Dorset and East Devon Coast

2020 Conservation Outlook Assessment

SITE INFORMATION

Country: United Kingdom of Great Britain and Northern Ireland (UK)
Inscribed in: 2001
Criteria: (viii)

The cliff exposures along the Dorset and East Devon coast provide an almost continuous sequence of rock formations spanning the Mesozoic Era, or some 185 million years of the earth's history. The area's important fossil sites and classic coastal geomorphologic features have contributed to the study of earth sciences for over 300 years. © UNESCO

SUMMARY

2020 Conservation Outlook

GOOD

Geological and paleontological values of the site have remained well preserved since the inscription and are very robust against most current and potential threats. The protection and management of the site is mostly effective to highly effective overall, with several examples of international best practice in World Heritage management. The overall conservation outlook for the property is good, because of the robustness of its values against anthropogenic impact and effective conservation management. A clear buffer zone should however be considered in light of the overlapping oil concessions off the coast of the property, and thereby the possibility of extractives activities taking place within the setting of the property.
FULL ASSESSMENT

Description of values

Values

World Heritage values

- Globally significant rock record, fossil localities and geomorphological features
  Criterion: (viii)

The coastal exposures along the Dorset and East Devon coast provide an almost continuous sequence of Triassic, Jurassic and Cretaceous rock formations spanning the Mesozoic Era and document approximately 185 million years of Earth’s history. The property includes a range of globally significant fossil localities – both vertebrate and invertebrate, marine and terrestrial – which have produced well preserved and diverse evidence of life during Mesozoic times. It also contains textbook exemplars of coastal geomorphological features, landforms and processes (World Heritage Committee, 2010).

Other important biodiversity values

- Wide range of coastal temperate ecosystems with their associated flora and fauna

There is a variety of important coastal ecosystems within the property, particularly on land-slipped cliffs and cliff-top grasslands. These support rare and threatened plant species such as Purple Gromwell Lithospermum purpureocaeruleum, Coastal Ash Fraxinus excelsior, Spider Orchid Ophrys sphegodes, and Early Gentian Gentianella anglica. There are also bio-diverse beach ecosystems such as Chesil Beach (with Sea Kale Crambe maritime and Yellow-horned Poppy Glauicium flavium, among others), and the coastal lagoon of the Fleet, with its extensive aquatic macrophyte communities (UNEP-WCMC, 2011), and a European importance for Stoneworts (Plantlife 2012a). Studland area has 363 species of lichens (Plantlife 2012b). Among the fauna, noteworthy species include wintering Brent Geese Branta bernicla bernicla and Slavonian Grebe Podiceps auritus. There are also important invertebrate communities, both terrestrial and intertidal (UNEP-WCMC, 2011). The property overlaps with the Exe Estuary Special Protection Area (a Ramsar site – Wetlands International, 2012), the WWF Global 200 priority marine ecoregion “Northeast Atlantic Shelf Marine” (WWF, 2012), the Important Bird Area of European Importance “Chesil Beach and the Fleet” (BirdLife International, 2012b), and the Important Plant Areas of “Dorset Coast – Isle of Portland to Sudland Cliffs” (Plantlife, 2012b) and “Chesil Beech and the Fleet” (Plantlife, 2012a). It does not overlap with any WWF/IUCN Global Centre of Plant Diversity (WWF and IUCN, 1994), Endemic Bird Area (BirdLife International, 2012a), or Conservation International Global Biodiversity Hotspot (CI, 2012).

Assessment information

Threats

Current Threats

Very Low Threat

The Outstanding Universal Value of the site is not threatened significantly currently, and its biodiversity values are also well preserved. However, there is a need to continue to manage visitors in a way that minimizes path and vegetation erosion as well as to monitor fossil collecting and its impact.
Tourism/ visitors/ recreation
(Wildlife disturbance by visitors)

The high visitation may lead to disturbance of wildlife, but key wildlife areas within the World Heritage site seem to be rather well protected by its various protected areas (Protected Planet, 2012). Therefore, this is considered a very low threat only, although in some locations disturbance is higher due to concentration of visitors in limited areas (IUCN Consultation, 2020b).

Other Activities
(Fossil collection)

Pressure from fossil collecting is high (mainly local collectors and visitors) but is well regulated by policies, which are implemented to the extent possible (Jurassic Coast World Heritage Site, 2009). However, concerns exist over the capacity to enforce these regulations along the entire coast within the World Heritage site. Recording level of fossils being collected is inaccurate (IUCN Consultation, 2020b).

Erosion and Siltation/ Deposition
(Vegetation and path erosion by visitors)

Tourist impact on the World Heritage site itself and its values is minimal, but is more noticeable on the setting, where it is of higher concern (IUCN Consultation, 2020b).

Potential Threats

The need for coastal sea defences is the largest ongoing threat to the site and climate change will exacerbate it. The direct impact of oil and gas exploration on the Outstanding Universal Value of the site is unknown but are likely to be very low, however the indirect impacts on setting and visitor experience/local engagement in the management of the site, which are such cornerstones of the sites value, may be greater. In terms of the World Heritage Committee's position, it is important to note that oil and gas exploration or exploitation is incompatible with the World Heritage status. Corallian Energy Ltd, Egdon Resources UK Ltd, Southwestern Resources Ltd/ Horizon Energy and Perenco UK Ltd appear to own concessions, issued by the UK government that overlap the World Heritage Site or its setting. The impacts of the Covid-19 virus crisis are as of yet unknown, however given the requirement for the management of this site lies in continued strong and adequately resourced coordination and partnership arrangements, the likely financial costs associated with the Covid crises will impact partners management capacities.

Mining/ Quarrying
(Quarrying)

There is a newly proposed stone mine project in Portland in the development stage, which could run in behind the cliff face very close and remove bedrock into which the World Heritage site should erode, albeit probably in hundreds of years. The project has gone as far as an EIA scoping request (IUCN Consultation, 2020). Planning permission for two quarrying areas inside the current boundaries of the World Heritage site was granted in 1951, but two modification areas plus the resulting reduced economic viability of quarrying operations in the remaining areas make it extremely unlikely, according to the State Party, that any quarrying will go ahead at these sites. Quarrying could compromise not only the site, but also coastal landscapes and a nationally designated Special Area of Conservation (UNEP-WCMC, 2011).

Oil/ Gas exploration/development
(Oil or other chemical spills)

The proximity of the shipping lanes of the English Channel and the precedent of the MSC Napoli intentional emergency beaching in 2007 (Wainwright, 2007), which luckily had not major consequences for the Outstanding Universal Value of the site (UNESCO, 2007), show that shipping accidents and resulting spills in the vicinity may well affect its territory. The shingle beaches, and their behavior, would be impacted in the case of significant oil spill - this could lead to a breach of Chesil bank and impacts at
other locations that are protected by shingle beaches.

**Other**

*(Construction of shore defences and change of shore dynamics and ecosystems through climate change)*

Climate change might in the long term affect coastal stability and ecosystem distribution (Zacharioudaki and Reeve, 2011), increase coastal erosion and create a need for strengthened coastal defenses along the World Heritage site, which would compromise its erosion/deposition dynamics, aesthetic value and accessibility (Jurassic Coast World Heritage Site, 2009). The need for coastal sea defences is the largest ongoing threat to the site and climate change will exacerbate it. However, improved coastal defences have been constructed at West Bay, part of which was built within the World Heritage site in proper consultation with the relevant authorities and the JCT, whilst more are planned for construction on Sidmouth Beach (IUCN Consultation, 2020a). In some areas, "private" coastal defences are being created outside the planning process and these need to be monitored carefully (IUCN Consultation, 2020b).

**Oil/ Gas exploration/development**

*(Oil and gas exploration)*

Oil and gas exploration continues to be a concern. The oil exploration rig brought 4 miles off the coast of the site in 2019 to test the viability of a known hydrocarbon reservoir was objected to by many local residents on the grounds of pollution, with one campaign group claiming that 6,700 tonnes of chemicals will be discharged into the sea during drilling, as well as being unsightly in an Area of Outstanding Natural Beauty (AONB). However, the drilling unit was there temporarily, and so long term impacts on the World Heritage site are likely to be low.

**Other**

*(Covid-19 crisis)*

The impacts of the global Covid-19 crisis will inevitably effect the site in a as of yet unquantified manner, most likely relating primarily to protection and management. The dispersed nature of the site access infrastructure and the variable vulnerability of the partners that help manage the site make the situation impossible to predict. Capacity to deliver conservation and education will inevitably be reduced in the short term, with the mid-long term implications as yet unknown (IUCN Consultation, 2020).

**Renewable Energy**

*(Proposed energy recovery plant)*

An Energy Recovery Facility project is currently being proposed for Portland. The proposed site for the large scale facility lies outside the boundaries of the site and it is unclear what the impacts on setting may be. However, an Environmental Impact Assessment is underway to make the proper assessments (IUCN Consultation, 2020).

**Overall assessment of threats**

The Outstanding Universal Value of the site is very robust against most current and potential threats. However coastal defences and the overlap of extractive concessions with the World Heritage site and its setting pose potential threats to the site. Whilst offset by other existing conservation designations, the establishment of a buffer zone may minimise the impacts of oil exploration to the values of the site.

**Protection and management**
Assessing Protection and Management

**Management system**

Highly Effective

The management system for the site underwent significant reform following the completion of the prior management plan. Site management co-ordination and facilitation have been moved out of the remit of the local authority to become an independent charity – The Jurassic Coast Trust (JCT), which in itself has reformed to focus on partnership working and fund raising. Concurrently, a new management framework for the Jurassic Coast was published in 2020, the Jurassic Coast Partnership Plan which, due to the changes to the management structures for the WHS, places more emphasis on the role of the wider Partnership in contributing to Site management and is based on solid values and strategic aims towards the conservation of OUV in the site. Given the governance framework and corresponding management plan are so recently reformed/renewed, their efficacy remains to be seen. However, they appear to be well-designed and build on a strong legacy of management within the site (Dorset County Council, 2014; The Jurassic Coast Trust, 2020), although the loss of the ‘Science and Conservation Advisory Group’ as the forum for discussion between the Site Management, Natural England, universities and museums may negatively impact the on-going research value of the site and its OUV (IUCN Consultation, 2020).

**Effectiveness of management system**

Highly Effective

No formal management effectiveness assessment has been conducted for the site, however the new management plan has been well designed through a transparent and consultative process, and is therefore likely to be effective given its emphasis on public engagement in management. Whilst the Jurassic Coast Trust has delegated authority for the co-ordination and facilitation of Site management, there are many areas of delivery for which it is not directly responsible (Jurassic Coast Trust, 2020). This places onus on local partners and volunteers in the management of the site. It should be noted that close dialogue with expertise in the field of research on palaeontology, geomorphology and other disciplines related to the values of the site remains a key requirement for the effective management of the site and should be integrated into the management system (IUCN Consultation, 2020). As a new management system that has undergone reform, it remains to be seen whether the system will be effective. However, the planned activities in the engagement of the wider community in managing the site through the strategic aims and values set out in the plan indicates that this is likely to be highly effective, especially given the successes in the past (Jurassic Coast World Heritage Site, 2009).

**Boundaries**

Some Concern

The property’s boundaries are considered adequate because they are based on the spatial distribution (and national protective designations) of OUV throughout 13 Sites of Special Scientific Interest (which encompass 66 Geological Conservation Review sites), are consistent with British legislation (e.g. regarding seaward boundary), and were set following a lengthy consultation process. A buffer zone is considered unnecessary, because of the overall effective conservation and management regime around the property. Protection of the setting is mostly fulfilled by the East Devon and Dorset AONBs (Dorset County Council, 2014). However, there is some local concern that oil exploration may be permitted in the setting of the property, as extractives concessions that overlap with the property have been issued. The property could therefore benefit from the creation of a clearly demarcated buffer zone.

**Integration into regional and national planning systems**

Highly Effective

The management plan of the property explicitly refers to the integration of the OUV management of the site into the UK planning system at the regional and national level, specifically through the application of the National Planning Policy Framework (NPPF), updated in February 2019, and the supporting National Planning Practice Guidance (NPPG) toward the conservation of OUV (Jurassic Coast Trust, 2020). The site boundaries are also largely based around existing national level designations, and the property is covered entirely by one or more existing conservation designation such as Areas of Outstanding Natural Beauty (AONB) and Sites of Special Scientific Interest (SSI), the former of which
covers more than 80% of the property.

**Relationships with local people**

Local people were involved intensively in the development and consultation of the new management plan of the property, which places great emphasis on local engagement and management of the property across sectors such as local business, charities, landowners and other organisations (Jurassic Coast Trust, 2020). The recent mobilisation of the Jurassic Coast Volunteer Network (Jurassic Coast Trust, 2020b) as part of the new management system is testament to the efforts being made to foster local involvement in the management of the site. However, the oil and gas exploration and extraction project which took place off Old Harry Rocks in 2019 created tension between selected local communities and the local authority, where local communities, independent businesses and groups raised their concern and indeed protested against the project on the grounds of the potential impact of the project on the environment and on the setting of the property.

**Legal framework**

The property is protected under national nature conservation legislation by 13 Sites of Special Scientific Interest (SSSI) which encompass both geological and biological interests. The setting is protected by two Areas of Outstanding Natural Beauty (AONBs) (IUCN Category V Protected Landscape/Seascape), a national landscape designation. Further protection is provided by 3 SAC, 2 SPA and 2 Ramsar international site, 2 National Nature Reserves and the adjacent Lyme Bay Marine Protection Area. Legal protection was considered effective at the time of inscription (IUCN, 2001) and this remains the case.

**Law enforcement**

There is a well formulated fossil collection code which visitors are informed of but it is difficult to enforce restrictions, though the impacts are relatively low. Developments within the property are strictly controlled, however with the absence of a buffer zone, restrictions on offshore or nearby developments cannot be enforced, which may have detrimental impacts on the values of the site. The oil rig off Swanage in which drilled for oil in 2019 is an example of this.

**Implementation of Committee decisions and recommendations**

The only relevant Committee decision on the property since inscription was Decision 31 COM 7B.33 (WHC, 2007), which dealt with the emergency response to the MSC Napoli accident. There are no recent Committee decisions or recommendations.

**Sustainable use**

The property occupies an extended narrow strip of coastal cliffs, beaches and intertidal areas and is not of great interest for natural resources use. No problems with the sustainable use have been reported (IUCN, 2001, Jurassic Coast World Heritage Site, 2009, UNEP-WCMC, 2011). However, the Marine Management Organisation, and their licensing of aggregate extraction, needs careful monitoring (IUCN Consultation, 2020).

**Sustainable finance**

Funding of the property is provided on a partnership basis. In 2008-9, the property received a total of ca. USD 670,000, from Dorset County Council, Devon County Council and Natural England. This was supplemented by contributions and project funding from various sources including some larger landowners of the property, and is overall considered sufficient (UNEP-WCMC, 2011). Current government funding cut backs, particularly for local authorities and government organizations, could impact the property, therefore potential long term effects of these cuts should be monitored.

**Staff capacity, training, and development**

Exact staff numbers of the property are difficult to ascertain because of its partnership management structure. About 40 wardens and rangers were employed by Devon and Dorset County Councils upon
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inscription alone (UNEP-WCMC, 2011). Staff training and development are likely to be conducted by the individual management partners, but detailed information is not available.

Education and interpretation programs

The site has a strong legacy of education, which is built upon in the new management plan in which education and engagement are central to the vision and strategic aims. An extensive education programme is implemented at the property, including a new interpretation framework and learning strategy - The Jurassic Coast Story Book and the Jurassic Journey (Jurassic Coast Trust, 2018; 2019). Both are designed to help guide engagement work by the wider partnership, especially museums and visitor centres (IUCN Consultation, 2020). However, the lack of university and museum input into the management of the Site under the new management system may be regarded as a loss compared to earlier systems in this regard (IUCN Consultation, 2020).

Tourism and visitation management

A wide range of publications have been produced and visitor interpretation centres established or improved since inscription (e.g. the Charmouth and Beer centres and Dorset Country Museum). Transport infrastructure has been improved (e.g. X53 Jurassic Coast Bus). The partner museums and visitor centres continue to actively engage in this element of the site’s management (Jurassic Coast Trust, 2020).

Monitoring

There is a detailed monitoring programme and state of conservation report is published annually for the site. The implementation of the management plan will also be monitored and steered according to advise from the Partnership Advisory Committee (PAC), which is a designated committee of the Jurassic Coast Trust, comprised of representatives from key stakeholders, as well as advisors from specialist areas (Jurassic Coast Trust, 2020).

Research

The property has supported geological and palaeontological knowledge generation for the last 200 years (Brunsden and Edmonds, 2010, UNEP-WCMC, 2011), and continues to host a wide range of research projects. The recently published ‘Jurassic Coast: geoscience and education’ special volume produced by the Proceedings of the Geologists Association contains a series of papers covering earth science, interpretation and learning and represents an important moment of reflection on the value of this WHS (IUCN Consultation, 2020; Larwood, 2019).

Overall assessment of protection and management

The protection and management of the site is mostly effective to highly effective overall, with several examples of international best practice in World Heritage management. Whilst it remains to be seen whether the new management plan will be effective in conserving the values of the site, it is likely to given the extensive efforts in consultation which produced the plan, the experience in management from the partner organisations and the excellent interpretation and education materials produced to date.

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

The main outside threats to the property are pollution by oil or other chemical spills and infrastructure development in its immediate surroundings (e.g. Portland area). These cannot be fully controlled but so far have been addressed effectively, as in the MSC Napoli accident in 2007 (WHC, 2007), or regarding quarrying concessions in the vicinity of the property. The main outside threats to the property are pollution by oil or other chemical spills and infrastructure development in its immediate surroundings (e.g. Portland area). These cannot be fully controlled but so far have been addressed effectively, as in the MSC Napoli accident in 2007 (WHC, 2007), or regarding
quarrying concessions in the vicinity of the property. Concerns were raised by some local communities regarding the oil and gas exploration off the coast of the site which occurred in 2019, however the project is likely to have done little damage to the geological values of the property for which it is inscribed.

**Best practice examples**

1. Close involvement of local people and interest groups in the management planning and implementation process
2. Collaborative management setup building on existing local and regional authorities and organizations
3. Extensive visitation, interpretation and education programmes which deal with a very large number of visitors and include innovative approaches, such as the use of the arts in interpretation and education
4. Fossil collecting management working collaboratively with local collectors, land owners, conservation agencies and the research community

### State and trend of values

#### Assessing the current state and trend of values

**World Heritage values**

- **Globally significant rock record, fossil localities and geomorphological features**

  The state of the geological, palaeontological and geomorphological values of the site was assessed as good at the time of inscription (IUCN, 2001). It has remained stable since, according to the State Party (Jurassic Coast World Heritage Site, 2009), which also identified some small local areas of unfavorable conservation state. It is hence assessed as of low concern, and stable.

**Summary of the Values**

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

  The state of the geological, palaeontological and geomorphological values of the site was assessed as good at the time of inscription. It has remained in good condition and stable since.

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

  The Factsheets for the two Important Plant Areas and for the Important Bird Area that overlap with the property do not indicate any specific impairments of their conservation status since inscription (BirdLife International, 2012b, Plantlife, 2012a, b). Additional information may be available from the UK biodiversity monitoring system and from Natural England on the condition of SSSIs.

### Additional information

#### Benefits

**Understanding Benefits**
Direct employment

The number of jobs provided by the property is difficult to ascertain, because of its partnership management structure. Ca. 40 wardens and rangers are employed by Dorset and Devon County Councils alone (UNEP-WCMC, 2011). In addition, a significant number of jobs (hundreds of jobs in tourism) indirectly benefit from the attractiveness of the OUV, landscapes and biodiversity of the property.

Outdoor recreation and tourism

There are 14 million visitors to the property annually, with an increasing contribution of international visitors, and nature based tourism is practiced at a high intensity (UNEP-WCMC, 2011). The site offers a unique opportunity to experience not only its OUV but also the coastal landscapes of southern England in general. This contributes significantly to income generation and the socio-economic development in the property’s vicinity.

Importance for research

The site has critically contributed to the scientific understanding of geology, palaeontology and coastal geomorphology since the early 19th century, and continues to support extensive scientific research and publications (UNEP-WCMC, 2011). In addition, new know-how on the management of World Heritage and other natural areas is generated and tested by the institutions managing the property.

Contribution to education

Based on the site’s immense importance for palaeontological and geological knowledge generation and its exemplary visitor and educational facilities, it also functions as a living museum, which helps people understand how life has evolved throughout Earth’s history, and how coastal landscapes continue developing today (Jurassic Coast World Heritage Site, 2009).

Summary of benefits

The main benefits of the property are knowledge generation, education and nature based tourism with the immense socio-economic benefits that depend on them, but the property also offers significant nature conservation benefits.

Projects

Compilation of active conservation projects

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<th>Organization</th>
<th>Brief description of Active Projects</th>
<th>Website</th>
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<tr>
<td>1</td>
<td>Jurassic Coast Trust</td>
<td>Various fundraising projects in support of the management of the property</td>
<td><a href="http://www.jurassiccoasttrust.org/">http://www.jurassiccoasttrust.org/</a></td>
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<td>2</td>
<td>South Devon and Dorset Coastal Advisory Group</td>
<td>Projects for sustainable shoreline management in the property’s area</td>
<td><a href="http://www.sdadcag.org/">http://www.sdadcag.org/</a></td>
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<td>3</td>
<td>Arts Council England, South-west</td>
<td>Jurassic Coast Arts Programme, part of the interpretative and educational activities at the property</td>
<td><a href="http://www.jurassiccoast.com/352/jurassic-news-36/jurassic-post-edition-7-212/jurassic-coast-arts-programme-505.html">http://www.jurassiccoast.com/352/jurassic-news-36/jurassic-post-edition-7-212/jurassic-coast-arts-programme-505.html</a></td>
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<td>4</td>
<td>The National Trust</td>
<td>Nature conservation projects on NT areas overlapping with the property</td>
<td><a href="http://www.nationaltrust.org.uk/">http://www.nationaltrust.org.uk/</a></td>
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<td>5</td>
<td>British Geological Survey</td>
<td>Geological, palaeontological and geomorphological research projects on the property</td>
<td><a href="http://www.bgs.ac.uk/">http://www.bgs.ac.uk/</a></td>
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