

Pitons Management Area

2020 Conservation Outlook Assessment

SITE INFORMATION

Country: Saint Lucia

Inscribed in: 2004

Criteria: (vii) (viii)



The 2,909-ha site near the town of Soufriere includes the Pitons, two volcanic spires rising side by side from the sea (770 m and 743 m high respectively), linked by the Piton Mitan ridge. The volcanic complex includes a geothermal field with sulphurous fumeroles and hot springs. Coral reefs cover almost 60% of the site's marine area. A survey has revealed 168 species of finfish, 60 species of cnidaria, including corals, eight molluscs, 14 sponges, 11 echinoderms, 15 arthropods and eight annelid worms. The dominant terrestrial vegetation is tropical moist forest grading to subtropical wet forest, with small areas of dry forest and wet elfin woodland on the summits. At least 148 plant species have been recorded on Gros Piton, 97 on Petit Piton and the intervening ridge, among them eight rare tree species. The Gros Piton is home to some 27 bird species (five of them endemic), three indigenous rodents, one opossum, three bats, eight reptiles and three amphibians. © UNESCO

SUMMARY

2020 Conservation Outlook

Finalised on 16 Jan 2022

SIGNIFICANT CONCERN

The conservation outlook for the values related to volcanic features and geological processes is good as these are robust and little affected by human activities. The outlook for the aesthetic values of the site is of high concern and has been declining because of poorly controlled development within the site. The pressure from tourism and housing development coincided with the absence of a structured and enforced development control system and has been aggravated by limited financial and technical management capacity. The Limits of Acceptable Change (LAC) study provides important guidance for the management of the site, particularly with respect to the development pressures, thus the integration of the developed guidelines into relevant legislative frameworks and their complete implementation will be essential for the protection of the site's values. However, it is of significant concern that the LAC recommendations have not yet been given legal standing through enacting of regulations (State Party of Saint Lucia, 2020).

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Superlative natural beauty**

Criterion:(vii)

The Pitons Management Area derives its primary visual impact and aesthetic qualities from the Pitons, two adjacent forest-clad volcanic lava domes rising abruptly from the sea to heights greater than 700m. The Pitons predominate over the Saint Lucian landscape, being visible from virtually every part of the island and providing a distinctive landmark for seafarers. The combination of the Pitons against the backdrop of green tropical vegetation and a varying topography combined with a marine foreground gives the area its superlative beauty (World Heritage Committee, 2016).

► **Volcanic features**

Criterion:(viii)

The Pitons Management Area contains the greater part of a collapsed stratovolcano contained within the volcanic system, known to geologists as the Soufriere Volcanic Centre. Prominent within the volcanic landscape are two eroded remnants of lava domes, Gros Piton and Petit Piton. The Pitons occur with a variety of other volcanic features including cumulodomes, explosion craters, pyroclastic deposits (pumice and ash), and lava flows. Collectively, these fully illustrate the volcanic history of an andesitic composite volcano associated with crustal plate subduction (World Heritage Committee, 2016).

Other important biodiversity values

► **Marine habitats**

The Marine Management Area within the PMA is a coastal strip 11 km long and about 1 km wide. It comprises a steeply sloping continental shelf with fringing and patch reefs, boulders and sandy plains. The coral reefs, which cover almost 60% of the nominated marine area, are healthy and diverse. A survey to a depth of 20 m revealed 168 species of finfish, 60 species of cnidaria including corals, 8 molluscs, 14 sponges, 11 echinoderms, 15 arthropods and 8 annelid worms. Hawksbill turtles are seen inshore, and whale sharks and pilot whales offshore (IUCN, 2004).

► **Terrestrial species of conservation concern**

At least 148 plant species have been recorded on Gros Piton and 97 on Petit Piton and the intervening ridge. Among these are several endemic or rare plants, including eight rare species of tree. Some 27 bird species, including 5 endemics, are known from Gros Piton, along with 3 indigenous rodents, 1 opossum, 3 bats, 8 reptiles and 3 amphibians. The endemic St Lucia anole *Anolis luceae*, St Lucia pygmy gecko *Sphaerodactylus microlepis*, St Lucia boa *Constrictororophias*, and St Lucia viper (or fer-de-lance) *Bothrops caribbaeus* occur (IUCN, 2004).

► **International Bird Area**

This IBA is important for its population of the Endangered St Lucia Black Finch *Melanospiza richardsoni*, and for the 14 (of the 23) Lesser Antilles EBA restricted-range birds that occur (including the Near Threatened St Lucia Oriole *Icterus laudabilis*). The endemic subspecies of Lesser Antillean Flycatcher *Myiarchus oberi santaeluciae* and House Wren *Troglodytes aedon martinicensis* also occur. A small but regionally important population of Royal Tern *Sterna maxima* breeds here (IBA factsheet).

Assessment information

Threats

Current Threats

Very High Threat

The Pitons Management Area is one of the smallest natural World Heritage sites which currently faces a combination of development pressure associated with tourism and housing. Multiple effects of climate change represent another critical threat facing the PMA.

► **Solid Waste**

(Solid waste disposal)

Low Threat

Inside site, extent of threat not known
Outside site

The disposal of solid wastes along the coastline has a negative impact on the aesthetics of the site and pose a threat to many species (IUCN, 2004).

► **Fire/ Fire Suppression**

(Fires)

Low Threat

Inside site, scattered(5-15%)

Bush fires occur periodically within the site. A large fire occurred in 2010, devastating part of the hill above the Sulphur Springs. This threat periodically affects the site's backdrop of green tropical vegetation and could become more important due to climate change (IUCN, 2010). Fires also increase the risk of erosion and sediment runoff.

► **Invasive Non-Native/ Alien Species**

(Invasive species)

Low Threat

Inside site, localised(<5%)

Invasive plant species have spread in the site through the main track trail. Significant efforts to eradicate invasive alien species have been made, and include increasing the general public, local landholders and tourist businesses awareness on floristic issues (Forestry Department Union Saint Lucia, 2012; State Party of Saint Lucia, 2015; World Heritage Committee, 2016).

► **Droughts, Ocean acidification, Storms/Flooding**

(Multiple impacts from climate change)

Very High Threat

Inside site, throughout(>50%)

The impacts of climate change are cumulative for both terrestrial and marine environments. Terrestrial environments are affected by increased frequency and severity of droughts, fires, tropical storms and hurricanes, the latter causing flooding and wind damage. Marine environments, and especially coral reefs, are negatively affected by ocean acidification, which contributes to coral mortality; periodic coral bleaching events caused by rises in sea temperatures; and increased frequency and severity of tropical storms and hurricanes leading to increased runoff and sedimentation; and physical damage by wave action and storm surge (IUCN, 2004; IUCN, 2010)

► **Tourism/ Recreation Areas**

(Construction of vacation homes and resorts)

Very High Threat

Inside site, scattered(5-15%)
Outside site

The construction of vacation homes and resorts with PMA are degrading aesthetic values and threatening the OUV of the site. While a moratorium on development is theoretically in place, strict conditional approvals have been granted for developments that would enhance the tourism product. Now that the Limits of Acceptable Change (LAC) Study has been completed and gives clear recommendations about the acceptability of proposed and future developments, it will be essential that these recommendations are fully obliged by, integrated into legal and regulatory frameworks, and that existing plans are revised to meet the requirements. The recommendations of the LAC study were endorsed by Executive Order (Cabinet Conclusion No. 527 of 2013) and outlined a road map for implementation of the report (IUCN, 2004; IUCN, 2010; State Party of Saint Lucia, 2012; UNESCO, 2013; UNESCO, 2014). It is hoped that dialogue with developers established following the adoption of the LAC study will result in a mutually acceptable balance in line with the World Heritage status of PMA. Visual

monitoring of the Freedom Bay site, where development has been halted, in January 2019 reported no visible activity since 2016 (State Party of Saint Lucia, 2020). However, the continued absence of an enforcement mechanism in case dialogue fails to generate a consensus is of concern (UNESCO, 2016; UNESCO, 2018). Regulations based on the 2013 LAC study have not yet been developed (State Party of Saint Lucia, 2020).

Potential Threats

Low Threat

The exploration stage of the geothermal energy project has concluded, with no specific plans yet for a second phase. However, possible locations for exploratory drilling were identified vicinity of the site (State Party of Saint Lucia, 2020).

► Renewable Energy

Low Threat

(Geothermal energy)

Outside site

Concerns about location of geothermal resources within or in the immediate vicinity of the site have not materialised. However, any exploration or eventual use of geothermal energy requires adequate assessment of the potential impacts on the site (UNESCO, 2016; UNESCO, 2018). The Geothermal Resource Development Project ended in January 2019, and although possible locations for exploratory drilling were identified in the vicinity of the site, no further action is anticipated in the short to medium term (State Party of Saint Lucia, 2020).

Overall assessment of threats

Very High Threat

The Pitons Management Area is one of the smallest natural World Heritage sites which currently faces a combination of development pressure associated with tourism and housing. Multiple effects of climate change represent another critical threat facing the PMA. The possibility for geothermal energy exploitation near the site constitute a potential future threat.

Protection and management

Assessing Protection and Management

► Management system

Some Concern

Management of the Pitons Management Area (PMA) is guided through a statutory PMA Management Plan. Implementation is based on the inputs of a large number of government departments and stakeholder groups. In practice, however, the Plan has failed to address the requirements for sustainable development of the PMA. A subsequent Integrated Development Plan and Specific Development Guidelines for the World Heritage site have not halted the construction of unsightly and intrusive buildings in critical areas (IUCN, 2010). In 2015, Terms of Reference for undertaking a review of the PMA Management Plan were developed by the PMA Office (State Party of Saint Lucia, 2015) and reviewed in 2019. It was determined that a review of the PMA Management Plan should be preceded by application of the Protected Areas Management and Tracing Tool (PAME) to assess the level of effectiveness of the site's management. This confirmed the need to update the 2003 PMA Management Plan, which will commence in 2020 (State Party of Saint Lucia, 2020).

► Effectiveness of management system

Serious Concern

Management effectiveness for the terrestrial component is low because of the fragmentation of responsibilities, the lack of effective coordination, and political pressure (IUCN, 2010; PMA - Soufrière Region Integrated Management Plan, 2008; PMA, 2003). The adoption of the Limits of Acceptable Change (LAC) study can provide a framework for strengthening management protocols (State Party of Saint Lucia, 2015) and therefore improving the overall management effectiveness. However, the recommendations of the 2013 LAC study have not resulted in new laws, regulations or significant

implementation (State Part of Saint Lucia, 2020; World Heritage Committee, 2018).

► **Boundaries**

Some Concern

The LAC study recommended changes and adjustments to some of the PMA's internal boundaries as a means of strengthening management protocols, including some modifications to Policy areas, which represent a zoning mechanism in the site (State Party of Saint Lucia, 2015). However, other than an initial survey investigation at Policy Area 4 adjacent to Petit Piton in 2017, no action has been taken (State Party of Saint Lucia, 2020), despite urging to accelerate boundary demarcations and modifications (World Heritage Committee, 2020).

► **Integration into regional and national planning systems**

Mostly Effective

The World Heritage site is well integrated into the national planning framework, and a regional plan to integrate the development of the PMA and surrounding region has been developed (IUCN, 2010; PMA - Soufrière Region Integrated Management Plan, 2008; PMA, 2003).

► **Relationships with local people**

Some Concern

The complexity of management arrangements for the Pitons Management Area is reflected in the complexity of relationships with local people and the diverse range of interests. These are particularly confusing and fragmented for the terrestrial part of the World Heritage site (IUCN, 2010)

► **Legal framework**

Serious Concern

The legal framework for the World Heritage site is complex and confusing, and according to some stakeholders, enforcement is arbitrary and also subject to political influence (IUCN, 2010; PMA - Soufrière Region Integrated Management Plan, 2008; PMA Management Plan, 2003). The Limits of Acceptable Change (LAC) study, which gives clear recommendations regarding the acceptability of proposed and future developments, was adopted by the Cabinet of Ministers in 2015. However, despite repeated urging (World Heritage Committee, 2014, 2016, 2018), the process of integrating these recommendations into the legislative and institutional framework of Saint Lucia remains to be completed. The Terms of Reference for integrating the LAC Recommendations into the legal framework for development appraisals have been developed; however, this action needs funding (State Party of Saint Lucia, 2020; IUCN Consultation, 2020).

► **Law enforcement**

Serious Concern

Regarding development projects, it is expected that dialogue with developers will result in a mutually acceptable balance in line with the World Heritage status of PMA, however the continued absence of an enforcement mechanism, in case dialogue fails to generate a consensus, is of serious concern (UNESCO, 2016).

► **Implementation of Committee decisions and recommendations**

Some Concern

Some Committee decisions have been implemented, while others have not. The study to determine the Limits of Acceptable Change, to review land use plans and development and control guidelines was completed in 2013 but still needs to be fully implemented by the State Party. A draft statement of OUV has been submitted as have reports on the state of conservation of the site (State Party of Saint Lucia, 2012; IUCN, 2010; UNESCO, 2014; State Party of Saint Lucia, 2017, 2020). The State Party continues to address the requests and recommendations expressed by the World Heritage Committee. However, beyond reporting most of the requests in decisions have not been addressed.

► **Sustainable use**

Serious Concern

A number of new structures, both legal and illegal, are negatively impacting the OUV of the site and thus are uses that are unsustainable. Construction of new resorts in principle would further add to the problem (IUCN, 2010).

- ▶ **Sustainable finance** **Some Concern**

Finance for management activities is provided indirectly by the government through the allocations to the various government agencies and committees that are part of the management structure. However, this is not enough to cover an integrated approach to management (IUCN, 2010; PMA - Soufrière Region Integrated Management Plan, 2008; PMA, 2003).
- ▶ **Staff capacity, training, and development** **Serious Concern**

The PMA is still inadequately staffed.
- ▶ **Education and interpretation programs** **Mostly Effective**

Importance of raising awareness and providing better educational opportunities has been recognised and there are plans to improve current provisions. A number of initiatives to increase public awareness of the values of the property have been commenced, including preparation of brochures and other materials and organization of community events (State Party of Saint Lucia, 2015). PMA education centers on a website created in 2017 (State Party of Saint Lucia, 2017). Since 2014 PMA has organized annual summer three-day camps for approximately 40 schoolchildren per year (State Party of Saint Lucia, 2020).
- ▶ **Tourism and visitation management** **Data Deficient**

The park attracts over 200,000 visitors annually and employs over 40 permanent staff (Soufriere Regional Development Foundation, 2017). There are some plans to develop the PMA further for tourism, especially the Malgretoute Area, and a new Bilateral Cooperation Project between Mexico and Saint Lucia will, apart from conservation, focus on exploring linkages between heritage tourism development and job creation (State Party of Saint Lucia, 2020). Besides this, there is very limited information available regarding tourism and visitation management.
- ▶ **Monitoring** **Some Concern**

Monitoring of the marine part of the World Heritage site is carried out on a regular basis by the staff of the Soufriere Marine Management Association (SMMA). With regards to the values of the site associated with criterion (vii), viewpoint monitoring was recommended as a key monitoring method by the LAC study and consists of comparing photographic evidence of outstanding viewpoints with baseline photographs of same locations taken in 2013. A limited photographic survey was taken in May/June of 2019. Mostly, the survey did not detect any significant change in the PMA Outstanding Views, however, some areas of concern were found showing worrying exposure of new developments, especially on private properties (State Party of Saint Lucia, 2020). Additionally, the PMA Office staff is receiving further training in the use of Unmanned Aerial Systems (UAS) or Drones for monitoring. The equipment and training is being provided through support from the CATS Programme funded by the GIZ (IUCN Consultation, 2020).
- ▶ **Research** **Some Concern**

The PMA Office is currently collaborating with the University of Vermont (UVM) on a programme of research. The initial areas for surveys is “public awareness of World Heritage”. The intention is to broaden the scope of this work to include research in biodiversity and socio-economic topics (IUCN Consultation, 2020).
Research on the marine component is promoted and coordinated by the SMMA, and carried out by external researchers (SMMA website).

Overall assessment of protection and management **Some Concern**

Pitons Management Area faces a combination of tourism and housing development pressures, which coincide with the absence of a structured and enforced development control system and is

aggravated by limited financial and technical management capacity. The recently completed Limits of Acceptable Change (LAC) study provides important guidance for the management of the site, particularly with respect to the development pressures, thus the complete implementation of the study's guidelines will be essential for the protection of the site's values. However, the incorporation of the recommendations of the LAC study into enforceable legislation and regulations remains to be completed.

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

Some Concern

An Integrated Development Plan for the PMA and Soufriere Region was developed in 2008, but has not been implemented. The IUCN Monitoring Mission of 2010 found that there was no unifying vision for sustainable development of the region, nor mechanisms in place to address threats from outside the region (IUCN, 2010; PMA - Soufrière Region Integrated Management Plan, 2008).

► **Best practice examples**

As part of the Invasive Alien Species Eradication Project in 2015, an Environmental Stewardship programme was initiated with the use of Volunteers for eradication of IAS on the Gros Piton Nature Trail (GPNT).

State and trend of values

Assessing the current state and trend of values

World Heritage values

► **Superlative natural beauty**

Critical
Trend: Stable

The natural beauty of the World Heritage site is negatively affected by the construction of vacation homes and resorts. Though the development of regulations and guidelines for new constructions have been underway, including a key Limits of Acceptable Change study in 2013, their integration into the legal framework remains to be completed (State Party of Saint Lucia, 2020). Aesthetic values are also affected, though much less so, by solid waste, small scale farming, timber extraction, charcoal burning, fires, and grazing by goats (IUCN, 2004; IUCN, 2010; State Party of Saint Lucia, 2012).

► **Volcanic features**

Good
Trend: Stable

The physical attributes of the PMA that relate to earth's history and geological processes are not threatened.

Summary of the Values

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

High Concern
Trend: Data Deficient

The degradation of the aesthetic values of the World Heritage site is caused mainly by the construction of homes and resorts. The physical attributes related to volcanic features and geological processes are not threatened. Probabilistic elements have not been included in volcanic hazard assessments to date (Lindsay and Robertson, 2018). Together the current state of the site's values can be assessed as "high concern".

► **Assessment of the current state and trend of other important biodiversity values**

Data Deficient
Trend: Data Deficient

Data regarding the severity and trends of degradation of the marine environment, especially coral reefs, and the conservation status of terrestrial species of conservation concern is deficient. The conservation of marine habitats is not a primary objective for management of the site, per se, but rather is an indirect objective because it contributes to the maintenance of the aesthetic values of the marine part of the site. Road, housing, and resort construction, small scale subsistence farming, and occasional timber extraction and charcoal burning all expose soils, increase erosion, and facilitate the transport of sediments into the near shore marine environment. This in turn negatively affects reef environments by contributing to coral mortality. Marine environments, and especially coral reefs, are also negatively affected by climate change, especially through ocean acidification, which contributes to coral mortality; periodic coral bleaching events caused by rises in sea temperatures; and greater severity and frequency of tropical storms and hurricanes leading to increased runoff and sedimentation and physical damage by wave action and storm surge. However, data regarding the severity and trends of these threats is deficient (IUCN, 2004; IUCN, 2010).

Additional information

Benefits

Understanding Benefits

► **Outdoor recreation and tourism**

The iconic PMA is a major tourism attraction for St. Lucia and the Caribbean that draws tourists from many parts of the world, and is a key element supporting economic development (IUCN, 2010; PMA, 2003).

► **Cultural identity and sense of belonging**

The Pitons are an iconic feature of St. Lucia that stimulates national pride amongst its citizens (IUCN, 2010; PMA, 2003).

Summary of benefits

Tourism and national pride are the major benefits associated with the PMA. This has the double benefit of feeding both economic development and national identity.

Projects

Compilation of active conservation projects

No	Organization	Brief description of Active Projects	Website
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1	Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Cooperatives	The "Addressing Problems of Land Degradation and Ecosystem Degradation in the Upper Reaches of the Soufriere Watershed in Saint Lucia" project seeks to address the problems of land degradation and ecosystem degradation in the upper reaches of the Soufriere Watershed through rehabilitation of lands, provision of alternative sustainable livelihoods, capacity building and public awareness. A project of UNDP SGP GEF - Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (IWECO). The Project officially started on 30th November 2017 and is being implemented over a three-year period, ending in October 2020.	https://www.iweco.org/countries/saint-lucia
2	Saint Lucia Forestry Division, FFI	Restoration of the <i>Juniperis Barbardensis</i> or pencil cedar. Saint Lucia's Petit Piton, one of the iconic cone shaped mountains in the PMA, is home to the last remaining population in the world of the Critically Endangered <i>Juniperus barbadensis</i> var. <i>barbadensis</i> , known locally as the pencil cedar. Flora and Fauna International through its Global Trees Campaign is working with the Saint Lucia Forestry Division to restore the population of pencil cedar in the PMA and on Saint Lucia generally.	https://globaltrees.org/projects/using-christmas-to-save-saint-lucias-pencil-cedars/

REFERENCES

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 - 2 IUCN Evaluation, 2004

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