IUCN Conservation Outlook Assessment 2017 **(archived)**
Finalised on 08 November 2017

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

Wadi Rum Protected Area

SITE INFORMATION

Country:
Jordan
Inscribed in: 2011
Criteria:
(iii) (v) (vii)

Site description:
The 74,000-hectare property, inscribed as a mixed natural and cultural site, is situated in southern Jordan, near the border with Saudi Arabia. It features a varied desert landscape consisting of a range of narrow gorges, natural arches, towering cliffs, ramps, massive landslides and caverns. Petroglyphs, inscriptions and archaeological remains in the site testify to 12,000 years of human occupation and interaction with the natural environment. The combination of 25,000 rock carvings with 20,000 inscriptions trace the evolution of human thought and the early development of the alphabet. The site illustrates the evolution of pastoral, agricultural and urban activity in the region. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

The conservation outlook is predominantly positive with only low level threats to the scenic World Heritage values currently identified. The integrated management plan is being revised, to be completed by 2017. The main concern in relation to the management plan has been its implementation, which has been lacking in some areas. There are some concerns over sustainable visitor management, although tourism has been decreasing due to regional political instability . The potential for increased infrastructure to support a future growing tourism industry needs to be carefully managed. A successful future for Wadi Rum is dependent on managing to balance conservation of natural and cultural heritage with the maintenance of traditional livelihoods and sustainable tourism that specifically and equitably benefits the local Bedouin communities.

Current state and trend of VALUES

Good
Trend: Stable

The current state of conservation of Wadi Rum’s world heritage scenic values is considered good and the information available indicates the current trend is stable. Low population density and lack of development impacts have helped maintain Wadi Rum in a relatively pristine and authentic condition. No major construction projects known of that might affect the exceptional scenic beauty values of the site. Tourism represents the most significant activity in and outside the site with both positive and negative impacts depending on the level of effectiveness in its management and monitoring.

Overall THREATS

Low Threat

Due to its remoteness and mountainous nature much of Wadi Rum has been

relatively inaccessible and therefore naturally protected until relatively recently. Whilst there is illegal hunting, woody fuel collection and pastoral grazing by local communities these are currently thought to be within sustainable limits and their impacts are limited to other biodiversity values. There are no commercially viable mineral resources known within the area so no actual or potential threat from mining. Unsustainable use of the fossil aquifer under the site does not directly impact it but has potential to impact on the local communities living within and around the protected area. Tourism presents the greatest current threat with poorly regulated off road driving by tour operators, construction of illegal campsites, and self-guided tourists causing vegetation damage and also threatening the integrity of the site. Increased impacts from a growing tourism economy, now that the site has World Heritage listing, are considered a potential threat for Wadi Rum, however, with the current regional instability, this remains limited on the midterm. These would include inappropriate tourism infrastructure both within and adjacent to Wadi Rum and the growing impact of unregulated off road driving. There is also the potential for climate change impacts on flora and fauna dependent on the elevated mountainous areas of Wadi Rum.

Overall PROTECTION and MANAGEMENT

Some Concern

Wadi Rum’s protection and management has benefited significantly from support by NGOs, international aid and the national government over the past few decades. The legal and governance framework is strong. Since its inscription on the World Heritage List in 2011, the WRPA has gone through major structural and technical changes to ensure the protection and maintenance of the OUV for both the cultural and natural components of the property, as well as its integrity and authenticity.

Staff levels and financial resources are currently good. The visitor centre and staff administration building are relatively modern and well equipped. Wadi Rum has a good first management plan but implementation is lacking in some areas due to staff capacity particularly with regard to technical knowledge of natural and heritage management. A revision of the management plan was launched to ensure the enhancement of the cultural and natural components of the plan in light of the OUV statement, build the capacity of the site team in both disciplines to ensure that the site is managed effectively, well presented to local stakeholders and visitors, and carefully monitored against present and potential

factors influencing its integrity and authenticity (ASEZA, 2016). With growing visitor numbers and associated pressures the finalization of the new draft management plan and ensuring sufficient capacity to implement it is a priority. Wadi Rum is still dependent on external technical expertise and financial support to achieve this. Finally, it is important to note that the level of political support and strategic guidance from ASEZA to the site does not seem to match its global significance and sensitivity.

FULL ASSESSMENT

Description of values

Values

World Heritage values

▶ **Spectacular desert mountain landscapes and rock formations of outstanding beauty**
Criterion:(vii)

Wadi Rum protects a globally recognized iconic desert landscape. It is renowned for its spectacular series of sandstone mountains and valleys, natural arches, and the range of narrow gorges, towering cliffs, massive landslides, and dramatic cavernous weathering forms displayed. Key attributes of the aesthetic values of the property include the diversity and sheer size of its landforms, together with the mosaic of colours, vistas into both narrow canyons and very large wadis, and the scale of the cliffs. The property displays, in a protected setting, an exceptional combination of landforms resulting from drainage incision, severe weathering by salt, biological and other processes, and the undermining of steep sandstone cliffs by these weathering processes, together with the world's most spectacular networks of honeycomb weathering features. (SoOUV, 2012)

Other important biodiversity values

▶ **Biodiversity values**

Wadi Rum is the largest protected area in Jordan currently representing more than 60% of terrestrial protected areas nationally. (Advisory Body Evaluation, 2011) Located in the Sudanian Bio-geographical region Wadi Rum protects

ecosystems typical of this. However the high mountains present in the site (over 1700m asl) enable some unusual elements of Mediterranean Bioregions to persist here too - for example Juniper trees, Juniperus phoenica, and some Mediterranean reptiles. Wadi Rum has been identified as an Important Bird Area in the Middle East (Bird Life International, 1999). From survey records to date (2002), the Wadi Rum Protected Area is known to support 183 flora species, 26 mammals, 34 reptiles, 77 arthropods, and 119 birds, including a number of globally threatened species. The level of species diversity for birds is exceptional for habitats within the Sudanian Biogeographical Region of Jordan. A large number of the plants found in Wadi Rum (25 species) are considered to have medicinal properties and 2 plant species are endemic to Jordan. Notable fauna include the Arabian Oryx, Oryx leucoryx - currently being reintroduced after becoming nationally extinct due to hunting, and Nubian Ibex Capra ibex nubiana - threatened with becoming nationally extinct, also due to hunting, but brought back from the brink through enforcement and captive breeding programs in other protected areas in Jordan. (4th National Report to the Convention on Biological Diversity 2009).

Assessment information

Threats

Current Threats

Low Threat

Due to its remoteness and mountainous nature much of Wadi Rum has been relatively inaccessible and therefore naturally protected until relatively recently. Whilst there is illegal hunting, woody fuel collection and pastoral grazing by local communities these are currently thought to be within sustainable limits and their impacts are limited to other biodiversity values. There are no commercially viable mineral resources known within the area so no actual or potential threat from mining. Unsustainable use of the fossil aquifer is not believed to directly impact on the site but has potential to encroach near or inside the site in addition to impact on the local communities

living within and around the protected area. Tourism presents the greatest current threat with illegal tourist camps spreading and poorly regulated off road driving by tour operators and self-guided tourists causing vegetation damage also threatening the integrity of the site. Tourism related solid waste is also a primary concern. Lack of human waste treatment systems for Rum and for the desert campsites are also a concern.

► Poaching

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

Low level subsistence hunting, particularly of Ibex, by the local Bedouin was a long established traditional use of the site. Hunting became illegal once Wadi Rum became a protected area in 1997. Ibex hunting - and more recently Oryx - are illegal by law in the whole country. Personal communications with Bedouin rangers during the IUCN Evaluation Mission in September 2010 indicated that there were infrequent but ongoing cases of illegal hunting or poaching of Ibex and Oryx occurring within the site. The full extent and consequent impact on the populations is not known. Compliance and enforcement are undertaken as part of ranger patrols. Effectiveness seems to be adequate. The threat potential was magnified after the reintroduction programs for Oryx and Ibex were developed.

► Tourism/ visitors/ recreation

High Threat
Inside site, widespread(15-50%)

There is a lack of progress with the conservation of the rock art sites and inscriptions which are vulnerable to fading and deterioration, and in some cases, to modern graffiti. The archaeological sites, Nabataean water reservoirs, and temple site are also vulnerable (Rossler et al, 2014).

► Household Sewage/ Urban Waste Water, Solid Waste

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

The management of Rum Village represents the most sensitive and complicated issue in the WRPA management program. There is currently no

management of human waste for the village of Rum (current population approximately 1000), which is located at the heart of Wadi Rum. Pollution from untreated waste from the village threatens the integrity of the site and some of the biodiversity values in the immediate vicinity. Management of this issue is beyond the jurisdiction of the WRPA management staff, as ASEZA has the authority over this issue. ASEZA says that the construction of a proper liquid waste treatment plant was to be a top investment plan priority for 2016. Upon securing needed resources, ASEZA would adopt at least a thirty-year vision for the village, and apply the EIA/HIA principles adopted for the site (ASEZA, 2016).
The issue of solid waste generated by tourism activities (particularly desert camps and off-road excursions) along with the lack of a proper management system represent ongoing threats influencing the majority of the site.

► Dams/ Water Management or Use

Low Threat
Outside site

Wadi Rum lies just west of one of the largest groundwater resources, the Southern Desert/Disi basin, in Jordan. With low salinity it is suitable for drinking. From the 1960’s onwards groundwater bores were established near Disi immediately North of Wadi Rum enabling these communities to grow and prosper. Water supplies for Rum have traditionally been the springs at the base of Jebel Rum. It is not known if these are supplemented now by bores. (Advisory Body Evaluation, 2011) The Disi Water Conveyance Project was finished in 2013 and pumps water from the Disi aquifer to the capital of Amman. Currently it is thought that there is little actual threat to the World Heritage Values from this unsustainable use of the fossil aquifer. The management of groundwater resources is beyond the jurisdiction of the Wadi Rum protected area management staff.

► Tourism/ visitors/ recreation

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

Due to the nature of the site a large proportion of visitors undertake off road vehicle tours by jeep provided by the local Bedouin people as licensed tour operators. Some 500 to 1000 4WD operated in the area in 2011, exceeding

safe limits, disturbing the vegetation and wildlife and leaving obvious visual scars (UNEP-WCMC, 2011).

Repeated driving over slow growing desert shrubs can effectively eliminate them and recovery can take a very long time (Advisory Body Evaluation, 2011).Whilst the negative impact of off road unregulated driving has been recognized in management planning as the biggest threat to the values of Wadi Rum, management interventions (dedicated single track routes between key visitor sites have been determined and education and awareness raising programs for licensed tourism operators undertaken) to address the threat appear to have had limited success to date: on the single track network connecting the main visitor sites it has been virtually impossible to enforce regulations. It was assumed that visitation and consequently demand for off-road based tours would increase due to the World Heritage Status, but due to political instability in the region, tourism has actually decreased.
The current decline in tourism numbers due to regional instability seems to have lowered the direct impacts of tourism on the site, however noting that the capacities to manage the site have also been deteriorating.

► Livestock Farming / Grazing

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

Local community grazing use of the site is permitted. Western areas of the protected area see the highest levels of grazing activity during the spring months. At high intensities grazing can threaten both the integrity of the scenic values and the extent and condition of some biodiversity values. However monitoring indicates livestock numbers are reducing as local communities transfer to tourism-based economy. Informal monitoring of grazing occurs as part of ranger patrols. (Advisory Body Evaluation, 2011)

► Housing/ Urban Areas

Low Threat
Inside site, localised(<5%)

Personal communications during the IUCN Evaluation Mission in September 2010 indicated that there were several cases of building outside the formal

Rum township boundary (population approximately 1000 and areas approximately 40Ha, Advisory Body Evaluation, 2011). Pressure for tourism related infrastructure here could be expected to increase as visitor numbers grow following World Heritage Listing. Although currently a small scale issue encroachment threatens the integrity of the site. Protected area management staff have limited capacity to tackle encroachment. Enforcement lies with Aqaba Special Economic Zone Authority (ASEZA). Currently, there seem to be no effective measures to monitor or control the Rum Village expansion into the site.

► Logging/ Wood Harvesting

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

The Bedouin lifestyle historically depended upon the collection of firewood for domestic use. From the late 1990s the use of gas has largely replaced the use of firewood domestically thereby reducing the impact of this threat on the site substantially. Firewood is now primarily used by individuals in the local tourism industry to prepare a meal or make tea over a desert fire. 83% of the protected area is defined as a protection zone in which no wood collection is permitted. (Advisory Body Evaluation, 2011). This threat could potentially increase in significance if tourist numbers increase.

Potential Threats

Low Threat

Increased impacts from a growing tourism economy, now that the site has World Heritage listing, are considered the greatest potential threat for Wadi Rum. These include inappropriate tourism infrastructure both within and adjacent to Wadi Rum and the growing impact of unregulated off road driving. There is also the potential for climate change impacts on flora and fauna dependent on the elevated mountainous areas of Wadi Rum

► Habitat Shifting/ Alteration

Data Deficient

Inside site, throughout(>50%)
Outside site

The unusual isolated pockets of Mediterranean bioregion flora & fauna habitat on the elevated mountain environments of Wadi Rum could be impacted by climate change induced higher temperatures and reduced rainfall. The potential loss of this habitat would have severe consequences as there is no alternative for species to shift to. However there is limited baseline data available on exactly what species currently inhabit the mountains and their tolerance of shifting climate regimes.

▶ Tourism/ visitors/ recreation

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

Since 2012, seven new camp locations were established without acquiring the needed permits and licensing by the WRPA management authority. Several other attempts of land grabbing and camp-like structure by local community members are also reported in at least a dozen locations. The WRPA management has already prepared and submitted a full legal suit against all seven illegal camps, in addition to legal warnings against all other attempts for land grabbing within the property (ASEZA, 2016). Increasing tourist numbers may also lead to increasing deterioration and vandalism of rock art sites.

▶ War, Civil Unrest/ Military Exercises

Low Threat
Inside site, not applicable

Tourism demand has significantly declined during the last few years due to regional instabilities and security concerns, and Wadi Rum has suffered from a growing trend in decreasing tourism numbers. This leads to increasing site challenges related to management effectiveness, financial stability, and local community support to its long-term sustainability (Abulhawa et al, 2014).
If the tourism industry is opened up for private investors, this may lead to unfair competition for local communities.

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

The development of the management plan was a participatory process with the local communities involved in the development of the zoning and permitted activities. Traditional subsistence grazing and fuel collection is permitted whilst hunting has been banned. Local employment is fostered with many park management staff being local Bedouin people. Local communities are accessing economic benefits of tourism through commercial nature based tourism activities such as licenced tourism operators and local handicraft industries (Advisory Body Evaluation, 2011). There are increasing levels of local conflicts over scarce resources (especially in regard to tourism), and increased levels of poverty affected by increased inflation and unemployment rates (Abulhawa et al, 2014).

► Legal framework

Some Concern

Legal and governance framework is strong, with traditional land tenure reportedly coexisting with legislative gazettal of the Protected Area. Traditional land tenure relates to grazing use, not ownership, but now extends to areas covered by licensed tour operators who operate only within their traditional tribal areas (Advisory Body Evaluation, 2011). Management of Wadi Rum sits with ASEZA (Aqaba Special Economic Zone Authority). A National Protected Areas Management Effectiveness Report noted weak synchronization between national law and ASEZA regulation, as PA staff have no legal authority once outside the boundary of the PA, whereas they should have a mandate from national law to control inappropriate land use activities around the PA boundary. The 2014 reactive monitoring mission also noted a lack of coordination between departments and between regional and national institutions. In this regard, a memorandum of understanding (MoU 2014-2016) has been signed between the Ministry of Tourism and Antiquities/DoA

and ASEZA in May 2015. Several legal deficiencies of the current by-law and legislative framework governing WRPA have been problematic, and are in need of revision and further development (Abulhawa et al, 2014).

► Enforcement

Some Concern

Ranger patrols include compliance and enforcement work, although there is little information on ranger capacity or effectiveness of compliance (Abulhawa et al, 2014). The local rangers are supported by staff in ASEZA, who works closely with the local judicial system (Advisory Body Evaluation, 2011). A legal suit against all seven illegal tourist camps has been prepared and submitted, in addition to legal warnings against at least a dozen impermanent camp-like installations, which are considered by the State Party to be attempts at land grabbing (SOC, 2016).

► Integration into regional and national planning systems

Some Concern

Wadi Rum is recognized as part of Jordan’s national protected area network and as such is included in periodical national protected area reporting (eg CBD report no 4). The Protected Area was established in 1997 following cabinet decisions, and recognized as an archaeological site under a law of the Department of Antiquities (SoOUV, 2012).The Jordanian government has delegated management of the majority of national protected areas to the NGO Royal Society for the Conservation of Nature (RSCN). However due to its location within the Aqaba Governorate, management authority for Wadi Rum sits with ASEZA, which raises questions about consistency of management as well as issues of capacity and an appropriate focus on natural and cultural heritage management.

In 2014, ASEZA and the Department of Antiquities (DoA) signed a framework agreement on the conservation and management of the cultural values of the property (MoU 2014-2016). The agreement gives a clear technical authority to DoA to oversee all research, management and monitoring activities related to the cultural values as represented by the property’s OUV, and as such, represents an important breakthrough in the capacity to study, manage and monitor the cultural heritage of the property. The MOU is

perceived as an effective national mechanism to ensure the coordination of the long term conservation and sustainability of the cultural values of the property (ASEZA, 2016).

Jordan does not have a unified legally recognized conservation standard or guidelines for archaeological sites, however, a limited number of cultural sites conservation activities were implemented in WRPA, and based on this, the DoA proposed to use the WRPA example as a demonstration case for the development of the needed standard and guidelines in 2017. It will be important that a multi-stakeholder process is adopted, and that results achieved should then be fed into a nationally agreed upon standard and set of guidelines for the conservation of cultural heritage sites (ASEZA, 2016).

► Management system

Mostly Effective

The first management plan was developed for Wadi Rum in 2003 upon its establishment as a protected area for desert biodiversity and landscapes objectives, and then was revised in 2008. In 2010, upon the decision to nominate the WRPA as a mixed World Heritage Property, a complete revision was undertaken for the management plan including its baseline for geology, geomorphology, and cultural attributes; and the site changed from being managed as a pure biodiversity hotspot to a complex mixed site of global significance for desert landscapes and rock art.
It was realized that the integrated Management Plan was in need of a second revision, which was subsequently initiated in mid-2015 and should be submitted to the World Heritage Centre by the end of 2017. Until the new plan is adopted, an adaptive approach is used for the current management to include a systematic response to the core management priorities (ASEZA, 2016).

► Management effectiveness

Some Concern

Wadi Rum was included in a national management effectiveness report on Jordan’s protected areas in 2009 undertaken by RSCN. This confirmed that the conservation of Wadi Rum Protected Area from the date of the development of the first management plan has been satisfactory (Jordan

Protected Areas Management Effectiveness National Report). Nevertheless, implementation of the management plan has been lacking in some areas (World Heritage Centre / ICOMOS / IUCN mission report, 2014).

► Implementation of Committee decisions and recommendations

Mostly Effective

In response to Committee Decision 38COM 7B.56 regarding "removal of illegal tourist camps", the site management has taken legal action against the illegal camps and is fully committed not to allow the issue to transform into a significant concern. It was anticipated that the issue would be resolved during 2016.

Regarding "establishment of an integrated cultural and natural heritage database", site management and the Department of Antiquities signed a framework agreement on the conservation and management of the cultural values of the property, which represents an important breakthrough in the capacity to study, manage and monitor the cultural heritage of the property. Further, based on the initial baseline inventory of rock art and inscriptions, a comprehensive field investigation was to be carried out on the status of key archaeological and rock art sites, to be finished by late 2016.

Regarding "ensuring that the updated management plan provides legal measures and policies to enable effective management of the property and its buffer zone", the management plan is in the process of being updated, and is expected to be submitted to the World Heritage Centre by the end of 2017.

Regarding "ensuring provisions for trained staff focused on research, protection of geological, geomorphological and cultural values, and engagement research institutions", the recruitment and installation of two new specialists in cultural and natural science management was to take place in 2016 (ASEZA, 2016).

► Boundaries

Mostly Effective

The boundaries of the property include the key cultural and natural attributes and are well designed. The boundaries of the property have been clearly

defined and the 5 km buffer zone surrounding the property is adequately configured to address threats to the area arising from outside its boundaries. However, despite the fact that the staff has acceptable levels of capacity/resources to enforce protected area legislation regulations, they have no legal authority outside the boundary of the protected area (Jordan Protected Areas Management Effectiveness National Report). The ongoing management plan revision includes a major initiative to re-design the Buffer Zone and develop a unified agreed upon vision translated into a set of management scenarios and clear guidelines for land use management, thus creating the anticipated functional buffer zone, effectively contributing to the protection of the Property OUV (ASEZA, 2016).

► Sustainable finance

Some Concern

A Wadi Rum Development Fund was established in 2001 to ensure the area's financial and institutional stability. The current income from entrance fees goes to the national treasury and is reimbursed to ASEZA as an annual budget. The staff is supported by both national agencies and international aid. In 2009 the site received some JD1.3 million (US$1,834,940) for operation and management, supplemented by funds in 2006-7 from the USAID SIYAHA tourism development project and JD1 million (US$1,411,490) from Abu Dhabi for Oryx reintroduction (Advisory Body Evaluation, 2011). Wadi Rum is the highest funded protected area in Jordan, and is also the only PA in Jordan which has its own bylaw including provisions on financing security (including the Wadi Rum development fund). Despite this, government spending only covers operational costs, and WRPA suffers from low investment in site development funding (development of infrastructure and programs, and recruitment of staff) due to a current economic crisis triggered by regional instability and resulting decline in visitor numbers. In light of this, ASEZA has adopted a strategy to ensure adequate funding, to be included in the 2017 integrated Management Plan (ASEZA, 2016).

► Staff training and development

Mostly Effective

With over 80 staff, many being local Bedouin, staff numbers and indigenous representation are considered adequate. However, staff capacity and

capabilities could be further improved, especially in administration, Oryx reintroduction, and tourism units in order to effectively accomplish the protected area management objectives. (Jordan Protected Areas Management Effectiveness National Report, 2009). Recent aid projects have provided good quality staff buildings, equipment, and visitor centre (Advisory Body Evaluation, 2011). Capacity building for natural heritage staff is supported by IUCN-ROWA, Royal Society for the Conservation of Nature (RSCN), and UNESCO ARC-WH, but cultural staff are not included in this...a joint program with the UNESCO Jordan office was to address this shortcoming (Abulhawa et al, 2014), and the 2016-2017 planning and budgeting process includes the planned recruitment and installation of two new specialists in cultural and natural science management on-site, as a matter of priority (SOC, 2016). Also, the WRPA interpretation program was to be redeveloped in 2016, with one of the outputs being a series of training activities targeting the local staff, community organizations and tourism services providers on the utilization of the new interpretation program. The MoU between ASEZA and DoA calls for the installation of a technical specialist to be based in Wadi Rum and maintain linkages between WRPA and DoA (ASEZA, 2016).

► Sustainable use

Mostly Effective

Whilst there is some permitted subsistence woody fuel collection and pastoral grazing by local communities, these are currently thought to be within sustainable limits.
The national authorities have agreed to develop terms of reference for the Environmental Impact Assessment/Heritage Impact Assessment (EIA/HIA), which was anticipated to be completed by the end of 2016. Specific technical guidance and support was to be requested from UNESCO and its advisory bodies (IUCN and ICOMOS) on good practices derived from international experience. The tourism development and visitors’ management strategy and plan for the WRPA will be amended to adopt the outcomes of the EIA/HIA results, and they will also be reflected in the revision of the integrated management plan (ASEZA, 2016).

► Education and interpretation programs

Mostly Effective

The Wadi Rum visitor management plan states that ongoing site-based education programs have been established via school nature clubs in the Quweira district and other visiting schools focused on awareness raising of environmental issues. Since Wadi Rum became a World Heritage Site rather recently, there had been no proper interpretation, communication, or promotion of the World Heritage property as a whole. In 2015, sufficient funds were secured through partnership with UNDP to redevelop the site interpretation program. This included restructuring the main visitor center to be based on the property OUV, installing a new set of road signage and interpretation materials targeting local communities and visitors, and restructuring the visitors' reception point in terms of location and nature and quality of information provided to visitors (ASEZA, 2016).

► Tourism and visitation management

Mostly Effective

Wadi Rum has benefitted significantly from USAID Jordanian Tourism Project Siyaha and other aid initiatives focused on supporting tourism development. Tour operators are licensed and managed by the Wadi Rum protected area staff and receive training and education sessions on natural and cultural heritage. A visitor management plan for the site was developed as part of the management planning process in 2003 (Advisory Body Evaluation, 2011; World Heritage Centre / ICOMOS / IUCN mission report, 2014).
Popular tourist activities include climbing, off-road driving, camel riding, hiking, and camping. There are fifteen active legal tourist camps in the property, all operating under the direct supervision of ASEZA WRPA management unit and in compliance with required specifications and guidelines (ASEZA, 2016).

► Monitoring

Some Concern

With the exception of the intensively managed Arabian Oryx Re-introduction program, monitoring of the biodiversity values of Wadi Rum has long been carried out informally. However, in 2015, it was agreed that the informal system would be fully activated and turned into a systematic documentation process starting in 2016. Periodic reports from such a documentation process will be included in the standard reporting adopted for the implementation of

the integrated management plan and will be shared with UNESCO. Also, the joint WRPA/DoA team started a comprehensive field investigation on the status of key archaeological and rock art sites, with results to be ready in late 2016, along with formulating a specific monitoring program (ASEZA, 2016).

► Research

Some Concern

Research recommendations are incorporated and adopted in the protected area management plan. However, there are some difficulties in implementing these recommendations. Moreover, there are some concerns on how to use the results of the research programs in the decision making process especially during the implementation of the protected area management plan (Jordan Protected Areas Management Effectiveness National Report). A MoU signed in 2014 by ASEZA and the Department of Antiquities (DoA) includes provisions for the establishment of a unified cultural heritage database, which has since been integrated into the DoA’s national cultural databank. Submission of a specific request for International Assistance to complete the database was envisaged for 2016, and a fully operational database was anticipated later that same year (SOC, 2016). Specific measures should be addressed in the Management Plan to document and conserve local traditional knowledge and practices through audio-visual production and academic research, and to ensure high levels of knowledge sharing, joint learning, and collaboration (ASEZA, 2016).

Overall assessment of protection and management

Some Concern

Wadi Rum’s protection and management has benefited significantly from support by NGOs, international aid and the national government over the past few decades. The legal and governance framework is strong. Since its inscription on the World Heritage List in 2011, the WRPA has gone through major structural and technical changes to ensure the protection and maintenance of the OUV for both the cultural and natural components of the property, as well as its integrity and authenticity.

Staff levels and financial resources are currently good. The visitor centre and staff administration building are relatively modern and well equipped. Wadi

Rum has a good first management plan but implementation is lacking in some areas due to staff capacity particularly with regard to technical knowledge of natural and heritage management. A revision of the management plan was launched to ensure the enhancement of the cultural and natural components of the plan in light of the OUV statement, build the capacity of the site team in both disciplines to ensure that the site is managed effectively, well presented to local stakeholders and visitors, and carefully monitored against present and potential factors influencing its integrity and authenticity (ASEZA, 2016). With growing visitor numbers and associated pressures the finalization of the new draft management plan and ensuring sufficient capacity to implement it is a priority. Wadi Rum is still dependent on external technical expertise and financial support to achieve this. Finally, it is important to note that the level of political support and strategic guidance from ASEZA to the site does not seem to match its global significance and sensitivity.

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

Some Concern

The National Protected Areas Management Effectiveness Report notes weak synchronization between the national law and the ASEZA special regulation for Wadi Rum. The special regulations are effective only inside the boundary of the protected area. The staff has acceptable levels of capacity/resources to enforce protected area legislation regulations but they have no legal authority outside the boundary of the protected area. Protected area staff should have a mandate from the national law to control inappropriate land use activities around the protected area boundary. (Jordan Protected Areas Management Effectiveness National Report) The ongoing management plan revision includes a major initiative to re-design the Buffer Zone and develop a unified agreed upon vision translated into a set of management scenarios and clear guidelines for land use management, thus creating the anticipated functional buffer zone, effectively contributing to the protection of the property's Outstanding Universal Value (ASEZA, 2016).

► Best practice examples

The collaboratively developed management plan of the Protected Area, including the participation of the local people, is an example of a strong

management framework that might be applicable elsewhere. Nationally, Wadi Rum Protected Area is considered to be the best example of protected area management in Jordan in terms of legal and regulatory systems, human and financial resource investment, and participative management (Abulhawa et al, 2014).

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **Spectacular desert mountain landscapes and rock formations of outstanding beauty**

Good

Trend:Stable

Low population density and lack of development impacts have helped maintain Wadi Rum in a relatively pristine and authentic condition. No known major construction projects that might affect the exceptional scenic values of the site.

Summary of the Values

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

Good

Trend: Stable

The current state of conservation of Wadi Rum’s world heritage scenic values is considered good and the information available indicates the current trend is stable. Low population density and lack of development impacts have helped maintain Wadi Rum in a relatively pristine and authentic condition. No major construction projects known of that might affect the exceptional scenic beauty values of the site. Tourism represents the most significant activity in and outside the site with both positive and negative impacts depending on the level of effectiveness in its management and monitoring.

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

Low Concern

Trend: Stable

Overall low concern about current state and trend of visitor impacts affecting biodiversity values. Threats from grazing and wood collection are low, and the extent of illegal hunting is unknown. There is a threat, however, to biodiversity values from off-road driving and poorly regulated tourism related small scale infrastructure (e.g. desert camps).

Additional information

Benefits

Understanding Benefits

▶ **Access to drinking water, Commercial wells**

Springs are used as a local water supply. Large fossil ground water basin (the Disi Aquifer) of drinking water quality is being pumped to supply the capital of Amman and develop intensive agriculture in Disi area.

The impacts of the intensive agricultural expansion are outside the world heritage site but represent a potential future issue as they become closer and bigger.

▶ **History and tradition, Wilderness and iconic features, Sacred natural sites or landscapes**

The local Bedouin have a very strong and ongoing cultural and spiritual association with Wadi Rum.

▶ **Outdoor recreation and tourism**

Nature based recreation and tourism such as rock climbing, trekking, scenic jeep driving and cultural tourism in iconic desert landscape

Mainly associated with off-road driving and permanent desert camps. WRPA also offer one of the best places on earth for star observation, reference its landscape and complete darkness inside the property.

► **Livestock grazing areas**

Traditional subsistence pastoral grazing is utilized by the local population.

Pollution though solid waste. Overexploitation potential in drought periods and declining tourism.

► **Collection of timber, e.g. fuelwood**

Fuel wood collection is permitted to local people.

Accelerates during tourism income decline and lack of proper monitoring and law enforcement.

► **Collection of medicinal resources for local use**

Locals collect and utilize medicinal plants.

Impacts are higher during drought seasons and near inhabited areas.

► **Tourism-related income, Provision of jobs**

Many park management staff are local Bedouin people. Local communities are accessing economic benefits of tourism through commercial nature-based tourism activities and local handicraft industries.

Impacts from tourism activities represent the main threat to the site's core natural values and other biodiversity values. Currently, tourism numbers are in decline and no recovery is foreseen in the midterm.

Summary of benefits

Wadi Rum is an iconic desert landscape where humanity can be reminded of its

place in nature and be rejuvenated by wilderness values. Many local Bedouin earn their living from tourism, while traditional benefits are still derived from Wadi Rum such as pastoral grazing, and collection of fire wood and medicinal plants.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	United Nations Development Program (UNDP)	From: 2013 To: 2016	The aim of the project is to reduce the impact of tourism on biodiversity in Jordan and it will intervene at three levels. At the national level, it will develop a regulatory and enforcement framework to reduce the impact of tourism on biodiversity, centrally (upstream); components will be piloted at the local level, assessed and refined before being adopted nationally and made available for replication and up-scaling. At the regional/landscape level, the project will target public awareness and sensitivity of the value of biodiversity as a tourism drawcard and institutional capacity for planning, monitoring and enforcement so as to manage the impacts of tourism development inside and outside formally protected areas. At the Protected Area site level, the project will work to enhance capacity and management effectiveness of PAs so as to reduce impacts on protected biodiversity and benefit from nature-based tourism and ecotourism. More specifically, the Project Objective is: Biodiversity conservation objectives are effectively mainstreamed and advanced into and through tourism sector development in Jordan.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years

1	.	A plan for regulation of off road vehicle use and plant and equipment (eg a grader) and suitably qualified staff to implement it. Suggest seek a grant to fund one off cost of a grader and then seek capacity building of local staff via a developed national protected area agency secondment or other means. Long term commitment to education and awareness programs is key.	
2	.	Capacity building to enable more sustainable management of visitors such as training and education for licenced tour operators including training in emergency management plans and environmental awareness around desert camps and off road driving.	
3	.	A research plan and partnership program with suitable research institutions (nationally and internationally) to deliver this is a key priority. External expertise would most likely be required to lead the development of the research plan and partnership program,. A secondment from a developed nation protected area agency could deliver this.	
4	Completion of management plan revision	The management plan revision needs to stay on schedule to be submitted to the World Heritage Center by the end of 2017 (ASEZA, 2016) and the written adoption of the revision needs to be secured primarily by ASEZA and at the national level (Abulhawa et al, 2014).	To: 2017
5	Improved governance based on community engagement and rights-based approaches	There is a need for review of governance systems and investment in leadership and capacity building on a basis of community engagement and rights-based approaches (Abulhawa, 2014).	
6	Lobbying advice to site management	On-going strategic and technical advice needs to be provided to the motivated site management team on lobbying the local and national authorities to maintain and expand their support in terms of financial allocation, staffing, and law enforcement (Abulhawa et al, 2014).	
7	Accelerating recruitment and training of natural and cultural employees	There is a need to support the acceleration of the recruitment and training of the site's natural and cultural heritage human resources, in addition to the development and implementation of the anticipated integrated monitoring program (Abulhawa et al, 2014).	
8	Conservation of archaeological sites	A consistent conservation approach needs to be adopted for all archaeological sites, as well as for the Lawrence House, to set adequate guidelines for interpretation and to ensure their long-term conservation (Rossler et al, 2014). In addition, uncontrolled excavations need to be prohibited (Abulhawa et al, 2014).	

9	EIA and HIA of Tourism Activities and subsequent tourism strategy	An environmental impact assessment (EIA) with specific provisions for a Heritage Impact Assessment (HIA) needs to be carried out for current tourism activities, including climbing, off-road driving, camel riding, and hiking; with a tourism strategy developed for the property and its buffer zone that follows the recommendations of the EIA and HIA (Rossler et al, 2014).
10	Effective planning and managemen t of Rum Village	There needs to be effective planning and management of Rum Village, as this is critical for the maintenance of the property OUV. It is particularly important to construct a specialized liquid waste treatment system for the village to ensure the minimal impact of liquid waste on the area’s natural and cultural values, as well the safety and well-being of its people and visitors (ASEZA, 2016).
11	Continuation of adequate financial resources	There is a need to ensure that adequate financial resources continue to be available (WRPA is the highest funded PA in Jordan, but suffers low investment in site development funding such as that of new infrastructure, new programs, and recruitment of staff) (ASEZA, 2016).
12	Conservation of Cultural Heritage	Community centered projects are needed to ensure that the close links between tangible cultural heritage, intangible living heritage and natural heritage are adequately reflected in the management of the property. This should be carried out by the MoA in close partnership with ASEZA, and at the local level (WRPA), with specific personnel at each level being given responsibility for the conservation of cultural heritage (Rössler et al, 2014).
13	Specific Intangible Heritage Interpretatio n in the Visitor Center	Noting the importance of the intangible heritage related to the Bedouin tribes in the area, the visitor center should provide adequate communication, interpretation, and promotion of the 'Cultural Space of the Bedu in Petra and Wadi Rum recognized in 2005 under the 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage', to further explain the living heritage of the cultural landscape of Wadi Rum and the exceptional interaction between people and the desert environment (Rossler et al, 2014).
14	Revision of by-law and legislative framework	The current by-law and legislative framework governing WRPA needs to be revised and developed, as there are several legal deficiencies which have been increasingly problematic (Abulhawa et al, 2014).

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