IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 09 November 2017

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

Iguaçu National Park

SITE INFORMATION

Country:
Brazil
Inscribed in: 1986
Criteria:
(vii) (x)

Site description:
The park shares with Iguazú National Park in Argentina one of the world's largest and most impressive waterfalls, extending over some 2,700 m. It is home to many rare and endangered species of flora and fauna, among them the giant otter and the giant anteater. The clouds of spray produced by the waterfall are conducive to the growth of lush vegetation. © UNESCO

SUMMARY

2017 Conservation Outlook

Significant concern

The overall outlook for the conservation of the site’s World Heritage values is of significant concern. Threats include degradation of the natural setting of the waterfalls, hunting, biological isolation, the effects of unnatural changes in river levels because of upstream dams, including ongoing dam construction in close proximity to the site's boundaries, and potential ecosystem changes driven by climate change. In general, protection and management of the Park is relatively effective within its boundaries, especially considering the high rate of visitation While management might improve the natural setting of the falls and reduce hunting, relatively little can currently be done to reduce or mitigate threats originating outside the Park, including biological isolation, the effects of existing dams, water-borne pollutants from agriculture or climate change.

Current state and trend of VALUES

High Concern
Trend: Stable

The natural beauty of the Iguaçu waterfalls is being negatively impacted from unnatural changes in river levels and tourism. Studies tend to indicate that biodiversity is being conserved with a few notable exceptions. Concern remains with regard to declining jaguar populations, unnatural alterations in water levels of the Upper Iguaçu River, biological isolation, and potential habitat shifts caused by climate change.

Overall THREATS

Very High Threat

Threats from biological isolation, tourism infrastructure and activities and dams on the upper Iguazú River, including the confirmed ongoing construction of the Baixo Iguaçu hydroelectric project without prior assessment of its impacts on the

Outstanding Universal Value of the property, as well as the water-borne pollutants from agricultural systems, outside the property, constitute a very high level of threat to the Property's values. Potential reopening of the "Estrada do Colono" remains a very high potential threat. As of 2016, the road remained closed and the Brazilian government expressed its opposition to reopening the road. However, until it is confirmed that the proposed Bill which would provide a legal basis for reopening of the road has been fully rejected, the threat remains very high.

Overall PROTECTION and MANAGEMENT

Mostly Effective

In general, protection and management of the Park is relatively effective within its boundaries, especially considering the high rate of visitation, but the impacts of threats originating outside the site, including biological isolation due to agriculture, livestock grazing, roads and other infrastructure and upstream dams are considerable.
A reviewed and updated Management Plan is being prepared.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► One of the largest and most impressive waterfalls in the world

Criterion:(vii)

The park shares with Iguazu National Park in Argentina one of the world's largest and most impressive waterfalls comprised of a system of numerous cascades and rapids almost three kilometres wide within the setting of a lush and diverse sub-tropical broadleaf forest. The permanent spray from the cataracts forms impressive clouds that soak the forested islands and river banks resulting in a visually stunning and constantly changing interface between land and water (Draft SoOUV, 2011; Evaluation Report, 1986, SoOUV (Iguazú), 2013)

► Exceptional biodiversity

Criterion:(x)

Iguaçu National Park, together with the contiguous World Heritage property of Iguazú National Park in Argentina and adjacent protected areas, forms the largest single protected remnant of the Paranaense subtropical rainforest, which belongs to the Interior Atlantic Forest. The rich biodiversity includes over 2000 species of plants, 400 species of birds and possibly as many as 80 mammals, as well as countless invertebrate species. Rare charismatic species include the broad-snouted Caiman, Giant Anteater, Ocelot, Jaguar, Paraná-pine, Juçara-palm and Peroba. Next to the waterfalls along the river and on the islands a highly specialized ecosystem full of life has evolved in response to the extreme conditions of the tumbling water and soaking

humidity (IUCN Evaluation Report, 1986) (Draft SoOUV, 2011) (SoOUV (Iguazú, 2013).

Assessment information

Threats

Current Threats

Very High Threat

Threats from biological isolation, tourism infrastructure and activities and dams on the upper Iguazú River, including the ongoing construction of the Baixo Iguaçu hydroelectric, constitute a very high level of threat to the Property's values.
Water-borne pollutants from agricultural systems, outside the property, that include nutrients, toxic chemicals and/or sediments, also constitute a very high level of threat to the property's values and the exact impacts still need to be evaluated.

► Tourism/ visitors/ recreation

High Threat
Inside site, scattered(5-15%)

Visitor numbers have increased from 645.000 in 2002 to 1,550.000 in 2013 and 2014. On peak visiting days, the pressure on the Falls viewing area becomes intense, e.g. on national holidays, with up to 13.000 visitors a day recorded (IUCN, 2015).

► Dams/ Water Management or Use

Very High Threat
Outside site

These dams, though located outside the property, have considerably altered the rate and periodicity of water flow that feeds the waterfalls. On weekends, when the demand for electricity is low, the dams are closed causing the

waterfall to have less water during the beginning of the week. The decreased flow damages the aesthetics of the waterfalls. The unnatural fluctuation in water levels and rates of flow also affect riverine flora and fauna, though the specifics are unknown (IUCN and UNESCO, 2008).

► Livestock Farming / Grazing

Very High Threat
Outside site

The Park is an island in a sea of ranching and farming which comes right up to the Park’s boundaries, limiting connectivity within the Atlantic Forest Biome in Brazil, primary by low forest cover along Iguaçu river outside the park. Large cats from the Park that prey on livestock and peccaries that consume crops outside the Park are eliminated. Connectivity to the Atlantic Forests remaining in Argentina is limited by the area known as the “Argentine Peninsula Bottleneck” (IUCN and UNESCO, 2008).

► Tourism/ visitors/ recreation

Low Threat
Inside site, scattered(5-15%)

Tourism infrastructure has led to an impairment of natural aesthetic values. For visitors the most prominent and direct intrusions of infrastructure on the visual integrity of the waterfalls are: i) the Sheraton Iguazú Hotel, the old unused walkways to the Garganta del Diablo (Argentina) and the Porto Canoas Restaurant and Souvenir Shop located at the edge of the falls; the Naipi Souvenir Shop and Elevator, from the lip of the canyon to the elevated walkways to the Santa María falls; and the Hotel das Cataratas (Brazil) (IUCN and UNESCO, 2008). Visitor facilities, including roads and trails, the visitor reception center, kiosks, administrative offices and research center have all also had an impact on vegetation and wildlife in the waterfall area of the Park (IUCN and UNESCO, 2008).

► Agricultural effluents

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

The northern boundary of the property is clearly marked by the limit of the

forest and the start of intensive farming. The streams that run from the agricultural zone into the property and down to the river Iguaçu carry heavy sediments. What exactly the sediment carries, in terms of agricultural pollutants (pesticides and nitrates) is a concern. The sediment load of those streams carrying the agricultural run-off is greater than that of the tributary whose entire catchment areas lies in the eastern part of the National Park (IUCN, 2015).

► Hunting (commercial/subsistence)

High Threat
Inside site, widespread(15-50%)

The protection afforded by the Park has maintained the populations of wildlife that are attractive to hunters. The Park has a very active program to intercept and detain hunters. While this has had a deterrent effect, hunters still venture into the Park, though at great risk. The population of Jaguar remains low with about 20 individuals estimated within the property and 120-150 in broader region. White-lipped peccary, which is among the main preys of the jaguar, presents restrict occupation in the park, and is probably suffering from high hunting pressure, since the region where they are present presents very low protection. Ensuring connectivity of protected areas in the region is crucial for conservation of large species, such as jaguar, cougar, tapir and white-lipped peccary. Joint patrolling activities with the neighbouring Iguazu National Park are also essential to ensure better law enforcement and protection of endangered species across their hábitat (IUCN, 2015).

► Dams/ Water Management or Use

Very High Threat
Outside site

The new Environmental Installation License for the Baixo Iguaçu Hydroelectric Power Plant was issued on 25 August 2015 by the Government of the State of Paraná and by ICMBio through the Authorization No. 01/2015, both contain the obligations that must be fulfilled. From an impact point of view, the greatest risk would be to exacerbate the effects of varying water flow resulting from dams upstream of the site. However, the proposed operating system would try to reduce the fluctuations. (State Party of Brazil, 2016).

However, it remains unclear whether a specific assessment of all potential impacts of the construction and operation of the dam, specifically on the OUV and integrity of the property and of the adjoining Iguazú National Park in Argentina, has been conducted, as recommended by the IUCN mission (UNESCO, 2016).
In its most recent Decision the World Heritage Committee requested the State Party of Brazil to develop an additional assessment of such potential impacts (World Heritage Commi

► Habitat Shifting/ Alteration

High Threat
Inside site, throughout(>50%)
Outside site

The PNI Management Plan reports an increase in rainfalls and temperatures especially during spring and winter, as well as extraordinary floods. Affectation of sensitive species like the amphibians and changes in the forest composition and physiognomy are expected (APN, 2017)

Potential Threats

Very High Threat

In 1999, the Committee inscribed the property onto the List of World Heritage in Danger due to the construction of the unauthorized Estrada do Colono (or Colono Road) road through the centre of the property. Swift action on the part of the State Party resulted in the cessation of road construction activities and the property was removed from the List of World Heritage in Danger in 2001. Pressure remains from local interests to re-establish this road. As of 2016, the road remained closed and the Brazilian government expressed its opposition to reopening the road. However, until it is confirmed that the proposed Bill which would provide a legal basis for reopening of the road has been fully rejected, the threat remains very high.

► Roads/ Railroads

Very High Threat
Inside site, widespread(15-50%)

In 1999, the Committee inscribed the property onto the List of World Heritage in Danger due to the construction of the unauthorized Estrada do

Colono (or Colono Road) road through the centre of the property. Swift action on the part of the State Party resulted in the cessation of road construction activities and the property was removed from the List of World Heritage in Danger in 2001. Pressure remains from local interests to re-establish this road (UNESCO, 2012). While the Brazilian government is opposed to re-opening the road, a proposed Bill 7123/2010 is awaiting a decision by Senate after already having been approved by the House of Representatives. This bill would provide a legal foundation for road construction in federal protected areas by introducing the possibility for “park roads”. The re-opening of the Estrada do Colono would increase disturbance and open the area to poaching and illegal harvesting (UNESCO, 2014).
As of 2016, The Colono Road remains closed and the Brazilian government expressed its opposition to the project, which is awaiting assessment by the Senate. (State Party of Brazil, 2016).

The most recent World Heritage Committee Decision urged the State Party to ensure that the proposed Bill 61/2013 would not get approved, and also noted that failure to resolve this issue could create conditions to re-inscribe the property on the List of World Heritage in Danger (World Heritage Committee, 2016).

Protection and management

Assessing Protection and Management

► Relationships with local people

Mostly Effective

Relationships with local people have been influenced by various issues. The tourism industry is continually promoting higher levels of tourism while the Park Administration struggles to deal adequately with the current high visitor load (around 1,55 million visitors in 2013 and 2014). Efforts to distribute visitation more widely to the communities bordering the Park are appreciated by their residents. Ranchers bordering the Park do not appreciate predation of livestock by jaguars and pumas coming out of the Park, and enter into conflict with the Park Administration when they shoot the cats (IUCN and UNESCO, 2015; IUCN, 2015).

Activities to make neighbour communities aware of the importance of the National Park and bring them closer to its management and conservation are being developed. The main provider of visitor support services to the National Park has been seeking commercial partnership with local farmers to provide goods for the food facilities inside the park (State Party of Brazil, 2016).

► Legal framework

Mostly Effective

The protected areas of the Property are governed by the national protected area legislation, in particular the federal law “On environmental protection” dating back to 1991 but updated in 2002 and federal law “On specially protected natural areas” of 1995. The first law defines standards for environmental quality (IUCN and UNESCO, 2008).

► Enforcement

Mostly Effective

Enforcement activities, as well as joint patrolling with the neighbouring Iguazu National Park are effective (IUCN, 2015); however, illegal activities, including illegal hunting, remain a threat to the site’s values.

► Integration into regional and national planning systems

Some Concern

Nationally the Park is increasingly integrated into planning, especially with respect to proposals for additional dam construction on the Upper Iguazú River. The greatest concern is biological isolation of the Park because agricultural land uses are practiced right up to the Park boundary. Connections to the Atlantic Forest Biome in Argentina are constricted by the “Argentine Peninsula Bottleneck” which is being converted to agriculture (IUCN and UNESCO, 2008).
Transboundary cooperation with Argentinean Iguazú National Park have been carried out in a cooperative, coordinated and confluent manner. A permanent dialogue channel between the management and staff of the two properties has satisfied the needs of both sides (State Party of Brazil, 2016). This cooperation has also been recently formalized.
Future management may have to develop longer-term scenarios and to

strike a balance between conservation and other land and resource use so as to maintain or restore the connectivity of the landscape. This will require working with other sectors and local communities. Eventually, the property should be buffered by adequate and harmonized land use planning in the adjacent areas in Argentina, Brazil and Paraguay (WHC, 2016A).

► Management system

Mostly Effective

The Property is managed by the Chico Mendes Institute, a semi-autonomous body of the Environment Ministry (IUCN and UNESCO, 2008).
The review and update of the Iguaçu National Park management plan began in August 2015, it will cover the topics suggested in Decision 38 COM 7B.82 and is being undertaken in cooperation with Argentinean Iguazú National Park. The estimated completion date is July 2017 (State Party of Brazil, 2016).

► Management effectiveness

Mostly Effective

Management is considered effective overall, especially given the very high level of visitation (IUCN and UNESCO, 2008). The park has highly professional and motivated staff (IUCN, 2015).

► Implementation of Committee decisions and recommendations

Mostly Effective

While the State Party has attempted to implement Committee decisions and recommendations, progress on some measures has been slow. .
A new update is expected from the State Part of Brazil by 1 December 2017 which will provide information on the implementation of the most recent requests and recommendations made by the World Heritage Committee (2017).

► Boundaries

Mostly Effective

Boundaries are clearly defined and, for the most part, respected.

▶ Sustainable finance

Data Deficient

The Park attracted 1,55 million visitors in 2013 and 2014, and some of those funds are used to finance management. Specific details are, however, unavailable.

▶ Staff training and development

Some Concern

Staffing of the Property is provided by technical staff from the Chico Mendes Institute; Green Rangers from Paraná State Police Force; and outsourced administrative, maintenance, and security personnel. A previous contract with the National Forest Police has lapsed, thereby seriously undercutting the Property’s resource protection efforts (IUCN and UNESCO, 2008).

▶ Sustainable use

Data Deficient

Data deficient

▶ Education and interpretation programs

Highly Effective

Regular environmental education programs, supported by the Park Administration, are in effect in communities along the Park boundary. Park School Program supports educators in teaching about the Park. (ICMBio, 2012)

▶ Tourism and visitation management

Some Concern

Tourism management is dominated by concessionaires that run all facilities and programs in the waterfall area. Current levels of visitation exceed the capacity of current Park infrastructure. Current marketing efforts to increase visitation even further are thus counterproductive. The Park has a sophisticated interpretation program that includes a visitor center; interpretive signs and brochures; and experienced, certified, and university educated guides. A recent study indicates, however, that interpretive panels

are seldom read or understood (IUCN and UNESCO, 2008). Visitor numbers have been increasing significantly and this will require additional management responses (IUCN, 2015).

▶ Monitoring

Highly Effective

The Park's research station carries out regular monitoring activities that are actively used as inputs to management decisions. (IUCN and UNESCO, 2008).

▶ Research

Highly Effective

Research in the Park has for many years been encouraged by the provision of research facilities for guest researchers, both national and foreign. This has resulted in an ever expanding body of research literature relevant to the Park and its resources. (ICMBio, 2012;(IUCN and UNESCO, 2008).
Since 2008, a research project on felines, main Panthera onca, has been ongoing. The overall objective is to assist in the management of the conservation unit, as well as to contribute to the preservation of a viable population of jaguars (State Party of Brazil, 2016).

Overall assessment of protection and management

Mostly Effective

In general, protection and management of the Park is relatively effective within its boundaries, especially considering the high rate of visitation, but the impacts of threats originating outside the site, including biological isolation due to agriculture, livestock grazing, roads and other infrastructure and upstream dams are considerable.
A reviewed and updated Management Plan is being prepared.

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

Serious Concern

The Park Administration's management programs seek to minimize external impacts on the Park, but the combined effects of threats located outside the

Park, including upstream dams and biological isolation due to agriculture, livestock grazing, roads, water pollutants from agriculture upstream and other infrastructure are difficult to address.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► One of the largest and most impressive waterfalls in the world

High Concern
Trend:Stable

Major threats to the exceptional natural beauty of Iguaçu Falls include (1) low water volumes during the beginning of the week because of the weekend closure of the Salto Caixias dam on the upper Iguaçu River; 2) tourism infrastructure that directly impacts the natural setting; 3) adventure sport water craft on the lower Iguaçu River that impact the natural setting; 4) building of the Baixo Iguaçu new dam in the upper Iguaçu river. Studies are underway to document the daily changes in water levels and flow, and their effect on the waterfalls and riverine biota, and will provide the data needed to improve the management of water levels.
There is increasing recognition that poorly located tourism infrastructure has impaired the visual integrity of the natural setting, and the development of an updated management plan for the Park is being used as an opportunity to address this critical issue. All of these are positive trends that, if carried to a successful conclusion, should improve the visual integrity of the setting, thereby maintaining the exceptional natural beauty of the Falls. (Mission report, 2008; State Party report 2010).

► Exceptional biodiversity

Low Concern
Trend:Stable

Recent and ongoing research tends to indicate that, in general, the biological diversity of the Park is being maintained. However, monitoring data on jaguars indicate decreasing numbers in recent years, and significant

poaching in recent years by ranchers concerned with the killing of their livestock.

There is serious concern that 1) the riverine biota of the Upper Iguazú River may be suffering negative impacts due to the alteration of river levels caused by the Salto Caxias Dam; 2) deforestation and agricultural development along the eastern boundary of the Argentinean Park may reduce genetic flows between Argentinean and Brazilian protected areas in this region; and 3) climate change in the region is causing increased rainfall that could potentially cause habitat shifts within the Park. However, in each of these cases there is not enough research to corroborate these hypotheses. (Mission report, 2008; State Party report 2010; State Party (Argentina) report, 2012).

The white-lipped peccary is the most endangered ungulate in the Neotropics, in the mid- 1990s undergone a large reduction in range size and experienced the local extinction of this species from the Iguaçu National Park, confirmed by surveys conducted along the 2000s. In 2016, after 20 years of previous reports, records of white-lipped peccary herds were reported, indicating a possible population recovery probably resulting from emigration. To conserve effectively their population and, consequently, restore its ecological role, urgent practical conservation measures are necessary (Brocardo, C. et al., 2016).

Summary of the Values

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

High Concern

Trend: Stable

The natural beauty of the Iguaçu waterfalls is being negatively impacted from unnatural changes in river levels and tourism. Studies tend to indicate that biodiversity is being conserved with a few notable exceptions. Concern remains with regard to declining jaguar populations, unnatural alterations in water levels of the Upper Iguaçu River, biological isolation, and potential habitat shifts caused by climate change.

Additional information

Benefits

Understanding Benefits

► History and tradition, Sacred natural sites or landscapes

The waterfalls of Iguaçu National Park are one of the major tourist attractions in South America and attract more than 1.55 million national and international visitors each year, which results in a major tourist industry with its many multiplier effects throughout the economy.

Upstream dams are affecting the waterfalls integrity

► Water provision (importance for water quantity and quality)

Water provision and regulation services downstream represent an important benefit

Pollutants from agricultural systems that include nutrients, toxic chemicals including pesticides and nitrates and/or sediments, including the effects of these pollutants on the site and down to the river Iguaçu, are of concern.

Summary of benefits

The nature conservation, landscape beauty and tourism values of Iguaçu National Park are enormous and are well known throughout the world. It is truly a natural icon on a global scale.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	WWF Brazil, WWF Paraguay and Fundación Vida Silvestre Argentina (WWF associate in Argentina)		Ecoregional Action Plan (2014 – 2018) established a vision that states that by 2020, the Upper Parana and Serra do Mar ecoregions will maintain landscapes that guarantee the conservation of biodiversity, functioning corridors, and environmental services, providing equitable economic and social development for local people.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	Water-borne agriculture pollutants assessment	Assessment of the water-borne agricultural pollutants and its impacts on the National Park values	

REFERENCES

№	References
1	Brocardo, C. et al. (2016). White-lipped peccaries are recorded at Iguaçu National Park after 20 years. In: Mammalia-2016-049.
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4	State Party of Brazil (2016). Report of the State Party to the World Heritage Committee on the state of conservation of Iguaçu National Park (Brazil).
5	UNESCO (2012). Report on the State of Conservation of Iguaçu National Park (Brazil).
6	UNESCO (2014). Report on the State of Conservation of Iguaçu National Park (Brazil).
7	UNESCO (2016). Report on the State of Conservation Report of Iguaçu National Park (Brazil).
8	World Heritage Committee (2016). Decision 40 COM 7B.70. Iguaçu National Park (Brazil).
9	World Heritage Committee (2016A). Decision 40 COM 8E. Iguaçu National Park Statement of Outstanding Universal Value (Brazil).