IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 29 January 2015

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

iSimangaliso Wetland Park

SITE INFORMATION

Country:
South Africa
Inscribed in: 1999
Criteria:
(vii) (ix) (x)

Site description:
The ongoing fluvial, marine and aeolian processes in the site have produced a variety of landforms, including coral reefs, long sandy beaches, coastal dunes, lake systems, swamps, and extensive reed and papyrus wetlands. The interplay of the park's environmental heterogeneity with major floods and coastal storms and a transitional geographic location between subtropical and tropical Africa has resulted in exceptional species diversity and ongoing speciation. The mosaic of landforms and habitat types creates breathtaking scenic vistas. The site contains critical habitats for a range of species from Africa's marine, wetland and savannah environments. © UNESCO

SUMMARY

2014 Conservation Outlook

Good with some concerns

At the time of listing the site, the World Heritage evaluation noted various aspects requiring action that related to the integrity of its World Heritage Values including protection of catchment areas; locating the Park within its regional development context; resolving the management structure; settling land claims; enabling resource harvesting; dealing with local community issues; restoration of degraded habitats (exotic species including commercial plantation and management of St Lucia estuary); and amending boundaries. The site being coastally situated and at the bottom end of several catchments, is vulnerable to the consequences of upstream anthropogenic disturbances. Past disturbance of essential and fundamental abiotic processes (particularly hydrological and sedimentary) has had a major adverse impact on the ecological functioning of the Lake St Lucia system. When measured against the baseline at the time of listing, significant progress has been towards enhancing the World Heritage values through restoration projects and management interventions undertaken by the iSimangaliso Authority, which has managed the site since 1999. These include the restoration of wetlands on the Eastern and Western Shores through the removal of commercial plantations, and the improved ecological functioning of the Lake St Lucia system . The Park has been fenced, boundaries have been proclaimed in law, including the extension of the marine areas under protection, Alien invasive species do pose a threat to the site, however, a land care programme is in place to control and monitor alien invasive species. The socio-political context is a challenge, however significant progress has been made to ensure participation in decision making and the resolution of land claims, as well as economic and other benefits for local communities.

Current state and trend of VALUES

Low Concern
Trend: Improving

Many of the values of the site show significant improvement, and this has resulted in an increased resilience of this World Heritage site and its Outstanding Universal Value. Therefore this justifies the trend rating given.

Overall THREATS

High Threat

Threats include commercial plantations in the buffer zone and alien invasive plants, with proven and potential impacts on ground water levels and changes in natural habitats. The positive impacts of the actions which have already been taken to restore habitats, control and mitigate these threats and conserve the World heritage values have gone some way to addressing a variety of threats thus ensuring the Site's long term sustainability.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Protection and environmental laws as well as an effective management system are in place. A strategic plan that is well-resourced (with skilled staff and funding) to implement the restoration, rehabilitation and continued conservation of the World Heritage values is in place. Considerable progress has been made in resolving the issues identified with the integrity of the site when it was declared a World Heritage Site. This includes the consolidation of 16 different parcels of land, the fencing of the Park, implementation of alien plant control programmes, the development of an Integrated Management Plan for the Park, removal and rehabilitation of former commercial plantations on the Eastern and Western Shores. A well capacitated staff undertakes the day-to-day management of the site, and research and monitoring programmes are undertaken.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **Geographically diverse area with superlative vistas along its 220km-long coast**
  Criterion:(vii)

  The site is geographically diverse with superlative scenic vistas along its 220km-long coast, including areas of exceptional natural beauty and aesthetic importance. From the clear waters of the Indian Ocean, wide undeveloped sandy beaches, forested dune cordon and mosaic of wetlands, grasslands, forests, lakes and savanna, the iSimangaliso Wetland Park contains exceptional aesthetic qualities. (SoOUV, 2011).

- **The shifting salinity states within Lake St. Lucia**
  Criterion:(vii)

  The shifting salinity states of Lake St. Lucia from low to hyper-saline are linked to wet and dry climatic cycles, and are considered an outstanding natural phenomenon (SoOUV, 2011).

- **Vivid natural spectacles including nesting turtles and large aggregations of flamingos and other waterfowl**
  Criterion:(vii)

  The spectacle of large numbers of nesting turtles on the beaches and the abundance of dolphins and migration of whales and whale sharks off-shore is an outstanding natural phenomenon. The huge numbers of waterfowl and large breeding colonies of pelicans, storks, herons and terns are impressive

and add life to the wild natural landscape of the area (SoOUV, 2011). iSimangaliso is the most important breeding site for waterbirds in South Africa with presence of globally threatened species, range-restricted species, biome restricted species and the site holds more than 20 000 waterbirds on a regular basis (Barnes, 1998).

- **The combination of fluvial, marine and Aeolian processes which have resulted in a variety of landforms and are on-going to present day**
  Criterion:(ix)

  iSimangaliso is an outstanding example representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems, and communities of plants and animals. The combination of fluvial, marine and aeolian processes initiated in the early Pleistocene has resulted in a variety of landforms and continues to the present day. The site’s transitional geographic location between sub-tropical and tropical Africa as well as its coastal setting have resulted in exceptional species diversity. Past speciation events in the Maputuland Centre of Endemism are also on-going and contribute another element to the diversity and interplay of evolutionary processes at work. In the marine component of the site, the sediments being transported by the Agulhas current are trapped by submarine canyons on the continental shelf allowing for remarkably clear waters for the development of coral reefs. The interplay of this environmental heterogeneity is further complicated by major events such as droughts, floods and coastal storms, which are regularly experienced in the site. The site is also of sufficient size and retains most of the key elements that are essential for long-term functioning of the ecosystems. The ecological linkages between the five ecosystems found in the iSimangaliso Wetland Park have been a major attraction for research on the geomorphological and biological processes occurring here (SoOUV, 2011; iSimangaliso research list). The five ecosystems are (i) the marine ecosystem, characterised by a warm sea, the southernmost extension of coral reefs in Africa, submarine canyons and long sandy beaches (ii) the coastal dune system, consisting of linear dunes up to 180 m in height, sub-tropical forests, grassy plains and wetlands (iii) lake systems, consisting of two estuarine-linked lakes (St Lucia and Kosi) and four large freshwater lakes (Sibaya, Ngobozeleni, Bhangazi North and Bhangazi South) (iv) the uMkhuze and uMfolozi swamps, with swamp forest, extensive reed and papyrus

wetlands, and (v) the inland western shores, with ancient shoreline terraces and dry savannah woodlands, thickets and sand forests that occur on the higher lying ground between the coastal plain and the Lubombo Mountains.

► Significant diversity of African biota

Criterion:(x)

The five interlinked ecosystems found in iSimangaliso provide habitat for a significant diversity of African biota, including a large number of rare, threatened and/or endemic species. iSimangaliso contains some of the most important and significant natural habitats for the in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.
As iSimangaliso is situated on the southernmost extremity of the Mozambique coastal plain, it hosts numerous species reaching the southernmost limit of their range which are, thus, not found elsewhere in South Africa. This adds to the value and importance of this unique area from a South African species conservation perspective. The presence of some of these species north of our borders cannot detract from the importance of conserving the South African populations, as little information is generally available on their conservation status and distribution in other parts of southern and central Africa. iSimangaliso is clearly a critical habitat for a range of species from Africa’s marine, wetland and savannah environments. The species lists for the site are most lengthy in the region and population sizes for most of them are viable. There are also 48 species present that are listed as threatened internationally and 147 on the CITES list. The site is clearly a critical habitat for a range of species from Africa’s marine, wetland and savanna environments. Of the over 6,500 plant and animal species known to occur in the Park, populations of species of conservation importance include 11 species that are endemic to the Park, and 108 species endemic to South Africa, while 467 are listed as threatened in South Africa (SoOUV, 2011).

Other important biodiversity values

► Ramsar Sites

iSimangaliso contains four Ramsar sites that recognise the ecological functions of wetlands as well as their importance as resources of economic, cultural, scientific and recreational value (i) St. Lucia Lake System (Ramsar Site # 345) (ii) Turtle Beaches/Coral Reefs of Tongaland (Ramsar Site # 344) (iii) Kosi Bay Lake System (Ramsar Site #527), and (iv) Lake Sibaya (Ramsar Site # 528)

Assessment information

Threats

Current Threats

High Threat

The main threats to the Site are from agricultural and forestry plantations outside its boundaries, poaching, and invasive alien species. Management intervention on invasive species has already shown positive results, and should be flexible to adapt to new and emerging invasive species when these are identified. As agricultural and forestry plantations occur largely outside the Site, the management of their impact on the Site requires strong cross-sectoral collaboration at the local, provincial and national levels. Several other threats are less significant and easier to manage.

► Housing/ Urban Areas

Very Low Threat
Outside site

Densification of rural settlements near the Park's boundaries, specifically Kosi Bay (KwaNgwqanase), Dukuduku, Nibela, Qongwana (just outside Sodwana), and Mseleni settlement (west of Lake Sibaya).. Impacts are largely within the buffer zone but, a working buffer zone policy is in place that deals with the mitigation of development and visual impacts. (IUCN Consultation, 2012;

Umkhanyakude District Municipality Integrated Development Plan 2012/13-2016/17)

► Tourism/ Recreation Areas

Very Low Threat
Outside site

There have been localized but illegal resort developments (small scale) in the northern Coast Forest section of the Park (KwaDapha and Mabibi) with vegetation clearing (Pers. comm. 2012), all of which were removed and demolished. This phenomenon predates iSimangaliso's listing as a World Heritage Site. The process of removing unauthorized developments was led by iSimangaliso Authority with the support of Ezemvelo KZN Wildlife and the South African Police services. Rehabilitation has been completed at these sites. (Daily News, 2010; Daily News, 2011)

► Forestry/ Wood production

High Threat
Outside site

Commercial forestry development occurs upstream in the catchment of the Kosi, Sibaya, Mbazwane systems as well as in the Sokhulu and Nibela areas, and includes out-grower schemes implemented by commercial timber companies on communal land neighbouring the Park (iSimangaliso Integrated Management Plan: 2011-2016). Groundwater studies have shown that the plantation activities in the area, alongside with other water requirements for residential use are having an impact on the groundwater (Carbutt, 2012, Consultation with park authority, 2014). iSimangaliso's actions have resulted in a moratorium on the issuing of new forestry licenses in the area by the Department of Water Affairs and a groundwater study commissioned by iSimangaliso is underway.

► Commercial hunting

High Threat
Inside site

Although there is a recent surge in poaching of rhino in the country the number of rhino in the Park has more than doubled. Rhino has been confirmed to have been poached within the site, however additional human

and financial resources have been deployed to combat poaching including the construction of new fieldranger camps and the maintenance of existing fieldranger infrastructure . By November 2013, 75 rhinos had been poached in the Province of KwaZulu Natal (Consultation with park authority, 2014).

► Water Pollution, Shipping Lanes

Very Low Threat
Outside site

Waste material from passing ships washes up onto the beaches from time to time. iSimangaliso's implements a coastcare programme, a job creation programme for local communities, that includes the cleaning of beaches. Pollution from ship wrecks has been successfully prevented by emergency measures being implemented by iSimangaliso with the South African Marine Safety Authority (SAMSA). (Pers. comm., 2012; Witness, 2008).

► Fishing / Harvesting Aquatic Resources

Low Threat
Inside site
Outside site

Fish stocks in Kosi Lake (which represents 4.7 % of the estuarine are of the Park (Consultation with park authority, 2014)) are being over-exploited as illegal gill nets are used in addition to traditional fish harvesting methods (Carbutt, 2012; Pers. comm., 2012).

► Dams/ Water Management or Use

Low Threat
Inside site
Outside site

Historically the uMfolozi river flowed into Lake St Lucia as part of one system but, was separated in 1952. In addition, the uMfolozi River was canalised by the sugar cane farmers on the flood plain of the uMfolozi outside the site. Based on new scientific evidence from a project funded by the Global Environment Facility, and the research conducted by Stretch et al (2008, 2011) the systems were re-joined in July 2012, opening the way for the restoration of the Lake St Lucia system Estuarine functioning has been restored and the system is open to the sea for the first time in ten years (Consultation with park authority, 2014). Under natural conditions the St

Lucia Lake system is highly dynamic and will move between fresh and hyper-saline states in response to rainfall and river flow. These changes are extremely important, enabling this estuarine system to support a number of different combinations of plants and animals contributing significantly to its rich biodiversity. (Carbutt, 2012; IMP, 2011; IUCN Consultation, 2012; EKZNW, 2007; Van Niekerk and Turpie (eds), 2011).

Water abstraction from rivers in up-stream catchments results in reduced volumes of fresh water reaching Lake St Lucia. Water balance modeling has shown that while a reduction has occurred the impacts of this reduction do not significantly change the status of the system (WRC, 2011).
Lowering the water table due to water abstraction from underground coastal aquifers (i.e. excessive pumping from boreholes) possibly affects Sibaya and Kosi lake systems, and other coastal wetlands.

► Invasive Non-Native/ Alien Species

High Threat
Inside site
Outside site

Several alien invasive plant species (including Chromolena odorata, Psidium guajava, Casuarina equitisifolia, Lantana camara, Parthenium hysterophorus .) occur in the site, predominantly in areas of disturbance. . There is the potential for indigenous plants to be displaced and out- competed by the alien invasive species Infestations outside the site provide an ongoing supply of seeds (Carbutt, 2012; Taylor, pers. comm., 2012; IMP, 2011; EKZNW, 2007; Myhill, 2013). However, an invasive alien plant control programme implemented over the last decade is in place which has shown success in controlling the spread of the plants over a decade of implementation (James, pers. comm., 2014).
The Asian invasive alien gastropod, Tarebia granifera has been recorded in aquatic habitats within the World Heritage site (Raw, Miranda, Perissinotto, 2012). While some research has been conducted, and ongoing monitoring by EKZNW is being undertaken for the iSimangaliso Authority, it would be premature to draw conclusions on the effect of this species on the indigenous fauna.

► Erosion and Siltation/ Deposition

Very Low Threat
Inside site
Outside site

Prior to the iSimangaliso's listing as a World Heritage site, casuarina trees were planted on the coastal dunes and beachfront during the 1960s to stabilise coastal dunes at a number of sites in the Park and have altered the natural dune-building processes (Pers. comm., 2012; Stretch, 2011; EKZNW, 2007). Actions have been undertaken to address this issue over the past ten years with trees removed from the Kosi Bay Mouth, 9 Mile, Sodwana to the north of Adlams, and St Lucia beach and estuary mouth. Further plans to remove those at Sodwana Bay are in place and subject of an EIA currently being undertaken (Consultation with park authority, 2014).

Potential Threats

Low Threat

Implementation of the legislation controlling shipping activities and the application of the newly developed emergency response protocols reduce the pollution threat emanating from these activities. Future effects related to climate change on the World Heritage Site will need to be considered to assess the threat status and appropriate adaptation responses.

► Water Pollution, Shipping Lanes

Low Threat
Inside site
Outside site

With future escalation in shipping along the coast pollution from cleaning of bilge tanks of ships, potential oil spills from tankers, and occasional ship wrecks on the coast and reefs will occur. However good emergency response procedures are in place thatreduce the threat from oil spills and shipwrecks. The threats posed by bilge water do pose a risk but this is likely to be localised and sporadic given that the cleaning of bilge tanks is a regulated activity (Consultation with park authority, 2014).

► Droughts, Storms/Flooding, Temperature changes

Data Deficient
Inside site
Outside site

Predictions of climate change in south-eastern Africa are that it will become hotter and wetter and sea levels will rise. The future effects on these wetland and coastal systems are a matter of speculation.

Protection and management

Assessing Protection and Management

► Legal framework and enforcement

Mostly Effective

Protection and environmental laws are in place and are enforced systematically by law enforcement staff (IMP, 2011; EKZNW, 2007).

► Integration into regional and national planning systems

Mostly Effective

The site is integrated into the Lubombo Spatial Development Initiative which is a three country (South Africa, Swaziland and Mozambique) programme focused on agriculture and tourism development (IMP, 2011).

► Management effectiveness

Mostly Effective

The following assessments of management effectiveness have been undertaken by a range of management and field-based staff working in iSimangaliso
1. Tunley, K. (2009). eds by Chadwick, P and Nobula, S. State of Management of South Africa’s marine Protected Areas: WWF South Africa Report Series – 2009/Marine/001;
2. UNESCO. (2010). 2nd cycle of the World Heritage Periodic Reporting for Africa;

3. UNESCO. (2011). Marine World Heritage Site Survey;
4. GEF/World Bank. (2009 and 2013). Management Effectiveness Tracking Tool completed at the beginning of the iSimangaliso GEF project and also at mid-term review;
5. World Wildlife Fund and Department of Environmental Affairs. (2013). State of South African Marine Protected Area;
6. EKZNW has undertaken a management effectiveness assessment for iSimangaliso.

The management cycle for iSimangaliso includes the development on an IMP (with a 5yr lifespan), annual plans, progress monitoring and evaluations and adaptation of management strategies.

► Implementation of Committee decisions and recommendations

Data Deficient

n/a

► Boundaries

Mostly Effective

70 % of the Park has been fenced in the last 10 years. In some sections the boundary is not clearly marked (especially in the Coastal Forest Reserve and the Mfolozi floodplain portion of the Park (the latter is not part of the World Heritage Site) (Carbutt, 2012).

► Staff training and development

Mostly Effective

In house training of staff is undertaken and programmes are in place for staff to advance in their skills and or qualifications (IMP, 2011).

► Sustainable finance

Mostly Effective

Budget provision is made annually to the iSimangaliso Wetland Authority from National Government and to EKZNW from Provincial Government. iSimangaliso has successfully raised funds for the rehabilitation, restoration and re-development of the World Heritage Site, including the implementation

of substantial local economic development programmes. Of its total revenue 10% of expenditure goes to salaries, 62% on operational expenses including maintenance and infrastructure, 25% on projects, and 3 % on administration (IMP, 2011). For the 2012/2013 financial year, for example, more 60% of its budget went to capital projects (Consultation with park authority, 2014).

► Sustainable use

Mostly Effective

Fish and certain plants are harvested. Monitoring is in place to ensure such harvesting is sustainable (Carbutt, 2012; Pers. comm., 2012). Illegal gill-netting in Kosi Bay is a concern, but there are no indications that harvesting of biological resources is unsustainable for the Site as a whole. Poaching (particularly of rhino) is another concern and combating it is an integral part of Site management (Consultation with park authority, 2014).

► Management system

Mostly Effective

An integrated management plan for the site has been developed and approved by the Minister for Environmental Affairs. The day to day conservation management is undertaken by Ezemwelo KwaZulu-Natal Wildlife (EKZNW), the provincial nature conservation service, as defined by a management agreement with iSimangaliso Authority. A well capacitated staff undertakes the strategic and project management and day-to-day management of the site, implementation of community development programmes, management of research and monitoring programmes are undertaken (IMP, 2011; EKZNW, 2007).

► Tourism and interpretation

Mostly Effective

Tourism facilities are located inside the Site and there are private establishments for tourist accommodation in the buffer zone. The significant investment made by iSimangaliso in the re-development of the Park and the construction of day visitor facilities, such as game drives, hides, picnic sites, and game re-introductions has resulted in a growth in tourism in the area. The economic contribution generated from tourism in the study areas equates to a 15% of KwaZulu-Natal’s provincial tourism sector’s Gross Value

Added. Funding has been raised to re-develop Park accommodation facilities and a strategy is in place to secure private sector investment.Park maps have been developed with Land Claimants in the different areas, and include the interpretation of the cultural landscape. Tour guides operating in the area have been trained to interpret the Park and interpretive material, 'iSimangaliso 101' has been developed. A signage programme is being implemented across the Park which includes an interpretation system (Consultation with park authority, 2014).

► Research

Highly Effective

There are currently 171 research project registered with the iSimangaliso Authority, which are being undertaken by researchers and post-graduate students from both South Africa and other countries (Consultation with park authority, 2014).
Research is approved on the basis of its contribution to management of the site, and to science in general. Research findings are fed into management decisions, and the iSimangaliso Authority commissions research required to assist with management of the site.

► Relationships with local people

Mostly Effective

The socio-political context at iSimangaliso is complex; made more so by the current land restitution process where 14 claims have been made against the site before it was listed as a world heritage site. There are 620 000 people living in the greater iSimangaliso area which, is the second poorest province in South Africa, with the high service delivery backlogs. Considerable effort and resources are allocated to the management and maintenance of relationships with communities. Significant achievements have been made to date with regards to participation of local communities in decision-making and the implementation of programmes that deliver tangible benefits to local communities. This does not mean that everyone supports conservation and the world heritage site. The experience of the loss of land under apartheid (and the concomitant suffering and anger towards the Park is within the living memory of the many claimants. However, the iSimangaliso Authority has the capacity and resources to maintain ongoing relationships with

communities (Consultation with park authority, 2014) and thus, through this process strengthening resilience of the Park.

► Monitoring

Mostly Effective

Some essential monitoring of biotic and abiotic components is undertaken by EKZNW and results reported (Carbutt, 2012; Pers. comm., 2012). A number of additional monitoring activities have been included to augment these efforts by iSimangaliso. These include (1) the upgrading of old and the installation of additional water level recorders in partnership with the Department of Water Affairs, (2) the installation of continuous loggers recording temperature and salinity at various sites throughout the system, and (3) bathymetric and LIDAR surveys of the mouth area (detailed) and the entire Lake St Lucia system (Consultation with park authority, 2014).

► Education and interpretation programs

Mostly Effective

iSimangaliso has trained and contracts community based guides to interpret the World heritage values to school children from the area. Schools that visit the Park are granted discounted or free access and community guides are provided to provide Park interpretation. Year on year about 100 schools benefit from this programme. In addition about 50 schools are hosted by iSimangaliso each year on environmental education visits to the Park. Meals, transport and educational activities are provided. Funding has been secured to host 150 schools over the next two years. In addition, a school awards programme is hosted bi-annually where schools compete in various activities designed to increase their understanding on world heritage and conservation issues. Schools are sponsored to participate in iSimagaliso eco-events, such as the St Lucia half marathon. Since 2010, iSimangaliso has implemented a bursary and academic support programme that has supported 67 young people to study in the field of conservation and tourism at universities and technical colleges. This programme was a winner of national award (Mail & Guardian’s Greening the Future Award, 2014).
Signage and interpretation of the Site's World Heritage and cultural values are poor. A signage programme is being implemented across the Park which

includes an interpretation system (Consultation with park authority, 2014).

Overall assessment of protection and management

Mostly Effective

Protection and environmental laws as well as an effective management system are in place. A strategic plan that is well-resourced (with skilled staff and funding) to implement the restoration, rehabilitation and continued conservation of the World Heritage values is in place. Considerable progress has been made in resolving the issues identified with the integrity of the site when it was declared a World Heritage Site. This includes the consolidation of 16 different parcels of land, the fencing of the Park, implementation of alien plant control programmes, the development of an Integrated Management Plan for the Park, removal and rehabilitation of former commercial plantations on the Eastern and Western Shores. A well capacitated staff undertakes the day-to-day management of the site, and research and monitoring programmes are undertaken.

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

Mostly Effective

A number of restoration measures are being implemented to address threats outside the site, including re-linking of the uMfolozi River with Lake St Lucia, engagement with the farmers on the floodplain regarding the implementation of flood mitigation measures for their farms, incorporation of 15,000 ha on the Western Shores to protect the Mpathe catchment, restoration and rehabilitation of 15,000 ha of grasslands and wetlands on the eastern and Western Shores after removal of alien timber plantations, the removal of forestry tracks and the upgrading of infrastructure, fencing the Park and consolidating 16 parcels of land into one ecological area, and an alien species control programme focussing on invasive plant species. All of these represent major steps towards ensuring ecological integrity and linkages.

► Best practice examples

(1)The delivery of benefits to communities, the co-management agreements

in place with land claimants and the participation of local communities in decision making makes iSimangaliso's conservation model ' Developing to Conserve' useful for other Protected Area agencies. (2) On the Western Shores collaborative management is undertaken with a forestry company (SiyaQhubheka), which creates an effective and well buffered margin to the site, including the maintenance of the fence by SiyaQhubeka. (3) Aligninment of the management of the World Heritage Site with government's macro-economic and social priorities, has led to strong political support for the World Heritage site, and access to funding for both the conservation of the site and the rural development programmes the Authority delivers to a range of beneficiaries. This has resulted in improving the sustainability and resilience of the World Heritage Values.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Geographically diverse area with superlative vistas along its 220km-long coast**

Good
Trend:Improving

The aesthetic scenic values have improved with the removal of all plantations of pine trees and the recovery in natural vegetation with associated fauna (Carbutt, 2012; Taylor, pers. comm., 2012).

▶ **The shifting salinity states within Lake St. Lucia**

Low Concern
Trend:Improving

In the recent past, Lake St Lucia has been facing significant water shortages as a result of human intervention, and exacerbated by severe droughts. Major impacts have arisen through interventions in the uMfolozi catchment, which is the largest catchment of the Lake St Lucia system. Of particular significance are the effects of the removal of the swamp vegetation on the floodplain, the canalization of the uMfolozi River, and the separation of the

uMfolozi and Lake St Lucia systems in 1952 (iSimangaliso Wetland Park Authority, 2011). The re-linking of the uMfolozi River with the Lake St Lucia system in 2012, as well as the onset of above average rainfall has re-established a link with the sea and a more typical estuarine salinity gradient. In this more natural configuration it is expected that the system will cycle naturally through various states from freshwater to hypersaline (Stretch, 2011; DWAF, 2004). Due to this recent progress, the current state of conservation of the shifting salinity of Lake St Lucia is considered to be of Low Concern, rather than the High Concern that it would have been prior to this change.

► Vivid natural spectacles including nesting turtles and large aggregations of flamingos and other waterfowl

Low Concern
Trend:Improving

The spectacle of large numbers of nesting turtles on the beaches and the abundance of dolphins and migration of whales and whale sharks off-shore is an outstanding natural phenomenon. The significant populations of waterfowl and large breeding colonies of pelicans, storks, herons and terns are impressive and add life to the wild natural landscape of the area (SoOUV, 2011). iSimangaliso is the most important breeding site for waterbirds in South Africa with presence of globally threatened species, range-restricted species, biome restricted species and the site holds more than 20 000 waterbirds on a regular basis (Barnes, 1998). Nesting loggerhead and leatherback turtles have been protected in the site for five decades. The nesting beaches are undisturbed with few anthropogenic disturbances, protecting both the nests and vulnerable hatchlings. The 2013/2014 nesting season yielded a total of 3827 loggerhead nests from just under 700 individual adult females up from an initial amount of approximately 400 nests recorded in the 1965/1966 season. The numbers of female leatherbacks nesting on the beaches is stable at 70-100 individuals (Nel 2014; Site Information Sheet for IOSEA marine turtle site nomination).

► The combination of fluvial, marine and Aeolian processes which have resulted in a variety of landforms and are on-going to present day

Low Concern
Trend:Improving

Generally, abiotic and biotic processes continue to function largely unhindered, and appropriate restoration actions have been taken to address marine-estuarine linkages and processes as well as dune-building processes which have been disrupted (Consultation with park authority, 2014).

► Significant diversity of African biota

Low Concern
Trend:Stable

Good viable populations of all indigenous plants are present including rare and endemic species. However, alien invasive plant species have had adverse some impacts on indigenous plants and habitats (Taylor, pers. comm., 2012). Restoration of grassland, coastal forest, wetland and estuarine habitats on the Eastern and Western shores and the reinstatement of more typical estuarine conditions within Lake St Lucia have enhanced the recovery of plant communities (Consultation with park authority, 2014). Good viable populations of all fish species are present including rare and endemic species, although some species populations are declining (Taylor, pers. comm., 2012). The reinstatement of wetland habitats on the Eastern and Western shores have substantially increased the habitat availability for amphibians (Consultation with park authority, 2014). Population sizes of two sea turtle species are increasing, and population trends for various birds and mammals appear to be improving (Taylor, pers. comm., 2012).

Other important biodiversity values

► Ramsar Sites

iSimangaliso contains four Ramsar sites that recognise the ecological functions of wetlands as well as their importance as resources of economic, cultural, scientific and recreational value (i) St. Lucia Lake System (Ramsar Site # 345) (ii) Turtle Beaches/Coral Reefs of Tongaland (Ramsar Site # 344) (iii) Kosi Bay Lake System (Ramsar Site #527), and (iv) Lake Sibaya (Ramsar Site # 528)

Summary of the Values

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

Low Concern

Trend: Improving

Many of the values of the site show significant improvement, and this has resulted in an increased resilience of this World Heritage site and its Outstanding Universal Value. Therefore this justifies the trend rating given.

Additional information

Key conservation issues

▶ Social

National

Delivering benefits and ongoing consultation with communities will continue to be a challenging management objective. The slow pace of land restitution and the number of outstanding issues per claim is creating issues for iSimangaliso (and other Protected Areas in South Africa). iSimangaliso is in dialogue with the National Department of Environmental Affairs and the Department of Land Affairs to resolve outstanding issues and claims, and participates in a process to track and monitor the progress of land claims. In the meantime iSimangaliso has enjoyed success in delivering economic benefits to local communities, facilitation participation of communities and building capacity with land claimants towards effective co-management.

▶ Alien invasive species

National

Several alien invasive plant species (including Chromolena odorata, Psidium guajava, Casuarina equitisifolia, Lantana camara, Parthenium hysterophorus .) occur in the site, predominantly in areas of disturbance. However, an invasive alien plant control programme implemented over the last decade is in place which has shown success in controlling the spread of the plants over a decade of implementation. This programme is funded by National Government.

▶ Rising sea levels

Global

Sea levels have risen in recent times and combined with storm events have caused extensive areas of coastal and beach erosion.

▶ Management of St Lucia mouth

National

Historically the uMfolozi river flowed into Lake St Lucia. The mouths were separated in 1952. The uMfolozi river was rejoined with Lake St Lucia in July 2012 and this has already led to the establishment of more typical estuarine conditions and biota - thus helping to re-establish ecological functioning of the estuarine system.

▶ Poaching

National

There is a recent surge in poaching of rhino in the country and no area is immune. Rhino have been poached within the site. Extensive fishing activities, including illegal gill netting, take place in Lake St Lucia and the Kosi Bay estuary. EKZNW's anti-poaching unit is implementing anti-poaching measures.

Benefits

Understanding Benefits

▶ Is the protected area valued for its nature conservation?

The site protects and conserves (almost) the complete complement of marine, coastal, and wetland biodiversity of south-eastern sub-tropical Africa including endemic and threatened species.

▶ Is the protected area valued for its nature conservation?

Large marine, terrestrial and lake areas within the site are pristine protected wilderness areas.

► Outdoor recreation and tourism

Tourist facilities provided both within and outside of the site are used by both local, national and international visitors.

► Importance for research

The site has been well studied and many post graduate students and research organizations continue to undertake research projects.

► Coastal protection

Estuarine (fish nursery) and wetland services as well as coastal protection are provided.

► Fishing areas and conservation of fish stocks

Major fisheries dependent on estuarine functioning of St Lucia lake system.

Summary of benefits

Major benefits from nature conservation are received by both communities outside the site and further a-field. All other benefits are of major importance to the communities outside the site and to a lesser extent to a wider community.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects

1	iSimangaliso Authorty (funding from iSimangaliso and Global Environmenta l Facility)	Lake St Lucia Estuary restoration The iSimangaliso Wetland Park Authority has raised funding through the Global Environmental Facility to investigate and formulate long term solutions that will, as far as possible, restore the natural hydrological and ecological functioning of this important system. Using the best available scientific knowledge, current management activities are focused on diverting fresh water from the Mfolozi into the lake and allowing the Mfolozi and St Lucia mouths to join.
2	iSimangaliso Authority (funded by iSimangaliso Authority and Department of Environmenta l Affairs – Natural Resources Management)	Land and Coast Care A management programme aimed at the removal / control of alien invasive plants that threaten the site and subsequent rehabilitation of disturbed environments. Over the past ten years 3 424 land care contracts were awarded to community based contractors who employed 35 464 people to undertake the rehabilitation of 22 500 ha at a cost of R 70 112 249.64. iSimangaliso is also implementing a Coast Care programme which focuses on the coastal areas of the Park. The programme employs 108 people living in the coastal areas over three years to keep the beaches clean, to build infrastructure and for alien vegetation control. Labour intensive methods are engaged to maximise the job creation aspects of the programme, and a capacity building and training component aimed at the people employed is included
3	iSimangaliso Authority (in partnership with Siyaqhubeka)	Incorporation of land into iSimangaliso Wetland Park Removal of pine/gum plantations on the Eastern and Western Shores and subsequent rehabilitation of degraded environments. Joint management of incorporated land on Western Shores - Siyaqhubeka (Mondi)
4	iSimangaliso (in partnership with Ezemvelo)	Game reintroduction programme Re-introduce, re-establish and maintain viable and ecologically appropriately sized populations of depleted or locally extinct indigenous species to optimal ecological carrying capacity and manage for genetic viability by application of appropriate wildlife management practices
5	iSimangaliso Authoriity (in partnership with the Transfrontier Commission and Ponta Do Ouro Partial Marine Reserve)	Extension of World Heritage Site into Mozambique iSimangaliso continues to support the establishment of the one of the five TFCAs. There is action underway to establish a transfrontier site with neighbouring Mozambiqe as well as extend the marine reserve to align with the terrestrial component for the full length of the iSimangaliso Wetland Park. This would benefit the conservation of the area (IUCN evaluation, 1999).

6	iSimangaliso Authority iSimangaliso Authority funds monitoring, radio collars and research. (Partners are Ezemvelo/research organisations and individuals).	Priority species conservation - turtle monitoring programme, rhino conservation programme, rare, threatened and endemic species programme; coral reef monitoring, coelacanth research programme;
7	iSimangaliso (in partnership with Ezemvelo and beneficiary communites)	Natural Resource Management There is a wide range of natural resources harvested by communities living in and around the Park, including marine (such as mussels and fish), estuarine (crabs and fish) forest (such as iLala palm and wood for building, fuel wood and carving), grasslands (such as for cattle grazing) and wetland species (such as iNcema). iSimangaliso will continue to provide access for sustainable and wise utilisation of natural resources. Where appropriate, alternative external sources and livelihoods are being explored, facilitated and encouraged in consultation with the beneficiary communities.
8	iSimangaliso Authority (beneficiaries are land claimant and surround communities)	Environmental education and awareness There are approximately half a million people living around the Park – most of who have never visited the Park or had a positive educational or recreational experience in the Park. Many people do not know why iSimangaliso was listed a World Heritage site. iSimangaliso has created an environmental education and awareness programme for the Park through a schools programme (environmental education fieldtrips/school awards) and an adult awareness programme (mobile workshops in the Park).
9	iSimangaliso Authority (beneficiaries are land claimant and surround communities)	Benefits beyond boundaries Beneficiation programme that support iSimangaliso Authority’s conservation efforts by providing alternatives to environmentally harmful practices and garnering support through training, awareness, job and equity creation. The iSimangaliso Authority manages a suite of beneficiation programmes namely: • Rural enterprise programme: building and supporting entrepreneurs • Art and Craft programme: training and skilling local artists and crafters to access high value markets • Training tourism guides and chefs, front and backhouse staff as well as placing them in jobs • Comanagement training for land claim trusts: providing financial and management skills to land claimant trusts • Creating equity partnerships and ownership in the tourism sector with surrounding previously disadvantaged communities • Job creation and training through the landcare, coastcare and infrastructure programme.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	iSimangaliso Authoriity (in partnership with the Transfrontier Commission, Ponta Do Ouro Partial Marine Reserve and Peace Parks)	Transfrontier conservation area specialist studies. The iSimangaliso Wetland Park Authority is looking to undertake mini specialist studies/perspectives to identify potential development threats to the Transfrontier Conservation Area, Ponta do Ouro’s potential application to become a World Heritage Site and to the iSimangaliso Wetland Park, an existing World Heritage site. Funding is required to undertake the study in the identified focus areas, namely: Corals, Fresh Water Fish, Marine Fish, Marine Mammals and Turtles, Elasmobranchi, Estuarine Environment, Terrestrial Environment – Coastal Plains, Reef Connectivity, Harbours and Related Industrial Zones, Sustainable Use of Marine and Coastal Resources	
2	iSimangaliso Authority (Beneficiaries are surrounding previously disadvantaged communities)	Alternatives to wetland farming	
3	iSimangaliso Authority (Beneficiaries are surrounding previously disadvantaged communities)	Expansion of environmental education and awareness	

№	Site need title	Brief description of potential site needs	Support needed for following years
4	iSimangaliso Authority	Local Area Plans Funding to develop Local Area Plans (LAPs). Local Area Plans provide the framework for sustainable local economic development within each locality for specific areas within the Park , with due consideration given to the Park’s World Heritage status, basic human needs and Constitutional rights as well as the relevant legal, social, environmental, institutional, cultural, economic and financial parameters.	

REFERENCES

№	References
1	Barnes, K. (ed.) 1998. The Important Bird Areas of Southern Africa. BirdLife South Africa, Johannesburg.
2	Carbutt C., 2012. Management Effectiveness Assessment Report: iSimangaliso Wetland Park World Heritage Site. EKZNW manuscript.
3	Consultation with iSimangaliso Authority, 2014.
4	DWAF, 2004. Preliminary determination of the Ecological Reserve on a rapid level for Lake St Lucia Estuary. Stellenbosch, South Africa: CSIR Report ENV-S-C 2004.
5	Daily News. February 2010. Wetlands resort demolished
6	Daily News. November 2009. Tear down or pay
7	EKZNW 2007. iSimangaliso Wetland Park Conservation Management Plan.
8	Forest Stewardship Council (FSC), 2011. Celebrating success: Stories of FSC certification. 24-25pp
9	IUCN Consultation, 2012a.
10	IUCN Consultation, 2012b.
11	IUCN and UNESCO, 2003. State of Conservation Report.
12	IUCN and UNESCO, 2004. State of Conservation Report.
13	IUCN, 1999. World Heritage Nomination - IUCN Technical Evaluation. Greater St. Lucia Wetland Park (South Africa).
14	Myhill, C., 2013. Personal comments iSimangaliso Authority: Manager of the Landcare Programme
15	Ramsay, P J and Mason, T R., 1990. Development of a type zoning model for Zululand coral reefs, Sodwana Bay, South Affrica. J. Coast. Res. 6: 829-852

№	References
16	Raw J.L., N.A.F. Miranda, R. Perissinotto, 2011. Response of the native gastropod Assiminea cf. Ovate (Krauss 1848) to chemical cues of the alien invasive gastropod Tarebia granifera (Lamarck, 1822) in the St Lucia Estuary, South Africa. Presentation at the EKZNW Symposium, November 2011.
17	Schleyer, M.H. 1995. South African coral reef communities, in Wetlands of South Africa, ed. Cowan, G I. Pp 137-146. Department of Environmental Affairs
18	Stretch, D.C., 2011. In Bate GC, Whitfield AK, Forbes AT (2011) A review of studies on the Mfolozi estuary and associated floodplain with emphasis on information required by management for future reconnection of the river to the St Lucia system. Water Research Commission (WRC) Report No. KV255/10, & Appendix.
19	Taylor, R.H., 2012. Personal comments. Former EKZNW staff.
20	Tunley, K., 2009. eds by Chadwick, P and Nobula, S. State of Management of South Africa’s marine Protected Areas: WWF South Africa Report Series – 2009/Marine/001.
21	Umkhanyakude District Municipality, (2012/13-2016/17). Integrated Development Plan
22	Van Niekerk L, Turpie JK, (eds) 2011. South African Biodiversity Assessment 2011: Technical Report. Vol 3. Estuary Component. Pretoria, South Africa, National Biodiversity Institute.
23	Witness. December 2008. Barge scuttled
24	iSimangaliso Authority. (2011-2016). iSimangaliso Wetland Park Integrated Management Plan.
25	iSimangaliso Wetland Park Authority, 2011. Lake St Lucia: understanding the problem and finding the solution. Background Information Document. (BID 2011/07)
26	iSimangaliso Wetland Park Integrated Management Plan (2011-2016). iSimangaliso Wetland Park Authority.