IUCN Conservation Outlook Assessment 2017 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Mana Pools National Park, Sapi and Chewore Safari Areas. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Mana Pools National Park, Sapi and Chewore Safari Areas

SITE INFORMATION

Country:
Zimbabwe
Inscribed in: 1984
Criteria:
(vii) (ix) (x)

Site description:
On the banks of the Zambezi, great cliffs overhang the river and the floodplains. The area is home to a remarkable concentration of wild animals, including elephants, buffalo, leopards and cheetahs. An important concentration of Nile crocodiles is also be found in the area. © UNESCO

SUMMARY

2017 Conservation Outlook

Significant concern

This vast wilderness in the middle Zambezi Valley has maintained most of its inherent values through its remote location and the low level of competing land uses. It is nevertheless undergoing significant long-term change as a result of the upstream construction of the Kariba Dam, affecting the flooding regime and annual cycle of alluvial deposition. Although this occurred half a century ago (before the site's world heritage listing) the resulting ecological change is likely to persist for decades, or perhaps centuries, to come. Meanwhile, the potential for a third major hydroelectric facility on the Zambezi at Mupata Gorge, which would flood the core of the site and reduce its wildlife carrying capacity by half, is a very real long-term threat. More immediate, but less significant in scale, are the threats arising from oil and mineral exploitation in the upstream catchment and poorly managed tourism development on both banks of the river While protection and management appears to be generally adequate for such a large remote area with few immediate threats, it is not possible to fully assess its effectiveness. This is because the site lacks effective monitoring and therefore there is little information available on the state of the site's values. There is a need for increased vigilance to ensure greater trans-boundary cooperation in the design and siting of tourism infrastructure on both banks of the river, and monitor, evaluate and mitigate the effects of possible future mining activities within the Zambezi catchment.

Current state and trend of VALUES

Low Concern
Trend: Stable

Most of the site's values have been maintained, although the ecology of the riverbank and floodplain communities is undergoing gradual long-term change resulting from the (pre-inscription) construction of Kariba Dam 110km upstream which permanently altered the siltation and flooding regime. One key element of

critical concern is the loss of black rhino as the property used to be one of the species' few remaining strongholds until the late 1980s.

Overall THREATS

High Threat

The site currently faces few major direct threats. Poaching led to the eradication of black rhino in the early years following inscription, and remains a real threat preventing re-introduction of this key endangered species. Alteration to the flooding regime caused by the Kariba Dam will continue to exert long-term influence on the area's ecology for many decades to come. Other low-level threats include inappropriate tourism developments, the occurrence of alien invasive species and illegal fishing. The potential for hydroelectric power generation from a downstream site in the Mupata Gorge presents the greatest long-term threat, as it would involve flooding much of the valley's key wildlife habitat and reducing its carrying capacity by half. Other potential threats include mining and other development activities within the site itself and in adjacent areas that would impinge on the values of the site.

Overall PROTECTION and MANAGEMENT

Some Concern

While protection and management appears to be generally adequate for such a large remote area with few immediate threats, it is not possible to fully assess its effectiveness. This is because the site lacks effective monitoring and therefore there is little information available on the state of the site's values. There is a need for increased vigilance to ensure greater trans-boundary cooperation in the design and siting of tourism infrastructure on both banks of the river, and to monitor, evaluate and mitigate the effects of possible future mining activities within the Zambezi catchment, as well as to mitigate poaching and other illegal activities.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Diverse bird fauna**
Criterion:(x)

More than 450 species of birds have been recorded at the site (UNEP-WCMC), with 90 species of waterbirds and 52 raptors recorded in the wider Middle Zambezi Valley Important Bird Area (Birdlife, 2012)

▶ **Important populations of a diversity of large mammals and other fauna and threatened species**
Criterion:(x)

Because of its size and the diversity of its habitats, the site supports large and sustainable populations of a diverse mammalian fauna, an important population of Nile crocodile, and diverse assemblages of other fauna (many of which remain undocumented). The site supports important populations of threatened large mammals including an estimated 12,500 elephants, 3,000 hippopotamus, more than 260 lion, cheetah and wild dog. Near-threatened species include leopard, brown hyaena, and several species of birds, including more than 1% of the world’s Lilian’s Lovebirds (Agapornis lilianae) and an important population of African skimmers (Rynchops flavirostris) on the river sandbanks

▶ **Black rhino refuge**
Criterion:(x)

At the time of inscription, there were 500 black rhino, one of Africa’s largest

populations of this endangered species (World Heritage Committee, 2011). There are currently no rhino but the area remains a key rhino habitat for possible future reintroduction under suitable conditions.

▶ **Seasonal movements of large mammals**
Criterion:(ix)

More than 10,000 elephants (Dunham et al., 2015) and a similar number of buffalo move seasonally between the river and the surrounding deciduous woodlands, up to the top of the escarpment some 50 km away, all within the World Heritage property

▶ **Riverine sandbank ecosystems**
Criterion:(ix)

The 60 km2 of alluvium within Mana Pools – sandbanks, islands, floodplains and old river channels - provide an exceptional substrate for ecological succession, driven by the changing course of the river and natural climatic and ecological factors (World Heritage Committee, 2011)

▶ **Spectacular animal congregations**
Criterion:(vii)

Spectacular dry season congregations of around 20,000 large mammals, notably elephants, buffalo, waterbuck, zebra and sable antelope, in the evergreen gallery forests and riverside communities along the banks of the Zambezi represent an exceptional natural phenomenon dependent on the maintenance of dispersal areas throughout the 6,766 km2 of the World Heritage property and beyond (World Heritage Committee, 2011).

Assessment information

Threats

Current Threats

Low Threat

Long-term ecological change in the core riverine habitats resulting from a change in the seasonal flooding regime following construction of the Kariba Dam is probably the main driver of ecological change affecting the site. Poaching led to the eradication of black rhino in the early years following inscription, and remains a real threat preventing re-introduction of this key endangered species. Other low-level threats include inappropriate tourism developments, the occurrence of alien invasive species and illegal fishing

► Invasive Non-Native/ Alien Species

Low Threat
Inside site, widespread(15-50%)
Outside site

The alien floating plant, water hyacinth (Eichhornia crassipes) is present in the Zambezi and the old channels that make up the four ‘Mana Pools’.

► Hunting (commercial/subsistence)

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

Well-organised commercial poaching of black rhino drove the species to local extinction between 1984 and 1994, and is considered to be a continuing threat preventing efforts to re-introduce the species at present. Elephant poaching is a major threat, but poaching of other species, for bushmeat and/or trophies is not considered to be a major threat at present (IUCN and UNESCO, 2011)

► Fishing / Harvesting Aquatic Resources

Low Threat
Inside site

Small scale fishing is carried out, limited to rod-and-line sport fishing on the Zimbabwe side but including use of illegal nets by Zambian fishermen.

► Tourism/ visitors/ recreation

Low Threat
Inside site
Outside site

Escorted walking and canoeing trips through prime wildlife habitat are a major draw for tourism. Increased vehicular traffic and operator game drives are potentially threatening to the site's wilderness values.

► Dams/ Water Management or Use

Data Deficient
Outside site

The construction of Kariba Dam in 1958 brought to an end the perpetual seasonal flooding and associated silt deposition in the wide, relatively slow-flowing section of the middle Zambezi between Kariba and Mupata Gorge. This is inevitably having major long-term implications for the ecology of the riverbanks, islands and floodplains and associated communities of plants and animals, the nature and extent of which will never be known as there are no comparable data for periods before and after construction of the dam

► Hunting (commercial/subsistence)

Very Low Threat
Inside site, extent of threat not known
Outside site

Commercial sport hunting has been suspended in Sapi Safari Area. Hunting in the Chewore Safari Area is relatively well regulated.

► Tourism/ Recreation Areas

High Threat
Outside site

To date tourism developments at the site have focused on low density, high quality tourism with small-scale tented camps and eco-lodge facilities well concealed away from the river frontage. On the Zimbabwean side, new development sites have been identified and auctioned, and are yet to undergo an Environmental Impact Assessment. The Mana Pools Lodge at Vine Camp has been constructed and the State Party stated that

environmental safeguards are being implemented in its 2016 report (Zimbabwe, 2016), although the effectiveness of these measures require effective monitoring (UNESCO, 2016).

Potential Threats

High Threat

As the Zimbabwean economy and political climate become progressively more conducive to foreign investment and tourism begins to recover, there are a number of potentially major threats to the site. The most serious of these would be development of a hydroelectric facility in the Mupata Gorge with the associated loss of wildlife habitat. Oil and mineral exploration and development are real threats, with the associated pollution of the Zambezi. Growth in tourism will bring pressures to allow bigger and more intrusive facilities and ultimately exceed the comfortable tourism carrying capacity of the site.

► Crops

Very Low Threat
Outside site

There are reports of a large-scale irrigated agricultural development project (the Chirundu Project) proposed in 2005 along the south bank of the Zambezi between the World Heritage site and the border town of Chirundu (UNEP-WCMC, 2012). However, no development has occurred since then.

► Dams/ Water Management or Use

Low Threat
Outside site

The ecological heart of the site, the rich floodplain, has been threatened by a hydroelectric scheme proposed for Mupata Gorge which would flood 850 km2 of the Zambezi Valley and halve the wildlife carrying capacity of the world heritage site (UNEP-WCMC, 2012). Until now only feasibility studies have been carried out and while there is currently no intention to develop the project it remains a potential threat because of severe electricity shortages in the region.

► Hunting (commercial/subsistence)

Low Threat
Inside site
Outside site

Given the ease of access afforded to the site by the main Harare-Lusaka road, and the potential size of the market, it must be considered a possibility that commercial hunting of wildlife for bushmeat could occur (as it has in Kafue National Park, Zambia) Commercial hunting is occurring increasingly within communities situated south of the site.

► Oil/ Gas exploration/development

High Threat
Outside site

Oil prospecting within the world heritage area was proposed in 1989 (UNEP-WCMC, 2012), but never carried out. On the Zambian side of the river, opposite the World Heritage site, prospecting in the Lower Zambezi NP and the adjacent Chiawa Game Management Area have been undertaken in the past (2006-8) with significant discoveries of exploitable gold and copper. However further prospecting and exploitation in these two areas has not happened in recent years. Permits have been issued for Uranium mining developments 100-200 km upstream from Mana Pools, which could result in pollution of the property (IUCN and UNESCO, 2011).

Protection and management

Assessing Protection and Management

► Relationships with local people

Data Deficient

There is no information available, but much of the property adjoins other protected areas which are devoid of people and serve as a buffer zone (except for areas to the south).

► Legal framework

Data Deficient

Administered under the Parks and Wildlife Act Chapeter 20:14, but no assessment of management effectiveness. Also the SADC Protocol on Wildlife and Law Enforcement.

► Enforcement

Some Concern

Wildlife law enforcement is currently ongoing but there are serious resource constraints and low human resources to be effectively implemented. Joint patrols are being undertaken with the Zimbabwe Republic Police. The Anti-poaching Strategy (2015) is being implemented, as is the Zimbabwe Elephant Management Plan (2015-2020).

► Integration into regional and national planning systems

Mostly Effective

An opportunity exists to establish a major trans-frontier World Heritage property incorporating protected areas on the Zambian side of the river and providing a higher degree of protection and ecological resilience to the entire ecosystem through the SADC Protocol on Wildlife and Law Enforcement. Coordination between management authorities and the States Parties of Zimbabwe and Zambia has been strengthened and there is an opportunity to establish a transboundary World Heritage site.

► Management system

Some Concern

With effect from October 2017, the Zimbabwe Parks and Wildlife Management Authority has initiated a program to develop a new General Management Plan for the entire World Heritage property. This has been one of the outstanding actions from the Committee Decisions due to lack of funding. It is of great importance that this GMP, is developed and implemented.

► Management effectiveness

Some Concern

The previous Management Plan referred to unsatisfactory housing and communications systems at Nyamepi Park Headquaters (IUCN and UNESCO, 2011). Communications have slightly improved in recent years and new equipment purchased since 2016, although it is still inadequate. Infrastructure has been developed e.g. the ZAVARU ranger base at Nyakasikana Gate through assistance from various NGOs. Stakeholders in the area assist with fuel and vehicles for deployments. The African Wildlife Foundation is supporting anti-poaching efforts through provision of equipment and training, and have recruited a Technical Advisor to coordinate anti-poaching efforts in the Lower Zambezi Valley.
A recent assessment of management effectiveness under the GEF 6 Project established the following METT scores: Mana Pools NP - 57; Sapi SA - 41; Chewore SA - 48.

► Implementation of Committee decisions and recommendations

Some Concern

Since the last Outlook assessment, the property has been examined once by the World Heritage Committee at its 40th session in 2016, based on the update submitted by the State Party of Zimbabwe in 2015. In response to the 2014 Committee requests, the State Party reported that dialogue and collaboration with the State Party of Zambia has been initiated regarding the potential trans-frontier conservation area, that the anti-poaching strategy an action plan for the property and an elephant management plan for the Zambezi Valley has been developed. One of the long-standing key request made by the Committee is to develop a management plan for the whole of the property. There is also a request to the State Party of Zambia to ensure any potential impacts of a copper mine in Lower Zambezi National Park, which lies upstream of the property, is carefully assessed. The next updated report has been requested by the Committee to be submitted by 1 December 2017.

► Boundaries

Some Concern

Boundaries are defined by reference to map grid references (to within 100 metres) and physical features in the Land Tenure Repeal Act 1979, quoted in the 1996 draft management plan. Most of the boundary is not physically demarcated on the ground, but some sections follow roads and others follow ecological (vegetation community) boundaries (1996 draft MP). Updating of the maps and GIS data is now ongoing as of October 2017, through the new General Management Plan for the World Heritage site covering the whole area.

► Sustainable finance

Data Deficient

Data deficient. High value sport hunting is carried out in Chewore Safari Area and tourism statistics from the early 1990s (showing 10-12,000 visitors annually) from Mana Pools suggest that sustainable finance should be possible if revenue is retained and re-invested in site management.

► Staff training and development

Mostly Effective

Various ranger training workshops have been conducted recently, which include basic intermediate and advanced training. The rangers have also undergone training on SMART. Officers have additionally been undertaking various staff development programmes including the use of new technologies through the Zimbabwe Parks and Wildlife Authority.

► Sustainable use

Mostly Effective

All sport hunting in Zimbabwe is undertaken through a strictly regulated and scientific based quota setting process by the Zimbabwe Parks and Wildlife Management Authority. Quotas are set in consultation with stakeholders, based on species information including the following:

- Population Estimates
- Distribution Patterns
- Habitat quality
- Trophy quality

- Hunting Success rate
- Poaching Statistics
- Natural Mortalities
- Management systems in place
- Species Home Ranges
- Size of hunting area
- CITES limits
- Problem animal control
- Diseases
- Translocations

The above information are reviewed by the Scientific Authority of the Zimbabwe Parks and Wildlife Management Authority through a rigorous and scientific, adaptive management process in line with international best practices and guidelines.

Quotas are adjusted according to the scientific recommended maximum sustainable off-take for a particular species.
Factors such as CITES annual export quota limits, export data, trophy quality trends, stricter domestic measures by importing countries are also considered before quotas are finally allocated to any property.
Ground-truthing and assessments are also conducted by ecologists.

► Education and interpretation programs

Some Concern

There is a limited number of education programmes in particular for target groups such as youth, women and other vulnerable groups among local communities.

► Tourism and visitation management

Data Deficient

Although tourism numbers to Mana Pools National Parks was relatively stable at around 10,000 per annum in the late 1990s, numbers subsequently dropped due to political and economic instability. In 2014, the total number of tourists to Mana Pools NP was 8,753, and 7,716 tourists in 2015 (Zimbabwe Tourism Authority, 2015; 2016). it is unclear how well tourism

management is implemented.

► Monitoring

Data Deficient

Zimbabwe conducted a national aerial survey of elephants and other large mammals in 2014 (Dunham et al. 2015). It is unclear when the next survey will be undertaken, and whether a continuous monitoring system is in place.

► Research

Some Concern

Currently there is ongoing monitoring in the protected area including setting up of vegetation exclusion zones as experimental sites, collaring of elephant bulls as well as research and monitoring of the African wild dog. Resource constraints however remain a challenge and further research is required. The following have been identified as possible areas for future research programmes:
1. Vegetation cover changes:
1.1 Structural changes in woodland cover over time.
1.2 Drivers of mistletoe infection distribution on key woody species and effectiveness of current control measures.
1.3 Impacts of fire management in particular controlled block burning on the escarpment and vegetation changes and structure on the flood plain.
1.4 Encroachment of invasive species, for example encroachment of Croton megalobotrys on the Mana Pools flood plain.

2. Climate change:
2.1 Rainfall pattern changes and species distribution.
2.2 Impact of introduction of game water management to reduce huge wildlife concentrations on the valley floor in the dry season (compare with experiments on the Chobe in Botswana).

3. Species specific studies:
3.1 Analysis of aerial survey results, migration hypothesis, analysis of various forms of elephant mortalities (Poaching, PAC, Natural, Hunting etc).
3.2 Predator studies: Interactions between lion and hyena.
3.3 Studies on rare antelope distribution patterns (Sable, Eland, Nyala).

3.4 Dynamics of possible re-introduction of black rhino.

Overall assessment of protection and management

Some Concern

While protection and management appears to be generally adequate for such a large remote area with few immediate threats, it is not possible to fully assess its effectiveness. This is because the site lacks effective monitoring and therefore there is little information available on the state of the site's values. There is a need for increased vigilance to ensure greater trans-boundary cooperation in the design and siting of tourism infrastructure on both banks of the river, and to monitor, evaluate and mitigate the effects of possible future mining activities within the Zambezi catchment, as well as to mitigate poaching and other illegal activities.

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

Some Concern

The main potential threats from outside the site emanate from across the international border in Zambia, where inappropriate riverbank tourism developments and upstream mining could occur. At present there is no formal mechanism for cooperation over joint management decisions and operations. Poaching and illegal wildlife trade are major threats that have led to serious decline in population estimates of elephants. Legal and illegal mining both inside and outside of the property also pose real threats to the property.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Diverse bird fauna

Good
Trend:Stable

The rich bird fauna remains essentially intact and the diversity of habitats is being maintained.

▶ Important populations of a diversity of large mammals and other fauna and threatened species

Data Deficient
Trend:Data Deficient

Elephant populations (around 10,000 individuals) seem to have been stable since 1983, while hippo populations have shown a 1.5-4.5% increase since 1968 (mission report 2011). Although periodic wildlife censuses are carried out (the latest in 2010, Annex E, Mission Report 2011), the data are incomplete and of variable quality

▶ Black rhino refuge

Critical
Trend:Data Deficient

Rhino disappeared from the site within ten years of its inscription, the last 10 individuals being translocated to safer areas. Site security is still considered inadequate to attempt re-introduction.

▶ Seasonal movements of large mammals

Good
Trend:Stable

The seasonal movements of large mammals are considered intact

▶ Riverine sandbank ecosystems

Low Concern
Trend:Stable

Vegetation succession and the ecological processes associated with alluvial deposition and flooding of the river were irreversibly altered in 1958 by the construction of the Kariba Dam approximately 110 km upstream of the site. It is difficult to speculate on the course of changes that would be taking place without the Dam, as upstream alluvium which might have been deposited in the middle Zambezi no longer reaches Mana Pools, and seasonal flooding is now severely limited. Nevertheless, within the context of the ‘new’ (man-

made) situation (which prevailed at the time of inscription), the natural ecological processes and vegetation succession associated with the sandbanks, islands and floodplains is undisturbed.

▶ **Spectacular animal congregations**

Good
Trend:Stable

Based on a wildlife survey in 2010 (Annex E. Mission Report, 2011) and earlier records (1996 Draft Management Plan, UNEP-WCMC 2012) large mammal populations (with the exception of black rhino, see below) have remained stable since inscription

Summary of the Values

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

Low Concern

Trend: Stable

Most of the site's values have been maintained, although the ecology of the riverbank and floodplain communities is undergoing gradual long-term change resulting from the (pre-inscription) construction of Kariba Dam 110km upstream which permanently altered the siltation and flooding regime. One key element of critical concern is the loss of black rhino as the property used to be one of the species' few remaining strongholds until the late 1980s.

Additional information

Benefits

Understanding Benefits

▶

Soil stabilisation, Water provision (importance for water quantity and quality)

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Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Zim Parks		Management Authority. Monitoring, research, management and protection
2	Zambezi Society		Assists with wildlife protection, research, lobbying, education, training and fuel
3	Tashinga Initiative		Staff infrastructure improvements
4	BirdLife Zimbabwe		Important Bird Area under BirdLife International. Training and monitoring

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