IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 15 June 2014

Please note: this is an archived Conservation Outlook Assessment for Central Highlands of Sri Lanka. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Central Highlands of Sri Lanka

SITE INFORMATION

Country:
Sri Lanka
Inscribed in: 2010
Criteria:
(ix) (x)

Site description:
Sri Lanka's highlands are situated in the south-central part of the island. The property comprises the Peak Wilderness Protected Area, the Horton Plains National Park and the Knuckles Conservation Forest. These montane forests, where the land rises to 2,500 metres above sea-level, are home to an extraordinary range of flora and fauna, including several endangered species such as the western-purple-faced langur, the Horton Plains slender loris and the Sri Lankan leopard. The region is considered a super biodiversity hotspot. © UNESCO

SUMMARY

2014 Conservation Outlook

Good with some concerns

The Central Highlands of Sri Lanka were inscribed onto the World Heritage List in 2010 in recognition of the site's values within one of the world's richest concentrations of biodiversity. The site conserves the largest remaining stands of sub-montane and montane rainforest in Sri Lanka and protects the habitat of an assemblage of associated species displaying extraordinary levels of endemism, many of which are site endemic. The property is home to several endangered flagship species such as the Purple-Faced Langur of Sri Lanka and the Sri Lankan Leopard. These values of the site remain intact due to relatively low levels of threat coupled with sound protection and a largely effective management regime. The recent completion of a more effective management planning framework for the site is welcome. However, the maintenance of the values is dependent on the continued efforts to address issues of concern and put in place the necessary staffing and funding to guarantee implementation of planned actions. Tourism impacts, invasive species and indirect impacts from the buffer zones appear to be the most significant current threats to the site. The management authorities will need to continually monitor the condition of values and adapt management accordingly to ensure the conservation outlook for this property remains positive.

Current state and trend of VALUES

Low Concern
Trend: Stable

Welcome progress has been made through the completion of an overall management framework for the entire site thereby improving coordination and consistency of objectives and management actions. The finalisation of individual management plans for each component of the serial site is equally welcome. All issues of concern have been actively addressed and the site's OUV remains intact. The values of the site remain intact despite the presence of threatening

processes, such as presence of invasive species, impacts of increasing tourism and other ecosystem modifications which will need on-going management effort and adequate staffing and funding. There remains a need to fully develop a management and monitoring framework for ecotourism. This is essential as the high number of visitors, including pilgrims, has an environmental impact on the site. There remains a need for clearer demarcation of the property boundaries. Illegal activities are still being undertaken in the property's buffer zones, including poaching, small scale illegal logging and land clearing and more effective law enforcement could address this.

Overall THREATS

Low Threat

The environmental impact of the high number of visitors to the site continues to be of concern however the development and implementation of a management and monitoring framework for ecotourism is underway. Better demarcation of the site boundaries, and an increase in the effectiveness of law enforcement should address illegal activities in the property's buffer zones such as poaching, small scale illegal logging and land clearing. Continued efforts will be required reinforcing the need for adequate staffing and funding to ensure that these measures are carried out effectively.

Overall PROTECTION and MANAGEMENT

Mostly Effective

The site enjoys adequate legal protection under Sri Lankan law and it is clear that management efforts continue to be directed at threatening processes. An overall management framework has been developed for the serial site, as well as management plans for each of the component parts of the property. A need for the development of an effective management and monitoring framework for tourism has been identified and this is underway.
In order to implement these planning strategies adequate staffing and funding need to be made available for the effective implementation of the new management plans. The State Party has been encouraged by the World Heritage Committee to include as part of the planned regular monitoring of threats, the regular evaluation of the effectiveness of management provisions, in order to ensure that existing and new threats are effectively controlled.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **Ecological and biological processes which support the sub-montane and montane rainforests of Sri Lanka**
  Criterion:(ix)

  The site comprises three serial properties: The Peak Wilderness Protected Area (PWPA), the Horton Plains National Park (HPNP), and the Knuckles Conservation Forest (KCF) and includes the largest and least disturbed remaining areas of the sub-montane and montane rain forests of Sri Lanka, which are a global conservation priority. The property includes areas of Sri Lankan montane rain forests considered as a super-hotspot within the Western Ghats and Sri Lanka biodiversity hotspot. More than half of Sri Lanka’s endemic vertebrates, half of the country’s endemic flowering plants and more than 34% of its endemic trees, shrubs, and herbs are restricted to these diverse montane rain forests and adjoining grassland areas (SoOUV, 2010)

- **Important and significant natural habitats for in-situ conservation of threatened and endemic vertebrate species**
  Criterion:(x)

  The three serial components that comprise the site contain the only habitats of many threatened species and are therefore of prime importance for their in-situ conservation. The site features exceptionally high numbers of threatened species, extraordinary levels of endemism, and high levels of species richness in a number of taxonomic groups. Of the 408 species of

vertebrates 83% of indigenous fresh water fishes and 81% of the amphibians in PWPA are endemic, 91% of the amphibians and 89% of the reptiles in HPNP are endemic, and 64% of the amphibians and 51% of the reptiles in the KCF are endemic. (SoOUV, 2010)

- **A critical habitat refuge for several globally significant and endangered species**
  Criterion:(x)

  The endemic purple-faced langur of Sri Lanka (Semnopithecus vetulus) has evolved into several morphologically different forms recognizable today. The Sri Lankan leopard, the only representative of the genus Panthera on the island, diverged from other felids about 1.8 million years ago and is a unique sub-species (Panthera pardus kotiya). Long isolation and the concomitant evolutionary processes have also resulted in a Sri Lankan molluscan fauna that is the most distinct in the South Asian region. (SoOUV, 2010)

Other important biodiversity values

- **Alliance for Zero Extinction (AZE) site as a place where Endangered or Critically Endangered species are restricted to single remaining sites.**

  Property is an AZE site as there are a number of endangered and critically endangered amphibian species across the three serial sites.
  Peak Wilderness: Adenomus dasi and Philautus asankai
  Knuckles range: Nannophrys marmorata, Philautus fulvus, Pseudophilautus hoffmanni, Philautus macropus,
  Pseudophilautus mooreorum, Pseudophilautus steineri and Pseudophilautus stuarti

  Horton Plains: Philautus microtympanum, Philautus silus, and Philautus alto
  http://www.zeroextinction.org

Assessment information

Threats

Current Threats

Low Threat

One of the key current threats to the site emanates from seasonal and localised heavy visitation. Garbage disposal, pollution and disturbance from vehicles have been the direct result of the high number of annual visitors to the site, particularly HPNP and PWPA. New visitor management plans are being prepared for each component, and an action plan is being prepared to prevent and mitigate the environmental impact of the pilgrimage season in PWPA.
A further key threat relates to a number of invasive plant and animal species have been identified in the property. Nine problematic species have been identified which could have a significant impact on its OUV. Since 2000 there has been no legal cardamom cultivation allowed and the current illegal cardamom cultivation is limited to the maintenance of abandoned crops thus posing a relatively low threat to the site.
Forest dieback in HPNP is believed to be caused by a fungus, and 22 plant species are reported to be affected. A number of factors have been identified as contributing to plant vulnerability to fungal attacks but ongoing research is still needed to find a solution to this problem.

▶ Tourism/ visitors/ recreation

Low Threat
Inside site

There are a high number of annual visitors to the site but these are mainly to HPNP and PWPA. Most visitor impact relates to the annual pilgrimage of 2million visitors who trek to Adam’s Peak within PWPA. These impacts are localised and temporal in that a closed season of 6 months allows for ecological recovery (IUCN Evaluation, 2010). KCF with 10,000-15,000 visitors annually, has no significant impact from visitors. The main environmental

problems caused by visitor numbers in these component parts of the site include garbage disposal, pollution and disturbance from vehicles (IUCN SOC, 2012). The State Party notes that new site specific visitor management plans are being prepared for each component, each within an overall management framework for management and monitoring of ecotourism. (SP Report, 2012)

► Crops

Low Threat
Inside site

The legal practice of growing cardamom in KCF was started in the 1960s and continued until the KCF was declared a Conservation Forest in 2000. From that time those involved were removed from the KCF and the area was left to regenerate. Several incidences of illegal harvesting of abandoned cardamom crops have been reported with 400ha of KCF affected by cultivation under the canopy. Most cardamom cultivation is limited to the maintenance of abandoned crops. The Forest Department has taken legal action against the perpetrators and law enforcement officers are permanently stationed in the area.

► Invasive Non-Native/ Alien Species

Low Threat
Inside site

Invasive species adversely affecting the biodiversity of the site have been identified in KCF and HPNP. Among those identified in the Knuckles forest Lantana camara is the most dominant single species. The removal of Eucalypts in 30 hectares within KCF in the Pitawala Patana grassland is being carried out and Lantana camara in other areas. A programme to remove invasive species in 80 ha of KCF in 2012 was carried out with a commitment to continue the program until all identified areas are cleared from invasive species (IUCN SOC, 2012).
In the HPNP the spread of Ulex europaeus has had a significant impact on the biodiversity of the HPNP (IUCN Evaluation, 2010). Ulex was introduced to the HPNP during the British rule. A programme to remove the weed has been completed in 22 hectares of the 30 hectares identified for clearing. (SP Report, 2012)

► Mining/ Quarrying

Very Low Threat
Inside site

Illegal gemming has been a problem in the past. Strict enforcement measures adopted by the Forest Department and Department of Wildlife Conservation have effectively controlled these activities taking place within the PWPA. (SP Report, 2012)

► Other Ecosystem Modifications

High Threat
Inside site

Forest die-back was first observed in 1946 on some mountain slopes of HPNP and subsequent studies have revealed some 22 plant species have been affected, most probably caused by fungal attack, with other environmental factors contributing to make the trees vulnerable (SP Report, 2012). Forest dieback has now been recorded in all three components of the property, and represents a serious problem to ecosystem health. Although some preliminary reserach has been undertaken on the forest dieback phenomenon in HPNP, studies are yet to be carried out in the other two components (IUCN Consultation, 2014).

Potential Threats

Low Threat

Boundaries are well defined for HPNP and KCF, but inadequate boundary demarcation of PWPA is hampering protection and conservation. Law enforcement is still not fully effective in stopping illegal activities within the buffer zones. These include poaching, small scale illegal logging, and land clearing encroachment from human settlement with new land-clearing continuing. At present this threat is considered to be relatively low, however, on-going action is required to ensure indirect effects do not become significant.

► Other

Low Threat

Inside site

Boundaries are well defined for HPNP and KCF, but not for PWPA which is hampering protection and conservation. Clear boundary demarcation is needed to identify the private lands that fall within the boundaries. Without this, illegal expansion of these lands and new land clearing could increase (IUCN SOC, 2012)
Buffer zone management practices vary among the three components. Effectively functioning buffer zones exist in Horton Plains National Park and Peak Wilderness Protected Area ensuring protection from threats arising from outside the boundaries of the site.

► Other Activities

Low Threat
Outside site

Knuckles Conservation Forest has the highest number of human settlements on its periphery with around 86 villages in the buffer zone. This proximity of settlements poses the biggest threat to the site however the legal framework and community cooperation initiatives that are in place should ensure adequate protection of the site. Actions have been initiated to identify new opportunities to work with buffer zone communities and to strengthen the law enforcement activities in the periphery of the property. (SP Report, 2012)

Protection and management

Assessing Protection and Management

► Sustainable finance

Some Concern

Funding is split approximately 1/3 from outside sources and 2/3 from governmental sources. According to the State Party funding is inadequate and not secure. (UNESCO Periodic Report, 2011).

► Staff training and development

Some Concern

All staff at the site are fulltime and permanent however their number is inadequate to fully manage the site. (UNESCO Periodic Report, 2011)

► Sustainable use

Mostly Effective

Subsistence wild plant collection occurs within the site however other uses such as livestock grazing and crop production occurs outside. (UNESCO Periodic Report, 2011)

► Education and interpretation programs

Some Concern

Visitors and relevant local government authorities have some awareness of the site and its relevance as a WHA however the local people are inadequately informed. (UNESCO Periodic Report, 2011)

► Relationships with local people

Mostly Effective

An overall management plan for this serial property and three different management plans for its components were prepared in collaboration with key stakeholders. That State Party furthermore outlines community engagement with 32 Community Based Organisations in the buffer zone of KCF as well as implementation of community forestry programmes (IUCN SOC, 2012).

► Legal framework and enforcement

Mostly Effective

All three areas that make up the site are state-owned and under governmental protection. Legal frameworks are in place to ensure maintenance of the OUV. However, enforcement of protective legislation is considered inadequate in the buffer zones and surrounding areas. (UNESCO Periodic Report, 2011)

► Integration into regional and national planning systems

Highly Effective

There are provisions in place for coordination of management between the two government institutions that manage the property (the Forest Department and the Department of Wildlife Conservation), as well as for stakeholder involvement. (IUCN SOC, 2012)

► Management system

Some Concern

Each of the components of the serial site has management plans in place and an overall management framework has been developed. (SP Report, 2012). In 2011 the SP reported that plans are only partially implemented (UNESCO Periodic Report, 2011) and this is still the case. Inadequate staff capacity and funding are limiting the effective implementation of the new management plans. (IUCN SOC, 2012). The components of the site -Peak Wilderness Protected Area (PWPA), Horton Plains National Park (HPNP) and Knuckles Conservation Forest (KCF) - all fall under different management categories receiving different kind of protection. These areas are also managed by two state agencies. PWPA is a sanctuary managed by the Department of Wildlife Conservation (DWC), in which certain human activities are allowed (e.g. collection of NTFP). Entry in the PA is not restricted or regulated. HPNP is a National Park managed by the DWC , but under a much higher degree of protection than the PWPA. Entry without a ticket (fee payment) is illegal and no human activities are allowed (other than visiting and site seeing). KCF is managed by the Forest Department under a protection regime similar to PWPA.

► Management effectiveness

Some Concern

The site has an overarching management framework as well as individual management plans for each component of the serial site (SP Report, 2012). However, management effectiveness relates to how well the plans are able to be implemented. In this regard concerns arise regarding the adequacy of staffing and funding as well as the effectiveness with which tourism is being managed. (IUCN SOC, 2012). The State Party has been encouraged to include as part of the planned regular monitoring of threats, the regular evaluation of the effectiveness of management provisions, in order to ensure that existing

and new threats are effectively controlled (WHC 36COM Decision, 2012).

▶ Implementation of Committee decisions and recommendations

Mostly Effective

In general the State Party have been responsive to Committee concerns and decisions. The SP has been actively addressing issues and the management planning system to support the site has been recently completed (SP Report, 2012). Other recommendations to expedite the development of an effective management and monitoring framework for tourism and a commitment to ensure adequate staffing and funding are still outstanding. (IUCN SOC, 2012).

▶ Boundaries

Some Concern

Boundaries are well defined for HPNP and KCF, but not for PWPA which is hampering protection and conservation. Buffer zones are established for all three components of the property however law enforcement is not fully effective in stopping illegal activities within the buffer zones, including poaching, small scale illegal logging, and land clearing. (IUCN SOC, 2012).

▶ Tourism and interpretation

Some Concern

There is a general lack of education programmes, information and awareness building throughout the visitor destinations of the site. Fees collected make some contribution to the management of the site.
(UNESCO Periodic Report, 2011)

▶ Monitoring

Mostly Effective

There is an adequate comprehensive, integrated programme of monitoring, which addresses management needs and contributes to improving the understanding of the site’s OUV. (UNESCO Periodic Report, 2011). Monitoring of tourism impacts is however lacking (IUCN SOC, 2012)

▶ Research

Some Concern

There is considerable research being done at the site but it is not directed towards management needs in ensuring the maintenance of the OUV. (UNESCO Periodic Report, 2011)

Overall assessment of protection and management

Mostly Effective

The site enjoys adequate legal protection under Sri Lankan law and it is clear that management efforts continue to be directed at threatening processes. An overall management framework has been developed for the serial site, as well as management plans for each of the component parts of the property. A need for the development of an effective management and monitoring framework for tourism has been identified and this is underway.
In order to implement these planning strategies adequate staffing and funding need to be made available for the effective implementation of the new management plans. The State Party has been encouraged by the World Heritage Committee to include as part of the planned regular monitoring of threats, the regular evaluation of the effectiveness of management provisions, in order to ensure that existing and new threats are effectively controlled.

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

Mostly Effective

The state of the buffer zones in terms of land use and current management practices varies across the three components. The buffer zones are legally protected under a range of laws, however, boundary ambiguities, inadequate staffing and poor enforcement are failing to address a range of illegal buffer zone activities such as poaching, small scale illegal logging and land clearing. (IUCN SOC, 2012). Nevertheless external threats to the site are considered at present to be relatively low, notwithstanding the need for continued vigilance in addressing these.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Ecological and biological processes which support the sub-montane and montane rainforests of Sri Lanka

Low Concern
Trend:Stable

The formulation of both an overall management framework for the site and individual management plans for each of the three component parts has assisted in addressing threats to the OUV of the site in a coordinated and planned way (SP Report, 2012). The impacts of tourism which are of particular concern in PWPA are covered in an action plan that is formulated prior to the pilgrim season in December each year. This plan concentrates on garbage removal, providing toilet facilities and visitor awareness programs. Nevertheless there remains a need to monitor the impacts of tourists on the ecological values of the site and to adapt management accordingly (IUCN SOC, 2012). There are several indirect threats from the buffer zone which are exacerbated by ambiguous boundaries. Enhanced enforcement of buffer zone regulations coupled with awareness raising and incentive measures for local people will need to continue.

► Important and significant natural habitats for in-situ conservation of threatened and endemic vertebrate species

Low Concern
Trend:Stable

Several invasive species, both flora and fauna, have been identified in the property that could have a significant impact on the habitat value of the site. Eradication programs are addressing the problems of alien invasives. (SP Report, 2012). Forest die-back occurs on the slopes of HPNP and is believed to be due to a fungal pathogen. On-going research is yet to find a solution to the problem. (SP Report, 2012). In conclusion the habitat values of the site remain intact despite the presence of threatening processes which will need on-going management effort and adequate staffing and funding.

► A critical habitat refuge for several globally significant and endangered species

Low Concern
Trend:Stable

As noted above threats such as invasive species, impacts of increased tourism and other ecosystem modifications such as forest die-back are all being addressed.

Other important biodiversity values

► Alliance for Zero Extinction (AZE) site as a place where Endangered or Critically Endangered species are restricted to single remaining sites.

Property is an AZE site as there are a number of endangered and critically endangered amphibian species across the three serial sites.
Peak Wilderness: Adenomus dasi and Philautus asankai
Knuckles range: Nannophrys marmorata, Philautus fulvus, Pseudophilautus hoffmanni, Philautus macropus,
Pseudophilautus mooreorum, Pseudophilautus steineri and Pseudophilautus stuarti

Horton Plains: Philautus microtympanum, Philautus silus, and Philautus alto
http://www.zeroextinction.org

Summary of the Values

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

Low Concern

Trend: Stable

Welcome progress has been made through the completion of an overall management framework for the entire site thereby improving coordination and consistency of objectives and management actions. The finalisation of individual management plans for each component of the serial site is equally welcome. All issues of concern have been actively addressed and the site’s

OUV remains intact. The values of the site remain intact despite the presence of threatening processes, such as presence of invasive species, impacts of increasing tourism and other ecosystem modifications which will need on-going management effort and adequate staffing and funding. There remains a need to fully develop a management and monitoring framework for ecotourism. This is essential as the high number of visitors, including pilgrims, has an environmental impact on the site. There remains a need for clearer demarcation of the property boundaries. Illegal activities are still being undertaken in the property's buffer zones, including poaching, small scale illegal logging and land clearing and more effective law enforcement could address this.

Additional information

Key conservation issues

▶ **Management of Ecotourism**
Local

The high number of annual visitors to the site, in particular HPNP and PWPA, creates environmental problems , including improper garbage disposal, pollution and disturbance from vehicles.

▶ **Ineffective buffer zone regulation exacerbated by confused boundaries**
Local

Necessary to work with local people and stakeholders to clarify distinct boundaries and effective buffer zones management to ensure protection from threats outside the site.

▶ **Invasive Species**
Local

A number of invasive plant and animal species have been identified within the property. Of none invasive plant species Ulex europaeus in HPNP and Lantana camara in KCF are considered the most problematic and in need of control.

Programmes are in place but require on-going effort.

▶ **Forest Dieback**

Local

Approx. 22 plant species have been affected by dieback, due to a fungal disease. The environmental stresses in which the trees are growing has made them susceptible to this attack.

▶ **Forest Fires**

Local

Occur mainly in KCF, during the dry season and all are of human origin

Benefits

Understanding Benefits

▶ **History and tradition**

Adam’s Peak in PWPA has deep religious significance as it is believed to have the imprint of the footprint of the Lord Buddha. This phenomenon brings huge numbers of tourists and pilgrims each year.

▶ **Outdoor recreation and tourism**

The increase in the annual number of tourists to the site brings an increase in opportunities for employment for locals including tour guides, as well as the employment that goes with providing services for tourists and maintaining the areas that are heavily visited. It is not clear the extent to which benefits from tourism are being maximised.

▶ **Water provision (importance for water quantity and quality)**

The protection of the forests as a catchment area provides water resources for the many communities downstream and on the periphery of the site.

Summary of benefits

The protection of biodiversity and water resources underpins Sri Lanka's sustainable development and landscape productivity, for example its extensive tea plantations. More specific to this site is its importance in the development of an eco-tourism industry to capitalise on the already huge numbers of tourists and pilgrims who flock to the site.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Forest Department/ Community Groups		Approximately 600 Community Based Organizations (CBOs) are operating in the buffer zone villages. These community organizations have been formed to implement various community development programs. The Forest Department has been working with 32 such organizations established exclusively for the protection of Knuckles under the name "Dumbara Surakinno" (Protectors of Knuckles). These works include implementing the department's regular community forestry programs.
2	Forest Department/ Department of Wildlife Conservation		Management of catchment area within KCF by removal of invasive species, fire protection and removal of cardamom cultivation. Funding for this has been made through the Moragahakanda irrigation project. The program to remove invasive eucalypts found mainly in Pitawala Patana grassland, and Lantana in other areas, will continue until all identified areas are cleared of invasive species.
3	Friends of Horton's Plains		A consortium of private sector estates and other partners working with HPNP to enhance conservation and connectivity.

REFERENCES

№	References
1	Alliance for Zero Extinction (AZE) http://www.zeroextinction.org Accessed July 2013
2	IUCN (2010) Evaluation Report. Central Highlands of Sri Lanka. IUCN Gland, Switzerland
3	IUCN (2011) State of Conservation Report. Central Highlands of Sri Lanka IUCN Gland, Switzerland
4	IUCN (2012) State of Conservation Report. Central Highlands of Sri Lanka IUCN Gland, Switzerland
5	State Party of Sri Lanka (2012) State Party Report Central Highlands Of Sri Lanka submitted to 36 COM
6	UNESCO (2010) Statement of Outstanding Universal Value 34COM.
7	UNESCO (2011) Periodic Reporting Section II. Central Highlands of Sri Lanka. UNESCO Paris, France
8	World Heritage Committee (2012). Decision 36 COM 7B.16. St Petersburg, Russian Federation