness is measured separately as well. The last report (analysing data from 2011) considered that effectiveness of both parts are "acceptable", although the Caribbean side had a higher score than the Pacific side (724 vs. 672). The Pacific side scored "satisfactory" on natural resources indicators, "acceptable" on political, legal and administrative indicators and "regular" on social and financial indicators. The Caribbean side scores "acceptable" on all indicator groups (Mission Report, 2013). A trans-boundary Strategic Environmental Evaluation is being undertaken to determine the effectiveness of management of the property on an integrated basis. Results will be available shortly. (36Com.Talamanca. SPreport).

► Implementation of Committee decisions and recommendations

Serious Concern

Committee decisions have been implemented on a selective basis. Decisions that refer to developments planned or undertaken prior to establishment of the World Heritage site (dams, ranches), have not been accepted by the States Parties, and the reasons for not accepting them have been explained in light of commitments made prior to establishment of the World Heritage site (36COM.Talamanca.SPreport). The current two dam projects in various stages of operation and construction (CHAN75 and Bonyic) were continued in spite of Decision 34 COM 7B.32 that requested halting dam construction until a SEA had been completed (SOC report, 2013).

► Boundaries

Mostly Effective

Boundaries for the Property have been agreed at the highest levels of both governments, and are fairly well understood by local communities (WDPA, 2011). In both countries the property is surrounded by several areas of different protection status as well as several formally recognized indigenous territories. This setting provides the site with an adequate buffer zone whose management is assured by the state and indigenous peoples (Mission report, 2013).

► Sustainable finance

Data Deficient

Many national and international sources have been tapped for management and research activities, but data on the degree of sustainable finance that is available for the management of the priority is deficient.

► Staff training and development

Some Concern

In Costa Rica the seven protected areas of which the site is composed have a total of 39 rangers. Most protected areas have good installations and frequent patrolling activities by park rangers. In Panama, the Site has 12 staff members, including the headquarters for the Pacific and the Caribbean areas and four field staff. This amount has remained stable during the last decade. In addition, a total of 12 rangers are provided by the companies that own the two hydropower dams, which are formally appointed to the Palo Seco Forest Reserve adjacent to the property (Mission Report, 2013).
The number of park rangers and patrolling squads is too low to properly protect and monitor the site.

► Sustainable use

Data Deficient

Some concerns have been expressed with regards to illegal use of natural resources, including illegal logging and hunting (IUCN, 2016). However,

detailed information is not available.

▶ Education and interpretation programs

Mostly Effective

Environmental education programs are carried out in each jurisdiction through collaboration with community-based organizations. (States Parties of Costa Rica and Panama, 2012).

▶ Tourism and visitation management

Mostly Effective

Visitation to the property is relatively small. Ecotourism projects have been undertaken with local communities (UNEP-WCMC, 2011).

▶ Monitoring

Data Deficient

Several monitoring programme exist; however, detailed information with regards to their effectiveness in monitoring the state of conservation of the property's Outstanding Universal Value is not available.

▶ Research

Data Deficient

Several research projects have been undertaken in the property, but data on a long-term plan for research is deficient.

Overall assessment of protection and management

Some Concern

There has been a strong opposition from local people to the dam development in the Panamanian part of the property. The World Heritage Committee has repeatedly expressed its concern over the different hydropower development projects in Panama and the absence of a Strategic Environmental Assessment for the entire property. As for the management of the property itself, legal protection and management of the component protected areas in both countries is adequate but the number of park rangers and patrolling squads is too low to properly protect and monitor the site. Information on research and

monitoring activities is lacking.

▶ **Assessment of the effectiveness of protection and management in addressing threats outside the site**
Some Concern

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Exceptionally beautiful landscapes**
Low Concern
Trend:Deteriorating

Threats related to actual development projects (hydropower dams) and potential projects (hydropower and mining) are outside of the property and landscape beauty is not directly in danger as a result of these projects (IUCN, 2013).The natural beauty of the property could be potentially threatened by climate changes, especially as increased temperatures and decreased precipitation lead to increased fire risk, and severe weather events such as storms provoke landslides, erosion, and sedimentation of water courses. (McLarney, 2010).

▶ **Remarkable vestiges of the Quaternary glacial activity**
Good
Trend:Stable

The features related to geological processes and physiography are not threatened

▶ **Ecological and evolutionary processes**
High Concern
Trend:Deteriorating

Ecological processes are significantly threatened by the direct and indirect impacts of dam construction within and around the site. There is considerable danger related to the discontinuity of river systems caused by

dam construction. This will have affected dramatically the species and processes in the dammed rivers (particularly Changuinola river and, shortly, Bonyic river) (IUCN, 2013).

► Exuberant biological diversity

High Concern
Trend:Deteriorating

The two dams on the Caribbean side of the property in Panama (CHAN75 and Bonyic) have direct negative impacts on the biodiversity of the property (fish and crustacean diversity). This is not expected to immediately lead to disappearance of these species in the property, as long as intact watersheds remain elsewhere in the property. However, the assemblage of species, possibly unique in each individual watershed, will be irreversibly affected (UNESCO, 2013). Some mitigation measures have been developed for existing hydroelectric projects; however, long-term monitoring of freshwater species will help evaluate the extent to which the mitigation measures are effective (UNESCO, 2016).

Summary of the Values

► Assessment of the current state and trend of World Heritage values

High Concern

Trend: Deteriorating

Taken as a whole, there is high concern for the site’s World Heritage Values. There is considerable danger related to the discontinuity of river systems caused by dam construction. This will have affected dramatically the species and processes in the dammed rivers. The high concern and deteriorating situation for ecological processes, biodiversity, and threatened species is offset by lesser levels of concern with respect to natural beauty and geological features.

Additional information

Benefits

Understanding Benefits

► Outdoor recreation and tourism

While current levels of visitation to the site are relatively low, their importance is increasing, especially as an additional source of income for local communities.

Summary of benefits

At present, conservation and watershed protection are the most significant benefits of the property, though in the future tourism and recreation could become significant sources of income for local communities.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	TNC, CI, WWF, CEPF, IUCN, ANCON, Mesoamerican Biological Corridor Project, Rotary International Foundation, Marden Fund and Mulago Foundation		All have advised and/or funded bi-national protection and management projects for the complex. (WDPA, 2011)

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	Cooperative work with the indigenous communities.	Approach to the Naso and Ngnobe-Boglé indigenous communities. Social conflicts should be addressed	
2	River fish monitoring	River fish monitoring through all the river basins	

REFERENCES

№	References
1	35COM.Talamanca.SOC
2	36COM.Talamanca.SPreport.
3	McLarney, W. et al. 2010. The Threat to Biodiversity and Ecosystem Function in the La Amistad World Heritage Site, Panama and Costa Rica, from Proposed Hydroelectric Dams. Asociación ANAI.
4	Mission report, 2013. R.Hofstede, A.M. Ojeda.
5	SOC Report, 2013.
6	Science Daily, July 10, 2008. Could Climate Change Impact Costa Rica? New Study Says Yes
7	WDPA, 2011. TALAMANCA RANGE-LA AMISTAD RESERVES / LA AMISTAD NATIONAL PARK COSTA RICA & PANAMA