



Historic England

# **WHEEL WRECK, LITTLE GANINICK ISLES OF SCILLY CONSERVATION STATEMENT & MANAGEMENT PLAN**

**Kevin Camidge and Charles Johns**



Historic England

## Wheel Wreck

Little Ganinick, Isles of Scilly

### Conservation Statement & Management Plan

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Cover photo: The Wheel Wreck cargo mound (photo: CISMAS 2017)



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## Executive Summary

The Wheel Wreck lies on the seabed to the south of the uninhabited Island of Little Ganinick, in the Isles of Scilly. The site was discovered by local divers Phillip Roberts and Todd Stevens in 2005, apparently as the result of a magnetometer survey they undertook in the area.

The site comprises three distinct areas of wreckage: the main cargo mound which consists of an orderly stack of pipes and wheels (after which the site was named), a scatter of iron cylinder fragments situated about 11m to the north-west of the cargo mound, and part of a 19th century iron anchor lying about 60m to the south-west of the cargo mound. Very little of the vessel carrying this cargo has been found.

The Wheel Wreck was designated under the Protection of Wrecks Act 1973 on the 5<sup>th</sup> April 2007 (NHLE 1000086). The protected area extends 75m around position 49° 56.455' N, 006° 16.381'W.

The site lies within the Isles of Scilly Special Area of Conservation (SAC) and between the Higher Town and Lower Ridge to Innisvouls Marine Conservation Zone (MCZ) areas of the Isles of Scilly MCZ.

This Conservation Statement and Management Plan has been produced to enable local and regional stakeholder involvement in our aspirations for the conservation management of the Wheel Wreck Protected Wreck site, so as to balance protection with economic and social needs. The principle aim of the Plan is to identify a shared vision of how the values and features of the Wheel Wreck can be conserved, maintained and enhanced.

The following management policies have therefore been formulated in accordance with achieving our principle aim:

### *Management Policy 1*

*We will seek to develop appropriate visitor access to the monument in order to enhance the value of the site. An underwater guide slate for the site will be developed to enrich the visitor understanding of the site.*

### *Management Policy 2*

*The web-based virtual site tour will be maintained and regularly updated to reflect the evolving state of knowledge*

### *Management Policy 3*

*Mechanisms will be identified and implemented so as to develop shared ownership and partnership working.*

### *Management Policy 4*

*Key gaps in understanding the significance of the monument's component parts should be identified, prioritised and addressed so that these significances can contribute to informing the future conservation management of the place.*

*Management Policy 5*

*We will seek to commission a staged programme of assessment and research to contribute towards a fuller understanding of the site in its entirety. This may include improved dating, identification of the wreck, documentary research, sampling and analysis of the iron cargo items and a biological assessment.*

*Management Policy 6*

*We will encourage the investigation and survey of the area around the known remains to establish the full extent of the site.*

*Management Policy 7*

*Unnecessary disturbance of the seabed within the restricted area should be avoided wherever possible in order to minimise the risk of damage to buried archaeological material as well as to protected habitats and species.*

*Management Policy 8*

*The sale of artefacts recovered from the site should be monitored as far as possible. The UK has adopted 'The Rules', an annex to the 2001 UNESCO convention which includes the principle that underwater cultural heritage should not be commercially exploited.*

*Management Policy 9*

*This management plan will be reviewed and updated on a regular basis so that it continues to reflect the conditions and state of knowledge pertaining to the site.*

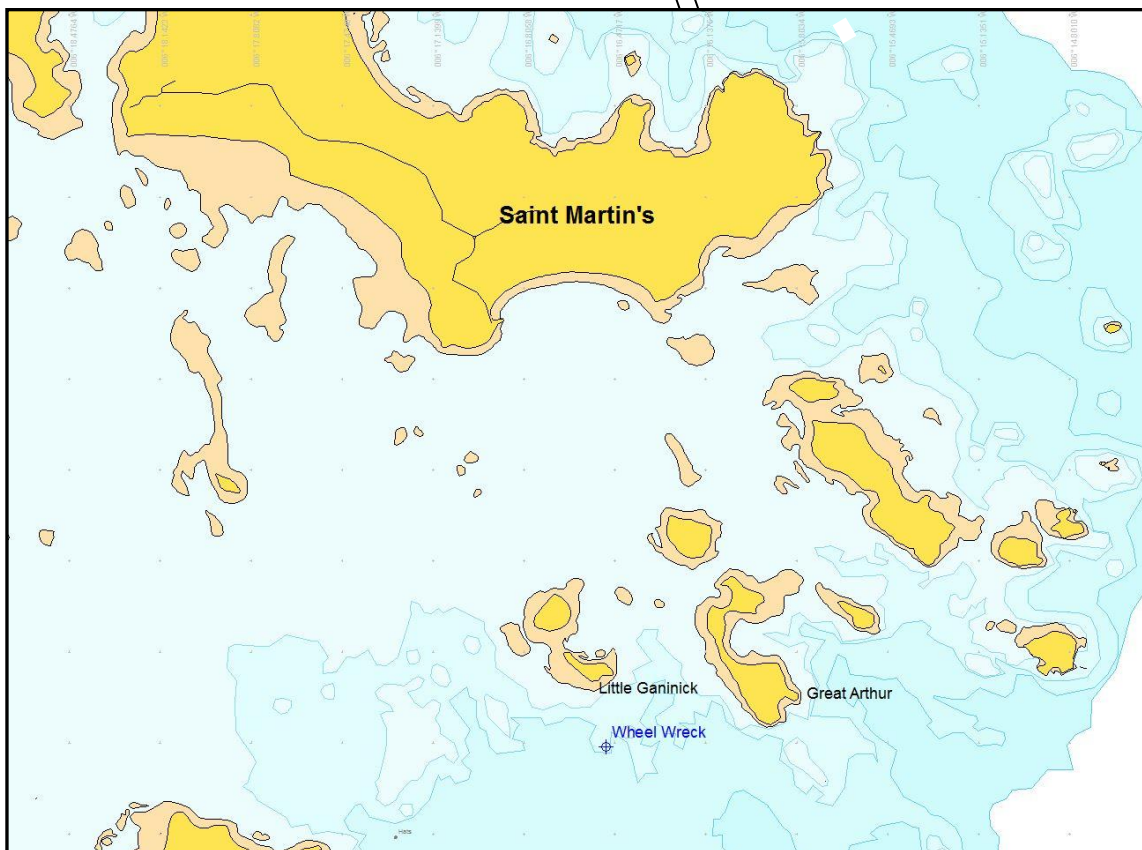
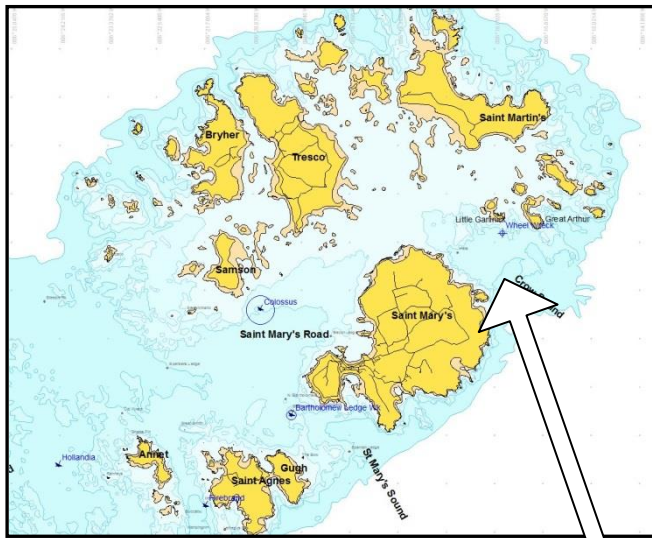
# Wheel Wreck

## Conservation Statement & Management Plan

### 1 Introduction

#### 1.1 Background and Purpose

- 1.1.1 Wreck sites may contain the remains of vessels, their fittings, armaments, cargo and other associated objects or deposits and they may merit legal protection if they contribute significantly to our understanding of our maritime past. The Protection of Wrecks Act 1973 (PWA) allows the UK Government to designate, in territorial waters, an important wreck site to prevent uncontrolled disturbance. Although the National Heritage Act 2002 enabled English Heritage (now Historic England) to assist in costs relating to works under the PWA, the responsibilities of Historic England for the physical management of designated wreck sites must align with our strategic and research priorities.
- 1.1.2 This document seeks to set out a Conservation Statement and Management Plan for the Wheel Wreck, an archaeological site designated under the Protection of Wrecks Act (1973), lying 200m to the south of Little Ganinick in the Eastern Isles, Isles of Scilly (Fig 1). The site was designated under the Protection of Wrecks Act 1973 on the 5<sup>th</sup> April 2007. The protected area extends 75m around position 49° 56.455' N, 006° 16.381'W.
- 1.1.3 The Wheel Wreck is attributed the List Entry Number 1000086 in the National Heritage List for England (NHLE).
- 1.1.4 Historic England has published a set of *Conservation Principles, Policies and Guidance* for the sustainable management of the historic environment, designed to strengthen our credibility and the consistency of decisions taken and advice given (English Heritage 2008). These *Conservation Principles* are intended to support the quality of our decision-making, with the ultimate objective of creating a management regime for all aspects of the historic environment that is clear and transparent in its purpose and sustainable in its application. As such, *Conservation* is taken to be the process of managing change in ways that will best sustain the values of a place in its contexts, and which recognises opportunities to reveal and reinforce those values (English Heritage 2008).
- 1.1.5 This Conservation Statement and Management Plan has therefore been produced to enable local and regional stakeholder involvement in our aspirations for the conservation management of the Wheel Wreck Protected Wreck site.



*Fig 1 The Wheel Wreck Protected Wreck site is located 200m to the south of Little Ganinick in the Eastern Isles, Isles of Scilly.*



## **1.2 Aims and Objectives**

1.2.1 The principle aim of this Conservation Statement and Management Plan is to identify a shared vision of how the values and features of the Wheel Wreck Protected Wreck site can be conserved, maintained and enhanced.

1.2.2 This has been achieved through the following objectives:

- Understanding the Wheel Wreck Protected Wreck site.
- Assessing the significance of the Wheel Wreck Protected Wreck site.
- Identifying where the significance of the Wheel Wreck Protected Wreck site is vulnerable.
- Identifying policies for conserving the significance of the Wheel Wreck Protected Wreck site.
- Realising the public value of conservation.

## **1.3 Scope**

1.3.1 In 1995, the Archaeological Diving Unit sought to determine factors affecting the stability of Protected Wreck sites (report ref. 95/30). This assessment considered the exposure of archaeological material, the probability of active degradation, site dynamics (energy) and sediment covering. It concluded that many of the sites designated under the Protection of Wrecks Act (1973) are actively deteriorating.

1.3.2 This assessment was subsequently reconsidered by Historic England, which sought to place an understanding of the physical stability of (and therefore risk to) each designated wreck site against ongoing investigations (through incumbent licensees), ease of access for visitors and potential for wider awareness (publication, signage, etc.). Practical measures that can conserve, maintain and enhance the values and features of the Wheel Wreck Protected Wreck site identified as being at risk will be delivered through this Conservation Statement and Management Plan.

1.3.3 Access to England's 53 Protected Wreck sites is managed through a licensing scheme and authorisation by the Secretary of State for Digital Culture, Media and Sport. Of the 52 protected sites in England, five are in the Isles of Scilly.

## **1.4 Authorship**

1.4.1 Contributions to this Conservation Statement and Management Plan will be sought through stakeholder involvement. Those individuals and organisations listed in section 9.2 will be consulted.

1.4.2 This document is based on the Historic England Standard for Conservation Statements for Historic England Sites and draws on generic plans for shipwreck sites (e.g., Cederlund 2004).

- 1.4.3 This Conservation Statement and Management Plan was prepared between August and October 2018 for Historic England by Kevin Camidge and Charles Johns.

## **1.5 Status**

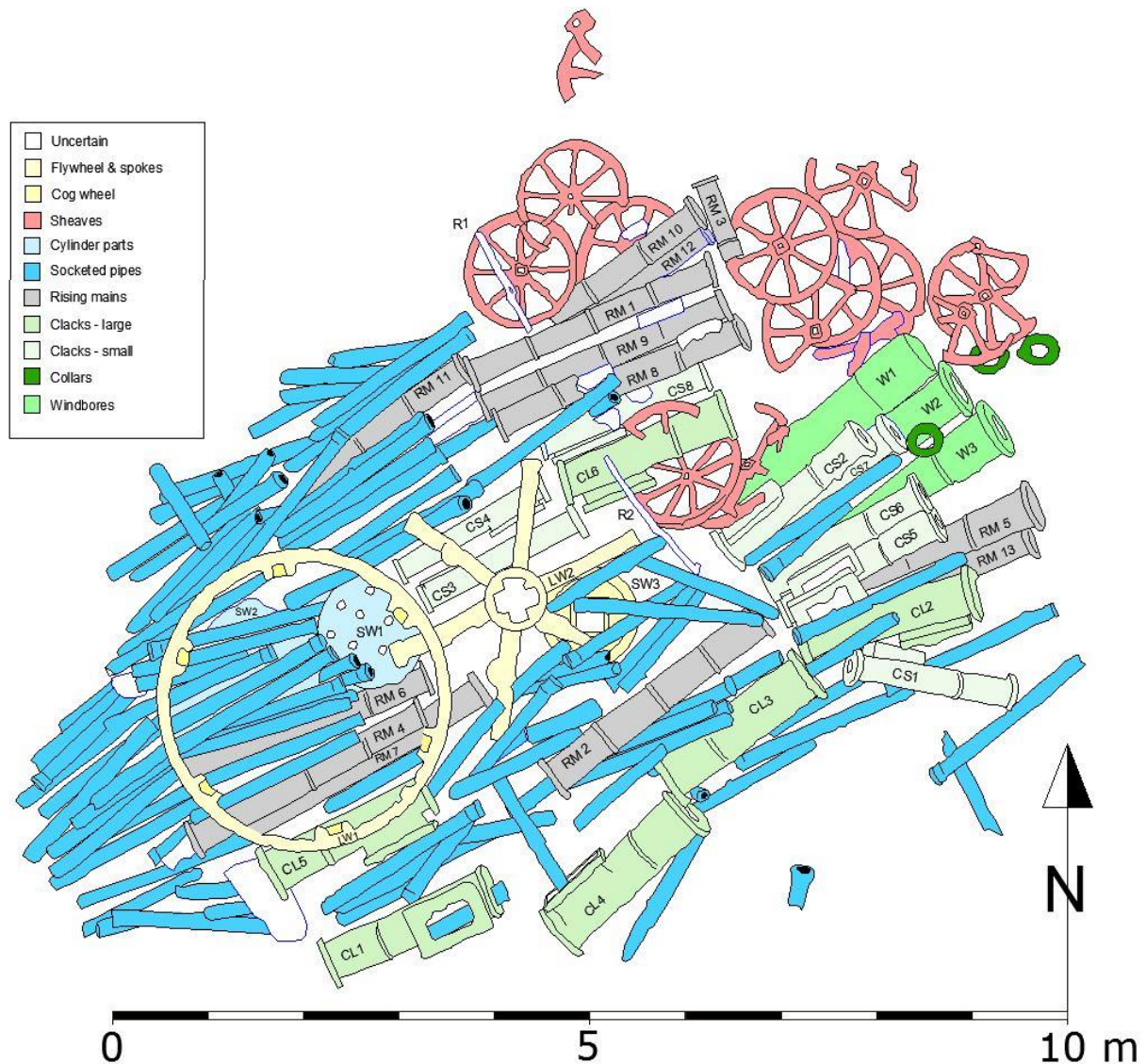
- 1.5.1 The final version of this report was adopted in 2019. Notes on its status (in terms of revision) will be maintained.

## **2 Understanding the Wheel Wreck**

### **2.1 Historical Development of the Designated Site**

- 2.1.1 The site was discovered by local divers Phillip Roberts and Todd Stevens in 2005. The discovery was apparently made as the result of a magnetometer survey they undertook in the area.
- 2.1.2 A number of artefacts have been recovered from the site – a list of declared objects has been requested from the Receiver of Wreck.
- 2.1.3 An Undesignated Site Assessment was undertaken by Wessex Archaeology between 5<sup>th</sup> and 14<sup>th</sup> of July, 2006. A total of 15 dives comprising 12.4 hours underwater were carried out. The site assessment included underwater photographs and a photomosaic from which a basic site plan was produced.
- 2.1.4 A number of artefacts recovered from the site by Todd Stevens were documented in the Undesignated Site Assessment (16 in all). These included fragments of pottery and glass, a copper kettle, wooden sheaves (some with copper alloy coaks), and a lead scupper pipe as well as unidentified copper-alloy objects. It was concluded in the assessment that these objects were ‘thought to be of late 18<sup>th</sup> century date’ (Wessex Archaeology 2006).
- 2.1.5 Socketed iron pipes within the cargo mound were identified as replacement boiler tubes, from which it was concluded that the cargo dated ‘from the latter half of the 19<sup>th</sup> century’ (Wessex Archaeology 2006, 9).
- 2.1.6 The site was designated under the Protection of Wrecks Act on 5<sup>th</sup> April 2007.
- 2.1.7 In April 2017, as part of the Isles of Scilly Designated Wrecks Interpretation project, a multi-beam echo sounder (MBES) survey of the site was undertaken by MSDS marine. The Wheel Wreck MBES survey was undertaken at 450 kHz over the whole of the designated area, with a smaller area - centred on the cargo mound - being additionally surveyed at 700 kHz. The larger items of the cargo mound (the large wheel rim and the wheel spokes) were discernible on the MBES surveys, but other individual cargo items were not. The Trotman anchor to the south-west of the cargo mound was not visible on the MBES survey, but this is located between two large rocks which are probably masking the anchor. The rock-strewn nature of the seabed around the site is clearly shown (Camidge *et al* 2017).
- 2.1.8 In August 2017 the Cornwall and Isles of Scilly Maritime Archaeology Society (CISMAS) visited the site as part of the Isles of Scilly Designated Wreck Interpretation project. Photographs and video were collected and a 3D ‘structure from motion’ model of the cargo mound was constructed and published on the Sketchfab web platform. The 3D model can be viewed at the Isles of Scilly Designated Wrecks website <http://vdt.cismas.org.uk> .
- 2.1.9 Research undertaken as part of the Isles of Scilly Designated Wreck Interpretation project engendered the suspicion that the socketed cast iron tubes were in fact water pipes and not boiler tubes. This called into question the

mid-19<sup>th</sup> century date assigned to the site.



*Fig 2 Plan of the cargo mound with the identified cargo elements differentially colour coded.*

2.1.10 In April 2018, CISMAS undertook a limited survey of the site on behalf of Historic England. The survey included recording of the visible cargo mound items, a site plan, a 3D 'structure from motion' record of the cylinder fragments, sampling of the socketed pipes for metallurgic identification and the collection of dating material from around the cargo mound.

2.1.11 A small quantity of pottery and glass was recovered from the vicinity of the cargo mound. Appraisal of this material resulted in a date range of 1770 to 1820 for this material. Chemical analysis of the glass suggests that the glass falls into the earlier part of this date range. In consequence, it seems likely that the site dates from the end of the 18<sup>th</sup> century. This accords with the date

assigned to the previously recovered ceramics in the Undesignated Site Assessment (late 18<sup>th</sup> century). The 2018 project is documented in the project report (Camidge *et al* 2018)

- 2.1.12 The wreck is narrated in *The Wrecks of Scilly* (Larn 2010). The work of the original finders and the Undesignated Site Assessment are summarised. In addition, a candidate vessel for the wreck is proposed – The *Padstow* wrecked in Scilly in 1804 with a cargo of iron from Cardiff to London.
- 2.1.13 The site is further discussed in *Shipwrecks and Maritime History in and Around the Isles of Scilly*, co-authored by one of the site's original finders. The identity of the vessel is cited as unknown, but the date proposed is 1830 to 1870. An unpublished report by un-named members of the Trevithick Society (2010) is extensively quoted. This identifies 'boiler fire tubes in the cargo' from which a date after 1830 is proposed (Cummings and Stevens 2016, 207).

## **2.2 Description of Surviving Features**

- 2.2.1 The site lies on the seabed to the south of the uninhabited Island of Little Ganinick, in the Isles of Scilly. It comprises three distinct areas of wreckage: the main cargo mound which consists of an orderly stack of pipes and wheels (after which the site was named), a scatter of iron cylinder fragments situated about 11m to the north-west of the cargo mound, and part of a 19<sup>th</sup> century iron anchor lying about 60m to the south-west of the cargo mound. Very little of the vessel carrying this cargo has been found.
- 2.2.2 The cargo mound sits on a boulder-strewn rocky seabed in about 16m of seawater. It consists of an orderly stack of tightly packed corroded cast iron pipes and wheels. The mound is sub-rectangular in shape and some 12m long by 7m wide. The pile of material is for the most part somewhat less than 1m deep. A total of 155 separate items have been recorded including: at least 100 socketed iron pipes, 14 clack pieces, 13 flanged rising mains, 12 iron sheave wheels, 3 windbores, two toothed gear wheels and a possible piston and cylinder head. There are further iron objects beneath the visible elements of the cargo mound
- 2.2.3 The scatter of iron cylinder fragments lies to the north-west of, and separate from, the main cargo mound. The reason for this spatial separation is not clear. The cylinder fragments appear to be derived from a cast iron cylinder of 42 inches (1.08m) internal diameter; the length of which has not been determined. This cylinder has been interpreted as part of a steam pumping engine. One cylinder fragment has a rectangular opening which probably functioned as an inlet or exhaust port (Camidge *et al* 2018). A possible piston and cylinder head are located within the cargo mound, and may be parts intended for this cylinder.
- 2.2.4 The anchor was noted by the original finders some '60m south west of the main site'. It was identified as a Trotman type, and as such dates from after 1852. The Trotman anchor was a development of an earlier design by William Porter designed in 1838. John Trotman patented his improved design in 1852. In the same year a comparative trial of anchors was undertaken by the Board of the Admiralty, where it was found that the Trotman anchor was '28% better than the



Admiralty pattern anchor'. Despite this, the Admiralty declined to adopt the design. It did, however, find favour with merchant vessels due to its lighter weight. It was also adopted for the Royal Yacht (1854) and for Brunel's *Great Eastern* (1858) (Curryer 1999). The Trotman consists of semi-circular arms with 'L'-shaped horns forming the palms. The arms are connected to the shank by a bolt which allows the arms to swivel – and, incidentally, is a potential weakness of the design.

- 2.2.5 This anchor was inspected by CISMAS in 2017 and was found to be incomplete – the shank of the anchor has broken off and is not in evidence. The arms of the anchor lie on the seabed between two large boulders with one 'palm' upright in the water. It seems likely that the anchor was wedged in the rocks, and attempts to recover it resulted in the shank breaking off at the bolt. There is no evidence, other than proximity, to connect this anchor with the Wheel Wreck. The absence of the shank would suggest that this was recovered by the vessel which deployed the anchor. The recent dating evidence gathered from the site (1770 – 1820) would suggest that this anchor is not connected with the Wheel Wreck.
- 2.2.6 Very little of the vessel transporting the cargo has been found on the site to date. The paucity of remains from the vessel itself is puzzling; at the very least the anchors should be evident. Even a simple wooden vessel requires iron or copper fastenings to hold the hull together – no hull fastenings have been located on this site. The lack of ironwork associated with the masts and rigging is perhaps more easily explained, as these could easily have drifted away or been salvaged shortly after the loss of the vessel.
- 2.2.7 A small number of objects originating from the vessel (rather than personal items or the cargo) have been observed: at least three lead scupper pipes, eight rigging block-sheaves some with copper-alloy coaks, and two complex iron objects which were possibly deck windlasses. In addition, some lead sheathing may also have originated from the vessel (Camidge *et al* 2018).
- 2.2.8 Two separate groups of artefacts have been recovered from the site. The first group was recovered by the original finders in 2005, and is believed to be in the possession of Tod Stevens. A record of these artefacts exists in the Undesignated Site Assessment (Wessex Archaeology 2006). The second group of artefacts was recovered by CISMAS in 2018, and these are destined for the Isles of Scilly museum once their analysis is complete.

## **2.3 Ownership, Management and Current Use**

- 2.3.1 As the vessel of the Wheel Wreck has not been identified, the owner cannot currently be determined. The seabed is owned by the Crown Estate.
- 2.3.2 An Undesignated Site Assessment was undertaken by Wessex Archaeology in 2006. Consequently the site was designated under the Protection of Wrecks Act on 5<sup>th</sup> April 2007.
- 2.3.3 A virtual site tour was created in 2017, produced by CISMAS and

commissioned by Historic England. The virtual site tour was updated in 2018 following the limited site survey undertaken by CISMAS in 2018. The virtual site tour includes a 3D model of the cargo mound and cylinder fragments, as well as underwater video, photographs and interpretation material. This enables non-divers to experience a digital visit to the site. The virtual site tour can be accessed at <http://vdt.cismas.org.uk>

- 2.3.4 As physical access to the protected section of the site is restricted to licensed divers, the recovery of artefactual material can in theory be managed and controlled. Historically recovered material is in private ownership and its future cannot be predicted. The recently recovered material is destined for the Isles of Scilly museum.
- 2.3.5 Public access to the site is achieved by licence under the Protection of Wrecks Act. This licensing is currently administered by Historic England. The dive charter boats operating in Scilly have annual licences to visit for the protected wreck sites of HMS *Colossus*, HMS *Association*, The Tearing Ledge site, Bartholomew Ledge and the Wheel Wreck site. The scheme has been very popular with visiting divers; over 2300 visits have been made to *Colossus* in the last ten years. The Tearing Ledge site is also very popular but requires good weather and sea conditions for diving to take place there. The Wheel Wreck has been visited by divers since 2017; it is popular as it is both unusual, and easy to dive even in stormy conditions when diving other sites is not possible. In 2017, a total of 275 divers visited the Wheel Wreck.
- 2.3.6 The principal reports detailing the archaeological investigation of this site are currently:

*Undesignated Site Assessment* – Wessex Archaeology 2006

*Isles of Scilly Designated Wrecks Interpretation* – Kevin Camidge 2017

*Wheel Wreck Investigation, Project Report* – Kevin Camidge *et al* 2018

## **2.4 Gaps in Existing Knowledge**

- 2.4.1 Although we have a date range for the site of 1770 to 1820 derived from the analysis of the associated artefacts, a more precise date is required. The current dating is based on a very small number of objects (22 fragments of glass and pottery). We need to broaden this base and the most obvious way to do this is to collect further material from the site.
- 2.4.2 We do not know the identity of the vessel, although a number of candidates have been proposed. Further documentary research is required to make an association between a known wreck and the Wheel Wreck site. A more precise date for the site would make this task more practicable.
- 2.4.3 A number of wrecks have been proposed by other workers. These include the *Padstow*, wrecked in 1804, the *Victoria*, wrecked in 1838 and the *Plenty* wrecked in 1840. The *Victoria* can be eliminated as we now know she was carrying iron and tin plate - which is not present in the Wheel Wreck cargo. The

latter two are probably too late, and indeed the first (*Padstow*) may also be too late. The only association between these wrecks and the Wheel Wreck is that they were carrying iron and were wrecked in or near Scilly. Serena Cant has carried out work to identify possible candidate wrecks from documentary sources – see (Camidge *et al* 2018, 76). She has identified 21 candidate wrecks, of which 17 are post-1800 and six are pre-1800. Unless we can discover details of the actual cargo these vessels were carrying, we are unlikely to be able to make an association between the site and a known wreck. Only six candidate wrecks were identified for the 18<sup>th</sup> century, which raises the possibility that we are dealing with a wreck not currently on the candidate list. More focused documentary research may be possible if a more precise date for the site can be determined, and this will only be possible if more dating evidence can be procured.

- 2.4.4 We do not know where the cargo was manufactured, or its destination. Once the identity of the vessel has been established it should be possible to establish these. This will add greatly to our understanding of this unique site.
- 2.4.5 We need to be certain that we have discovered the full extent of the site, especially those items from the vessel (such as anchors) which have not been found. The fact that the 19<sup>th</sup> century anchor lying to the south-west of the cargo mound was not detected by the multi-beam survey suggests that a magnetometer survey of the area around the cargo mound should be undertaken, to ensure that we locate all the iron objects in the vicinity.
- 2.4.6 A formal programme of staged assessment and research is required to contribute towards a fuller understanding of the site in its entirety.

### **3 Assessment of Significance**

#### **3.1 Basis for Assessment of Significance**

*Significance* means *the sum of the cultural and natural heritage values of a place* (English Heritage 2008). Cultural heritage value has many aspects, including the potential of a place to yield primary information about past human activity (evidential value, which includes archaeological value), the ways in which it can provide direct links to past people, events and aspects of life (historical value), the ways in which people respond to a place through sensory and intellectual experience of it (aesthetic value, which includes architectural value) and the meanings of a place for the people who identify with it, and communities for whom it is part of their collective memory (communal value).

- 3.1.1 In addition, the historic environment is a cultural and natural heritage resource shared by communities characterised not just by geographical location but also by common interests and values. As such, emphasis may be placed upon important consequential benefits or potential, for example as an educational, recreational, or economic resource, which the historic environment provides. The seamless cultural and natural strands of the historic environment are a vital part of everyone's heritage, held in stewardship for the benefit of future generations.
- 3.1.2 The basis for assessing significance therefore enables consideration of the varying degrees of significance of different elements of the site. By identifying those elements which are vital to its significance and so must not be lost or compromised, we are able to identify elements which are of lesser value, and elements which have little value or detract from the significance of the site.

#### **3.2 Statement of Significance**

- 3.2.1 The evidential significance of the Wheel Wreck Protected Wreck site lies in the three distinct areas of wreckage: the main cargo mound which consists of an orderly stack of pipes and wheels (after which the site was named), a scatter of iron cylinder fragments situated about 11m to the north-west of the cargo mound, and part of a 19th century iron anchor lying about 60m to the south-west of the cargo mound. However, very little of the vessel carrying this cargo has been found.
- 3.2.2 We currently have a date range for the site of 1770 to 1820, derived from the analysis of the associated artefacts. Although the cargo may not have been the product of a Cornish foundry, it is exceptional and the historical significance of the Wheel Wreck Protected Wreck Site lies in its connection with early industrial development of the Cornish and West Devon Mining Landscape World Heritage Site (WHS) and the insight it provides into the mining technology of the time. Identification of the vessel will allow us to establish the origin and destination of this unique cargo.

- 3.2.3 The cargo mound has considerable visual impact which conveys immediately the aesthetic value of the Wheel Wreck. The site is located within the Isles of Scilly Special Area of Conservation (SAC) and between the Higher Town and Lower Ridge to Innisvoul areas of the Isles of Scilly MCZ.
- 3.2.4 The Wheel Wreck site was discovered by local divers and the local community retains a keen interest in the site and may be viewed as ‘unofficial ‘custodians’. In addition the Wheel Wreck may be seen to provide recreational (and therefore economic) resource by virtue of diving tourism.
- 3.2.5 The site’s connection with of the Cornwall and West Devon Mining World Heritage Site is of great local interest and something which is a source of pride and has demonstrable communal value for many people.
- 3.2.6 Whereas historical and communal values contribute to the assessment of significance of the Wheel Wreck Protected Wreck site, these values cannot stand alone. Without the continued enhancement of certain values, interest in the Wheel Wreck site would be diminished. As such, extant material remains on the seabed are vital to the significance of the site and must therefore not be lost or compromised.
- 3.2.7 The following table seeks to summarise these values of the Wheel Wreck Protected Wreck site as a whole, by noting how those values relate to the surviving fabric and its constituent parts:

<b>Evidential</b>	<p><i>Relating to the potential of the Wheel Wreck to yield primary information about past human activity.</i></p> <p>The evidential significance of the Wheel Wreck Protected Wreck site lies in the three distinct areas of wreckage: the main cargo mound which consists of an orderly stack of pipes and wheels (after which the site was named), a scatter of iron cylinder fragments situated about 11m to the north-west of the cargo mound, and part of a 19<sup>th</sup>-century iron anchor lying about 60m to the south-west of the cargo mound. However, very little of the vessel carrying this cargo has been found.</p>
<b>Historical</b>	<p><i>Relating to the ways in which the Wheel Wreck can provide direct links to past people, events and aspects of life.</i></p> <p>The current date range for the site is 1770 to 1820, derived from the analysis of the associated artefacts. Although the cargo may not have been the product of a Cornish foundry, it is exceptional and the historical significance of the Wheel Wreck Protected Wreck Site lies in its connection with the Cornish and West Devon Mining Landscape WHS and the insight it provides into the mining technology of the time. Identification of the vessel will allow us to establish the origin, crew and destination of this unique cargo.</p>



**Aesthetic**      *Relating to the ways in which people respond to the Wheel Wreck through sensory and intellectual experience of it.*

The cargo mound has considerable visual impact which conveys immediately the aesthetic value of the Wheel Wreck. The site is located within the Isles of Scilly AONB and SAC and between the Higher Town and Lower Ridge to Innisvoul areas of the Isles of Scilly MCZ.

**Communal**      *Relating to the meanings of the Wheel Wreck the people who identify with it, and whose collective memory it holds.*

The Wheel Wreck site was discovered by local divers and the local community retains a keen interest in the site. The site's connection with the WHS is of great local interest and something which is a source of pride and has demonstrable communal value for many people. Designation of the Wheel Wreck under the Protection of Wrecks Act 1973) is, in itself, an expression of communal value.

### **3.3 Gaps in Understanding Significance**

3.3.1 Despite the acknowledged need for a formal programme of staged assessment and research, the assessment of significance has not been acutely hindered by any gaps in knowledge identified in Section 2.4 above. However, certain key gaps in our understanding of the significance of the component parts of the site may need to be filled so that these significances can contribute to informing its future conservation management. Most notable among these, would be to establish the full extent of the site and to identify any surviving structural remains (contributing to our understanding of the evidential value of remaining components).

### **3.4 Statutory and Other Designations**

3.4.1 The site was designated under the Protection of Wrecks Act 1973 on the 5<sup>th</sup> April 2007. The protected area extends 75m around position 49° 56.455' N, 006° 16.381'W.

3.4.2 The Isles of Scilly were designated as an Area of Outstanding Natural Beauty (AONB) in 1975 while the Isles of Scilly Special Area of Conservation (SAC) was designated on the 1<sup>st</sup> April 2005 under SI No. 2716 Conservation (Natural Habitats) Regulations (1994), pursuant to the EC Habitats Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (1992). The Wheel Wreck lies between the Higher Town and Lower Ridge to Innisvoul areas of the Marine Conservation Zone which was designated in November 2013.

3.4.3 In addition, Section 40 of the Natural Environment and Rural Communities Act (2006) places a duty on all public bodies to have regard to biodiversity. Guidance for this duty is contained in 'Biodiversity duty: public authority duty to have regard to conserving biodiversity' by Natural England and DEFRA

published in October 2014.

## **4 Issues and Vulnerability**

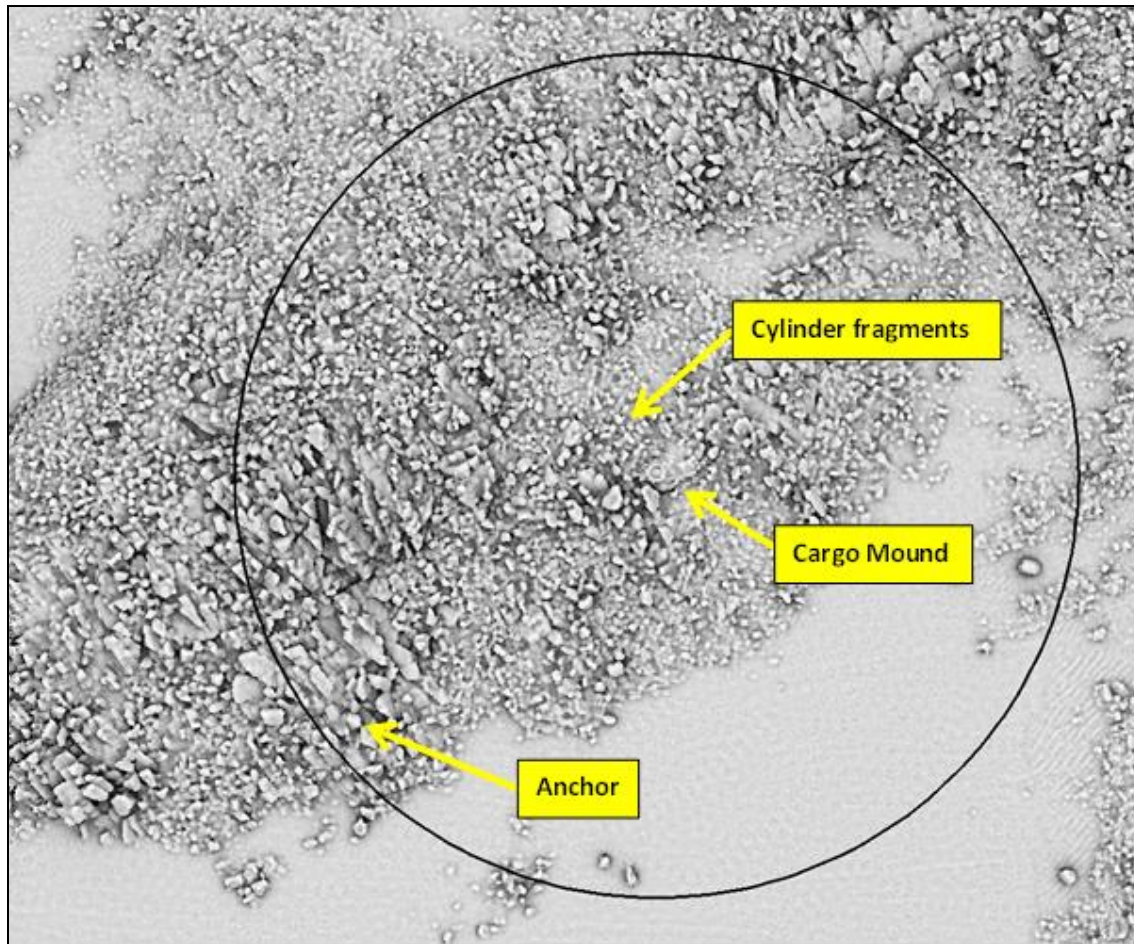
### **4.1 Introduction**

- 4.1.1 This section summarises the main conservation and management issues that specifically affect, or may affect, the significance of the monument and its component parts and elements. The ways in which the significance of the site may be vulnerable will also be identified.
- 4.1.2 Vulnerability (and therefore risk) may be assessed against environmental factors (such as natural processes) and human impact on the site, including the setting. Current assessment may indicate that such sites are at medium or high risk, unless they are completely buried below bed level during successive tidal cycles.
- 4.1.3 It is accepted that all wreck sites are vulnerable simply because of the nature of their environment, though sites will be considered to be at risk when there is a threat of damage, decay or loss of the monument. However, damage, deterioration or loss of the monument through natural or other impacts will not necessarily be considered to put the monument at risk if there is a programme of positive management. Practical measures that affect site stability, preservation *in situ* and increased visitor access will be addressed here, while the necessity to address the post-excavation back-log is recognised.
- 4.1.4 Issues relate specifically to the values identified in Section 3.2 above, and are presented here thematically rather than in order of severity or priority for remedial action. Relevant issues cover a wide range, including - but not restricted to:
- The physical condition of the site and its setting;
  - Conservation and presentation philosophy;
  - Visitor and other legal/ownership requirements;
  - The existence (or lack) of appropriate uses;
  - Resources, including financial constraints and availability of skills;
  - Lack of information or understanding about aspects of the site; and
  - Conflicts between different types of significance.

### **4.2 The Physical Condition of the Site and its Setting**

- 4.2.1 The Wheel Wreck lies on the seabed in Crow Sound approximately 200m to the south of the uninhabited island of Little Ganinick in the Isles of Scilly.
- 4.2.2 Underwater, the majority of the designated area consists of a boulder-strewn seabed with occasional small pockets of coarse sand. The boulders vary in size between 0.1 and 3m in diameter. To the south-west of the cargo mound there is an area of very large boulders. Towards the southern end of the designated area, the spread of boulders gives way to flat sand with occasional isolated

boulders (see Figure 3 below).



*Fig 3: Multi Beam Echo Sounder (MBES) image of the Wheel Wreck site. The limits of the designated area are shown by the circle which is 150m in diameter. The areas of boulders and sand show clearly, as does the cargo mound. The cylinder fragments and the anchor are not discernible on the MBES survey. The designated area is centred on the large wheel visible at the western end of the cargo mound.*

- 4.2.3 The visible remains (cargo mound and cylinder fragments) consist almost entirely of cast iron components. Although many of these are intact, there are a number of broken items apparent. All but three of the twelve iron sheave wheels are broken. The iron cylinder to the north-east of the cargo mound has been broken into many fragments. Evidence of breakage is also apparent in the socketed pipes and the rising mains. The samples of cast iron taken from the cargo mound for analysis demonstrated that the iron is in a very frangible state. It is possible to break the iron easily, using only finger pressure. Thus, while it looks robust, the iron is actually rather fragile.
- 4.2.4 The exposed iron of the cargo mound is covered with a moderate growth of underwater flora. In common with other sites in Scilly, there are also fauna of various types present. To improve our knowledge and understanding of the flora and fauna on this site, a formal marine biological survey should be considered. The results of this study, if undertaken, should be shared with relevant stakeholders.



*Fig 4 One of the iron sheaves on the cargo mound, illustrating some of the fauna and flora present on the site. The iron wheel is 1.16m in diameter.(Photo by CISMAS)*

- 4.2.5 A small number of artefacts have been recovered from the site. Those recovered before the site was designated are in private hands. The finds recovered by CISMAS in 2018 are destined for the Isles of Scilly Museum on St Mary's.
- 4.2.6 The site is in a relatively sheltered position (see location plan Figure 1) and does not suffer from strong tidal currents. This makes the site an attractive option for divers when weather or tidal flow makes other sites difficult.

### **4.3 Conservation and Presentation Philosophy**

- 4.3.1 The site was designated under the Protection of Wrecks Act on 5<sup>th</sup> April 2007. The position designated was Latitude 49°56.445 north, Longitude 06°16.381 west, with a radius of 75m. The Statutory Instrument states that this is 'the site where a vessel lies, or may lie, wrecked on the sea bed'.
- 4.3.2 Digital interpretive information is available for the site online as part of the Isles of Scilly designated wrecks virtual tour website <http://vdt.cismas.org.uk> This includes digital 3D models, photographs, video, and interpretive material. Information is also currently available on the Historic England and Wikipedia web sites, although these need to be updated to reflect the more recent work



undertaken on the site.

- 4.3.3 Some artefacts recovered from the site are in private ownership. The pottery and glass fragments recovered by CISMAS in 2018 are destined for the Isles of Scilly museum. These fragments of pottery and glass are unlikely to be suitable for public display. They should, however, be available for future inspection for research purposes.

#### **4.4 Visitor and other Occupancy Requirements**

- 4.4.1 Public access to the site is achieved by licence under the Protection of Wrecks Act. This licensing is currently administered by Historic England. The three dive charter boats currently operating in Scilly have annual licences to visit the protected wreck sites of HMS *Colossus*, HMS *Association*, The Tearing Ledge, Bartholomew Ledge and the Wheel Wreck. Visits to the Wheel Wreck site started in 2017, when a total of 275 divers visited the site.
- 4.4.2 There is currently no physical dive trail on the site, and it is doubtful whether a physical dive trail is appropriate. There is, however, online digital interpretive material to assist divers visiting the site – the production of ‘hard copy’ material would enhance the visitor experience. A small site guide leaflet with site plan, which could be consulted while diving the site, would seem an obvious way to achieve this. Similar material produced for HMS *Colossus* is kept on board the dive charter boats and in the Isles of Scilly Museum on St Mary’s.
- 4.4.3 A virtual dive trail for the site can be viewed at <http://vdt.cismas.org.uk/trails/the-wheel-wreck/>. This includes a site plan, 3D interactive models of the cargo mound, an underwater video and interpretive material.
- 4.4.4 Because of the fragile state of the cast iron which comprises the cargo mound, it is vulnerable to damage from shot lines deployed on the site by visiting dive boats. A regime to minimise this risk needs to be formulated and enacted.

#### **4.5 The Existence (or lack) of Appropriate Uses**

- 4.5.1 Licensed activity only began in 2017, following on from CISMAS recording of the site
- 4.5.2 Regular and consistent information relating to the condition of the Wheel Wreck Protected Wreck site will be necessary to monitor the existence (or lack) of appropriate uses of the site.

#### **4.6 Resources, including Financial Constraints and Availability of Skills**

- 4.6.1 There is no doubt that the recovery of archaeological material to date indicates the evidential value of the Wheel Wreck Protected Wreck site, and that interaction with archaeological material relates to both aesthetic and historical value.
- 4.6.2 In line with developing Government policy for designated marine historic assets, we will seek to develop provision for flexible voluntary management



agreements. The latter should enable greater partnership, better planning, a reduction in individual licence applications and a more holistic approach to the needs of the Wheel Wreck Protected Wreck site.

- 4.6.3 Opportunities for funding interpretative and display works relating to Wheel Wreck Protected Wreck site could be discussed with the Isles of Scilly Museum and the Council of the Isles of Scilly.

## **4.7 Lack of Information or Understanding about Aspects of the Site**

- 4.7.1 To date the wreck has not been identified. This in itself is not particularly unusual for a protected wreck site; approximately 40% of protected wrecks have not been positively identified. However, one of the principal benefits of identified wreck sites is that we have a precise date for the deposition of the site. In the case of the Wheel Wreck, this would greatly assist our understanding of the origin, use and destination of the cargo items.
- 4.7.2 More information is needed on the date of the site. The limited number of artefacts recovered from the site have indicated a date range of 1770–1820 for their manufacture. Many important technological milestones occurred in the manufacture of mining machinery in this date range. Our understanding of this site would be greatly enhanced if this date range could be reduced.
- 4.7.3 We do not understand where this cargo originated (although the foundries with the technology to cast and bore the 42-inch engine cylinder are limited to a handful at this date). It goes without saying that we also do not know where the cargo was bound. These details will probably not be resolved unless the identity of the wreck can be established.
- 4.7.4 We need to establish the full extent of the site. The paucity of remains from the vessel itself is puzzling. We need to be certain that these items are not lying on the seabed in the surrounding area. The area has been surveyed using MBES, but a magnetometer survey of the surrounding area may locate further items and would eliminate the possibility of undiscovered iron material in the vicinity.

## **5 Conservation Management Policies**

### **5.1 Introduction**

5.1.1 This section of the Conservation Statement and Management Plan builds on the Assessment of Significance and the issues identified in Issues and Vulnerability, to develop conservation policies which will retain or reveal the site's significance, and which provide a framework for decision-making in the future management and development of the site or reveal the site's significance and also:

- Meet statutory requirements.
- Comply with Historic England's standards and guidance.

5.1.2 It is intended that the policies will create a framework for managing change on the Wheel Wreck Protected Wreck site that is clear in purpose, and transparent and sustainable in its application. Our aim is to achieve implementation through the principles of shared ownership and partnership working so as to balance protection with economic and social needs.

5.1.3 Policies are also compatible with, and reflect, Historic England's *Conservation Principles for the Sustainable Management of the Historic Environment* and its published policies and guidelines, as well as the wider statutory framework.

### **5.2 The Wheel Wreck is a Shared Resource**

5.2.1 The Wheel Wreck Protected Wreck site forms a unique record of past human activity which reflects the aspirations, ingenuity and investment of resources of previous generations. In addition, it is an economic asset, and provides a resource for education and enjoyment.

5.2.2 In addition, the conflict between the desire for access to the site and the restrictions imposed by conservation needs and legislative limitations will be reconciled through continued flexible and appropriate visitor management.

5.2.3 Therefore, we should sustain and use the Wheel Wreck Protected Wreck site in ways that allow people to enjoy and benefit from it, but which do not compromise the ability of future generations to do the same.

#### *Management Policy 1*

*We will seek to develop appropriate visitor access to the monument in order to enhance the value of the site. An underwater guide slate for the site will be developed to enrich the visitor understanding of the site.*

### **5.3 Everyone can Participate in Sustaining the Wheel Wreck**

5.3.1 Stakeholders have the opportunity to contribute to understanding and sustaining the Wheel Wreck Protected Wreck site. Judgements about its values - and decisions about its future - will be made in ways that are accessible, inclusive and transparent.

- 5.3.2 Practitioners should use their knowledge, skills and experience to encourage others to understand, value and care for their heritage. They play a crucial role in communicating and sustaining the established values of the wreck, and in helping people to articulate the values they attach to it.
- 5.3.3 Education at all stages should help to raise awareness and understanding of such values, including the varied ways in which these values are perceived by different generations and communities. It should also help people to develop, maintain and pass on their knowledge and skills. Where appropriate, we will encourage the use of the site as a training resource.
- 5.3.4 We will seek to develop provision for a flexible voluntary management agreement for the Wheel Wreck Protected Wreck site. This will enable greater partnership, better planning, a reduction in individual licence applications and a more holistic approach to the needs of the Wheel Wreck.

*Management Policy 2*

*The web-based virtual site tour will be maintained and regularly updated to reflect the evolving state of knowledge*

*Management Policy 3*

*Mechanisms will be identified and implemented so as to develop shared ownership and partnership working.*

## **5.4 Understanding the Value of the Wheel Wreck is Vital**

- 5.4.1 The significance of the Wheel Wreck Protected Wreck site embraces all the interdependent cultural and natural heritage values that are associated with it. To identify and appreciate those values, it is essential first to understand the structure and ecology of the place, how and why that has changed over time, and its present character.
- 5.4.2 Judgements about values are necessarily specific to the time they are made. As understanding develops, and as people's perceptions evolve and places change, so assessments of significance will alter, and tend to grow more complex.
- 5.4.3 We acknowledge that records of previous activities on the Wheel Wreck Protected Wreck site form an irreplaceable resource to identify previous values and assist with maintaining a cumulative account of what has happened to the site, and with understanding how its significance may have been altered.
- 5.4.4 Further, a formal programme of staged assessment and research is required, to contribute towards a fuller understanding of the site in its entirety. Such work will conform to the *Management of Research Projects in the Historic Environment* (Historic England 2015) and is likely to comprise the following stages:

- Collation of existing site archives
- Assessment to determine academic potential of the archive
- Determination of further work to fulfil this academic potential
- Preparation of a research archive
- Report text for publication, and finally
- Publication

#### *Management Policy 4*

*Key gaps in understanding the significance of the monument's component parts should be identified, prioritised and addressed so that these significances can contribute to informing the future conservation management of the place.*

#### *Management Policy 5*

*We will seek to commission a staged programme of assessment and research to contribute towards a fuller understanding of the site in its entirety. This may include improved dating, identification of the wreck, documentary research, sampling and analysis of the iron cargo items and a biological assessment.*

#### *Management Policy 6*

*We will encourage the investigation and survey of the area around the known remains to establish the full extent of the site.*

## **5.5 The Wheel Wreck will be Managed to Sustain its Values**

- 5.5.1 Conservation is the process of managing change in ways that will best sustain the values of a place in its contexts, and which recognises opportunities to reveal or reinforce those values.
- 5.5.2 Changes in the Wheel Wreck Protected Wreck site underwater are inevitable, and it is acknowledged that all wreck sites are vulnerable simply because of the nature of their environment. It is therefore justifiable to use law and public policy to regulate the management of the Wheel Wreck Protected Wreck site as a place of established heritage value.
- 5.5.3 Any measures taken to counter the effects of natural change will be proportionate to the identified risks, and sustainable in the long term.
- 5.5.4 Other changes will be devised so as to avoid material harm. Irreversible intervention on the Wheel Wreck Protected Wreck site may nonetheless be justified if it provides new information about the past, reveals or reinforces the values of a place or helps sustain those values for future generations – so long as the impact is demonstrably proportionate to the predicted benefits.
- 5.5.5 The effects of changes to the condition of the Wheel Wreck Protected Wreck site will be monitored and evaluated, and the results used to inform subsequent action.

- 5.5.6 If retaining any significant part of the Wheel Wreck Protected Wreck site is not reasonably practicable, its potential to inform us about the past will be exploited. This involves the recovery of information through prior investigation, followed by analysis, archiving and dissemination of the results at a standard appropriate to its significance.
- 5.5.7 Where such loss is deliberate, the costs of this work should normally be borne by those who initiate the change.

*Management Policy 7*

*Unnecessary disturbance of the seabed within the restricted area should be avoided wherever possible in order to minimise the risk of damage to buried archaeological material as well as to protected habitats and species.*

*Management Policy 8*

*The sale of artefacts recovered from the site should be monitored as far as possible. The UK has adopted 'The Rules', an annex to the 2001 UNESCO convention which includes the principle that underwater cultural heritage should not be commercially exploited.*

*Management Policy 9*

*This management plan will be reviewed and updated on a regular basis so that it continues to reflect the conditions and state of knowledge pertaining to the site.*



## **6 Forward Plan**

### **6.1 Introduction**

- 6.1.1 In order to commence the implementation of the proposed Management Policies outlined in Section 5, Historic England is seeking to initiate a range of projects that will increase our understanding of the value and setting of the Wheel Wreck Protected Wreck site. These projects are outlined below.

### **6.2 Proposed Projects in Relation to the Wheel Wreck**

- 6.2.1 When resources are available we will seek to initiate a magnetometer survey of the area around the known remains to help establish the full extent of the site.
- 6.2.2 Further dating evidence from the site is required to facilitate more precise dating. Once the date range has been reduced, it should be possible to initiate a targeted archive search with the aspiration of identifying the wreck.
- 6.2.3 It would enhance visitor access and understanding of the site if an underwater slate, with site map and brief interpretation, was produced. This could possibly be part of a wider Isles of Scilly designated wrecks project whereby similar underwater slates were also produced for the other protected sites on Scilly.
- 6.2.4 The virtual site tour is the main means for non-divers to access this site. It is important that this is periodically monitored and updated as required. If this does not take place, the resource will become outdated and its value diminished.
- 6.2.5 The benefits of further iron sampling on the site have been highlighted in the metallurgic analysis report from the socketed pipe sample taken in 2018 (Camidge *et al* 2018). These samples could be collected at the same time as further dating evidence is recovered from the site.
- 6.2.6 A marine biological assessment of the site should be considered. As well as providing an understanding of the flora and fauna inhabiting the site, it may offer more archaeological insights – for example it is apparent that different fauna are growing on the large flywheel from those growing on the socketed pipes. There may be a correlation between the flora and the type of iron. Results from any study undertaken should be shared with relevant stakeholders.

## **7 Implementation**

### **7.1 Consultation**

- 7.1.1 An agreed draft of the *Conservation Statement and Management Plan* for the Wheel Wreck Protected Wreck site was internally reviewed by Historic England.
- 7.1.2 The *Conservation Statement and Management Plan* for the Wheel Wreck Protected Wreck site was circulated for a four-week stakeholder consultation to refine how the values and features of the Wheel Wreck Protected Wreck site can be conserved, maintained and enhanced. Responses to the consultation were considered and the *Plan* revised as appropriate.

### **7.2 Adoption of Policies**

- 7.2.1 The original *Management Plan* was adopted in 2019.
- 7.2.2 A programme that identifies a realistic timescale for implementing the updated plan - taking into account those areas which need immediate action, those which can be implemented in the medium or long term, and those which are ongoing - will be devised.
- 7.2.3 Responsibilities for implementation of the *Management Plan* lie with Historic England, though consultation with stakeholders will be maintained throughout. In addition, provision will be made for periodic review and updating of the Plan.

## 8 References

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- Wessex Archaeology, 2006. *Wheel Wreck, Isles of Scilly, Undesignated Site Assessment*, Salisbury: s.n

## **9 Authorship and Consultation:**

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    David McBride  
The Isles of Scilly Council  
The Isles of Scilly Museum  
The Isles of Scilly Island Partnership  
Maritime trusts and societies  
Local divers in the Isles of Scilly  
Duchy of Cornwall (St Mary's Harbour Authority)  
Nautical Archaeology Society  
Recreational diving organisations (BSAC, PADI, SAA)  
Camborne School of Mines

## **Appendix 1: Links to web-based resources**

Historic England Wheel Wreck page:

<https://historicengland.org.uk/listing/the-list/list-entry/1000086>

CISMAS Home page:

<http://www.cismas.org.uk/index.php>

CISMAS site investigation report

[http://www.cismas.org.uk/docs/Wheel%20Wreck%202018%20Report%20%20V1\\_4%20FINAL.pdf](http://www.cismas.org.uk/docs/Wheel%20Wreck%202018%20Report%20%20V1_4%20FINAL.pdf)

Interactive 3D models of the site

<https://sketchfab.com/cismas>

Wheel Wreck virtual site tour

<https://vdt.cismas.org.uk/trails/the-wheel-wreck/>

Links last verified 21.10.2018

