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

Please note: this is an archived Conservation Outlook Assessment for Belize Barrier Reef Reserve System. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Belize Barrier Reef Reserve System

SITE INFORMATION

Country:
Belize
Inscribed in: 1996
Criteria:
(vii) (ix) (x)

Site description:
The coastal area of Belize is an outstanding natural system consisting of the largest barrier reef in the northern hemisphere, offshore atolls, several hundred sand cays, mangrove forests, coastal lagoons and estuaries. The system’s seven sites illustrate the evolutionary history of reef development and are a significant habitat for threatened species, including marine turtles, manatees and the American marine crocodile. © UNESCO

SUMMARY

2014 Conservation Outlook

Significant concern

Coastal development, tourism growth, overfishing, invasive species and the multiple impacts of climate change (coral reef bleaching events, increased frequency and severity of storms; and sea level rise) are all very serious factors that negatively affect the overall integrity of the site. While at the level of component protected areas of this serial staff the managers and the staff are generally doing an adequate job of controlling visitation, fishing and other in-water activities, the broader issue of adequate coastal zone management and zoning of land development is still lacking. The Coastal Zone Management Plan which is in the final stages of approval will hopefully provide this broader management framework to help support the MPA management. The most serious potential threat to the values of the site is, however, oil exploration and drilling. Until the Government places the site and its buffer zone off-limits to oil exploration, the conservation outlook for the site is of significant concern.

Current state and trend of VALUES

High Concern
Trend: Deteriorating

The values for which the site was inscribed on the World Heritage List are still clearly demonstrated; however, they are being affected by a number of threats, including coastal development, invasive species and climate change. The 2012 Report Card for the Mesoamerican Barrier Reef indicates that while 29% of the reefs were in critical condition, 44% of the reefs were in poor condition, 22% were in fair and 5% were in good condition (Healthy Reefs, 2012). However, these figures are for the whole part of the Mesoamerican Reef located in Belize and the condition of the reefs within the World Heritage Site is expected to be better. High concerns also remain for some unique habitats, notably in the highly diverse Pelican Cayes area, where existing development proposals remain legally

viable.

Overall THREATS

Very High Threat

Coastal development, tourism growth, overfishing, invasive species and the multiple impacts of climate change (coral reef bleaching events, increased frequency and severity of storms; and sea level rise) are all very serious factors that negatively affect the overall integrity of the site. The most serious potential threat to the values of the site is oil exploration and drilling. Until the Government places the site and its buffer zone off-limits to oil exploration, the assessment level for potential threats remains “very high”.

Overall PROTECTION and MANAGEMENT

Some Concern

Belize Barrier Reef Reserve System comprises 7 component protected areas. While management of these components can be quite effective and certain issues, such as tourism and fishing, are well-controlled, some issues, particularly land development, require cooperation across the whole site. While the main management agencies (Fisheries and Forestry Departments, Coastal Zone Management Authority, NGOs involved in co-management) are cooperative, permitting agencies do not always issue permits in accordance with management plans of the component PAs. It is therefore essential that new legislative instruments that are currently being developed, particularly, the Coastal Zone Management Plan, provide clear guidance for any kind of development activities within the World Heritage site and its buffer zone.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **One of the most pristine reef ecosystems in the Western Hemisphere**
Criterion:(vii)

The site is one of the most pristine reef ecosystems in the Western Hemisphere. As early as 1842, Charles Darwin referred to it as “the most remarkable reef in the West Indies”. The barrier reef and atolls exhibit some of the best reef growth in the Caribbean (IUCN Evaluation Report, 1996)

► **Classic example of the evolutionary history of reefs**
Criterion:(ix)

This site is unique for its array of reef types and provides a classic example of the evolutionary history of reefs through fringing, barrier and atoll reef types. The geological history of the reefs and coastline of Belize differs from that of the Caribbean islands, the other main area of reefs in the region. The history of the Belize Barrier Reef Complex illustrates the major role that reefs have play in the history of humankind. Such interaction between human and reefs is particularly evident in Belize today, where a large part of the economy is dependent on the Barrier Reef through fisheries and tourism (IUCN Evaluation Report, 1996).

► **Important habitat for a number of internationally threatened marine and bird species**
Criterion:(x)

The site provides an important habitat for a number of internationally

threatened marine species. Remaining pristine areas of the cays, with remnant stands of littoral forest, provide critical habitat for several endemic and migratory bird species. The area is also of major importance for research (IUCN Evaluation Report, 1996).

Assessment information

Threats

Current Threats

Very High Threat

Coastal development, tourism growth, overfishing, invasive species and the multiple impacts of climate change (coral reef bleaching events, increased frequency and severity of storms; and sea level rise) are all very serious factors that negatively affect the overall integrity of the site.

► Invasive Non-Native/ Alien Species

Very High Threat
Inside site
Outside site

The invasion of Indo-Pacific Lionfish would appear to be the most exigent threat posed by an invasive species to the OUV of the property (Mission report, 2013). The State Party has been actively addressing the issue and the recently prepared National Lionfish Management Plan is a good basis to continue the efforts in a systematic ways. However, the level of this threat remains very high.

► Water Pollution

Low Threat
Inside site

Near shore environments are being polluted by runoff from construction sites, home sites, and tourism infrastructure, inappropriate disposal of wastes. Improper handling of fuels and other toxic substances adds to the

pollution (UNESCO/IUCN Mission Report, 2009).

▶ Erosion and Siltation/ Deposition

High Threat
Inside site
Outside site

Reef siltation is caused by sediments carried by rivers into coastal environments, which originate both from Belize and neighboring countries (UNESCO/IUCN Mission Report, 2009).

▶ Housing/ Urban Areas

Very High Threat
Inside site

Coastal development has been an ongoing issue for this property. Lands on islands and cays within the property have been sold off and leased by government for the development of private homes and tourism infrastructure. Despite some progress achieved in halting sale and lease of lands and tightening the regulations, there is no clear evidence that the permanent cessation of sale and lease within the site’s boundaries had been legally guaranteed (UNESCO/IUCN Mission Report, 2009; State Party Report, 2012; Belize NGOs Resolution, 2008; IUCN Mission Report, 2013).

▶ Fishing / Harvesting Aquatic Resources

High Threat
Inside site

Illegal fishing by vessels from neighboring countries, and overfishing of finfish, conch, and lobster is prevalent and has resulted in the loss of fishing aggregations, low populations of key species and the proliferation of macroalgae covering the reefs. (UNESCO/IUCN Mission Report 2009; State Party Report, 2012). The State Party has developed a number a measures to address the issue, including newly established Managed Access program, the seasonal closures for conch, the protection for spawning aggregation sites and the development of several legislative instruments (Mission Report, 2013). However, it still remains to see how effective these measures are.

► Chemical changes in oceanic waters, Temperature changes

High Threat
Inside site
Outside site

Large scale mortality of coral cover occurs periodically, caused by rising sea temperatures and acidification of the marine environment, both of which are attributed to climate change (UNESCO/IUCN Mission Report, 2009).

► Temperature changes

Very High Threat
Inside site
Outside site

Sea level rise is already occurring gradually as a result of climate change. The rising sea levels and the potential increase in significant hurricane events associated with the expected change in climate will severely impact the future of Belize. It is likely that all seven component sites that comprise the property are facing a significant threat in the medium term (UNESCO/IUCN Mission Report, 2009; IUCN Mission Report, 2013).

Potential Threats

Very High Threat

The most serious potential threat to the values of the site is oil exploration and drilling. Until the Government places the site and its buffer zone off-limits to oil exploration, the assessment level for potential threats remains “very high”.

► Oil/ Gas exploration/development

Very High Threat
Inside site
Outside site

In 2013 the number of Petroleum Sharing Agreements (PSA) in the marine areas decreased to five (from eight), however oil concessions overlapping with the property or adjacent to it still remained (Mission Report, 2013). In April 2013 the Supreme Court of Belize declared all off-shore oil concessions void (SOC report 2013); however no recent information on this decision is available. According to the most recent State Party report (2014) oil

concessions in the marine environment still exist and the Government of Belize is currently not prepared to relinquish them all, however a Petroleum Exploration and Development Framework is being developed (SP report, 2014).

Protection and management

Assessing Protection and Management

► Relationships with local people

Serious Concern

There is little recognition and understanding of the World Heritage status of the property among local communities. As a result, there is no relationship with local people based on management of the property as World Heritage site (UNESCO/IUCN Mission Report, 2009).

► Legal framework and enforcement

Serious Concern

There is no legal framework and no enforcement specific to World Heritage status. Rather, enforcement is based on the varying legal designations attached to each component of the site, and the governance arrangement in place for that component (UNESCO/IUCN Mission Report, 2009).

► Integration into regional and national planning systems

Some Concern

A number of legislative instruments are currently being developed, including e.g. the Integrated Coastal Zone Management Plan, the Land Use Policy Implementation Plan, the National Protected Areas Bill and the Fisheries Resources Bill (Mission Report, 2013) and their adoption and effective implementation are essential to ensure the long-term conservation of the property.

► Management system

Some Concern

This is a serial property composed of several protected areas. While on the level of these component protected areas the existing management structures can be effective, there is no single management system or management plan to guide management of the site as a whole. However, the recent formation of the Ministry of Fisheries, Forestry and Sustainable Development at least brought together Departments responsible for various aspects of protected areas management in Belize (Mission Report, 2013).

▶ Management effectiveness

Some Concern

While management of the component protected areas of the site can be quite effective, even if sometimes constraint by lack of human and financial resources, certain issues, particularly land development, require cooperation across the whole site. While the main management agencies (Fisheries and Forestry Departments, Coastal Zone Management Authority, NGOs involved in co-management) are cooperative, permitting agencies do not always issue permits in accordance with management plans of the component PAs. It is therefore essential that the Coastal Zone Management Plan that is currently being developed provides clear guidance for any kind of development activities within the World Heritage site and its buffer zone.

▶ Implementation of Committee decisions and recommendations

Serious Concern

Several corrective measures identified by the 2009 reactive monitoring mission have been addressed; particularly expansion of no-take zones and development of a co-management framework (SOC report, 2013), however, a large number of issues remains to be resolved.

▶ Boundaries

Mostly Effective

While the boundaries of the 7 components of the Property are well described, the calculations for the area of each of these components given in the nomination document differs from the area indicated in the Protected Areas Policy and System Plan. (UNESCO/IUCN Mission Report, 2009)

▶ Sustainable finance

Some Concern

A protected areas fund, the Protected Areas Conservation Trust, has helped to increase the levels of funding available for protected areas. However, given the lack of government funding, the overall availability of finance for the management of property is insufficient. (UNESCO/IUCN Mission Report, 2009)

▶ Staff training and development

Data Deficient

No recent data available

▶ Sustainable use

Some Concern

Habitat modification on different cays and islands for vacation homes and tourism infrastructure is clearly incompatible with the conservation of the values of the site. Recreational uses such as sailing and diving could potentially be carried out in sustainable ways, but would require rigorous management to define capacities, appropriate management, and regular monitoring to detect impacts. Though some impact assessments are being undertaken with the tourist industry, full management programs are not in place. (UNESCO/IUCN Mission Report, 2009)

▶ Education and interpretation programs

Data Deficient

Data deficient

▶ Tourism and interpretation

Mostly Effective

The recently (2012) developed National Sustainable Tourism Master Plan for Belize 2030 recognizes the importance of the World Heritage site and outlines a vision for future tourism development.

▶ Monitoring

Mostly Effective

Monitoring is undertaken on the level of component protected areas by the respective management organizations, but also across the whole reef when it comes to broader issues, such as for example the invasion of Lionfish (Mission report, 2013).

▶ Research

Mostly Effective

Various research programmes have been carried out by the management authorities and a number of NGOs.

Overall assessment of protection and management

Some Concern

Belize Barrier Reef Reserve System comprises 7 component protected areas. While management of these components can be quite effective and certain issues, such as tourism and fishing, are well-controlled, some issues, particularly land development, require cooperation across the whole site. While the main management agencies (Fisheries and Forestry Departments, Coastal Zone Management Authority, NGOs involved in co-management) are cooperative, permitting agencies do not always issue permits in accordance with management plans of the component PAs. It is therefore essential that new legislative instruments that are currently being developed, particularly, the Coastal Zone Management Plan, provide clear guidance for any kind of development activities within the World Heritage site and its buffer zone.

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

Serious Concern

The most significant threat originating from outside the site is potential off-shore oil exploration and development and the site has very limited capacity to deal with this issue.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **One of the most pristine reef ecosystems in the Western Hemisphere**

High Concern
Trend:Deteriorating

The values for which the property was inscribed on the World Heritage List under criterion (vii) are still clearly demonstrated in the property. The BBRRS remains a display of superlative natural phenomena and areas of exceptional natural beauty and aesthetic importance. The BBRRS remains the longest barrier reef in the Northern and Western Hemispheres and is still considered unique in the world for its array of reef types contained in a relatively small area (Mission report, 2013). The pristine nature of the site is however being undermined by myriad factors, especially growth of tourism, real estate and tourism infrastructure development, overfishing, pollution of near shore environments, multiple effects of climate change, and invasive species. (UNESCO/IUCN Mission Report, 2009; Mission report, 2013).

▶ **Classic example of the evolutionary history of reefs**

High Concern
Trend:Deteriorating

The property still provides an array of examples of the evolutionary history of reef development with fringing, barrier and atoll reef sites. However there are trends which indicate that an increased level of development both within and adjacent to the property on the coastal fringe has taken place and if not properly managed could lead to the decline of these reef sites. Of particular concern in the immediate term the coastal fringing reefs could be considered the most vulnerable (Mission report, 2013). The 2012 Report Card for the Mesoamerican Barrier Reef indicates that while 29% of the reefs were in critical condition, 44% of the reefs were in poor condition, 22% were in fair and 5% were in good condition (Healthy Reefs, 2012). However, these figures are for the whole part of the Mesoamerican Reef located in Belize and the

condition of the reefs within the World Heritage Site is expected to be better.

► **Important habitat for a number of internationally threatened marine and bird species**

High Concern
Trend:Deteriorating

There do not appear to be any identified total losses of habitats or species since inscription and recent management measures have attempted to address significant threats in this regard. There remains however significant concern for some unique habitats, notably in the highly diverse Pelican Cayes area where existing development proposals remain legally viable (Mission report, 2013).

Summary of the Values

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

High Concern

Trend: Deteriorating

The values for which the site was inscribed on the World Heritage List are still clearly demonstrated; however, they are being affected by a number of threats, including coastal development, invasive species and climate change. The 2012 Report Card for the Mesoamerican Barrier Reef indicates that while 29% of the reefs were in critical condition, 44% of the reefs were in poor condition, 22% were in fair and 5% were in good condition (Healthy Reefs, 2012). However, these figures are for the whole part of the Mesoamerican Reef located in Belize and the condition of the reefs within the World Heritage Site is expected to be better. High concerns also remain for some unique habitats, notably in the highly diverse Pelican Cayes area, where existing development proposals remain legally viable.

Additional information

Key conservation issues

▶ Oil exploration

National

Oil concessions overlapping with the property or adjacent to it represent a very high threat to the property's integrity.

▶ Sale and lease of lands for private development

National

Coastal development has been an ongoing issue for this property. Lands on islands and cays within the property have been sold off and leased by government for the development of private homes and tourism infrastructure (UNESCO/IUCN Mission Report, 2009; State Party Report, 2012 ; Belize NGOs Resolution, 2008; IUCN Mission Report, 2013)

▶ Overfishing

Regional

Illegal fishing by vessels from neighboring countries, and overfishing of finfish, conch, and lobster is prevalent and has resulted in the loss of fishing aggregations, low populations of key species and the proliferation of macroalgae covering the reefs. (UNESCO/IUCN Mission Report 2009; State Party Report, 2012). The State Party has developed a number a measures to address the issue, including newly established Managed Access program, the seasonal closures for conch, the protection for spawning aggregation sites and the development of several legislative instruments (Mission Report, 2013). However, it still remains to see how effective these measures are.

▶ Invasive species

Regional

The invasion of exotic marine species, notably the lionfish is of high concern despite the significant efforts undertaken to address the issue.

Benefits

Understanding Benefits

► Outdoor recreation and tourism

The site has become a major draw internationally because of the beauty of the islands, cays, and reefs.

► Fishing areas and conservation of fish stocks

Provided that an effective no-take zones network is in place and is effectively enforced, the site would have a major impact on restoring fisheries in the whole area of the Barrier Reef.

► Importance for research

The site could be used as a center for reef research and education.

Summary of benefits

The Property seeks to protect and manage some of the most extraordinary areas of the Mesoamerican Barrier Reef for conservation, tourism, fisheries, and research and education.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	.		.

REFERENCES

№	References
1	Healthy Reefs for Healthy People, 2012. Report Card for the Mesoamerican Reef.
2	IUCN Evaluation, 1996
3	IUCN Mission report, 2013
4	SOC report, 2012
5	SOC report, 2013
6	State Party Report on the State of Conservation of the Belize Barrier Reef Reserve System (Belize), 2012
7	State Party Report on the State of Conservation of the Belize Barrier Reef Reserve System (Belize), 2014
8	UNESCO/IUCN Reactive Monitoring Mission Report, 2009