

# Jurassic Coast

## Partnership Plan

2020-2025

Management Framework for the Dorset and East Devon Coast World Heritage Site

### APPENDIX 3:

Fossil Collecting



United Nations  
Educational, Scientific and  
Cultural Organization



Dorset and East Devon Coast  
inscribed on the World  
Heritage List in 2001

## **ACCESSIBILITY**

If you require a copy of this document in a different format, please contact us and we will do our best to provide it in a way that meets your needs

## **YOUR VIEWS**

The most important people for the future protection, conservation and use of the Dorset and East Devon Coast are those who live or work on or near it, and visit and enjoy it. Please let us know your views on the Site and its management through the contact details below.

## **CONTACT DETAILS**

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## **A3-1 Natural England Technical Information Note TIN112: Managing geological specimen collecting: responsible collecting**

### **Authors and acknowledgements**

Authors: Hannah Townley and Jonathan Larwood (Natural England).

Natural England Technical Information Notes are available to download from the Natural England website: [www.naturalengland.org.uk](http://www.naturalengland.org.uk).

This note sets out the principles for responsible geological specimen collecting. It has been written for collectors and is also relevant to managers of geological sites. It accompanies the guidance on managing geological specimen collecting in TIN111 and the case studies in TINs113 to 119 and TIN127. These provide information on how to manage geological specimen collecting in different situations, reflecting the available resource, its importance and different collecting pressures.

### **Background**

Rocks, fossils and minerals are part of our natural heritage and form an important scientific and educational resource. The ability to record field observations and collect specimens is essential to geology, which is a field-based science that allows us to understand the processes that influence our natural environment. Today collecting rocks, fossils and minerals is enjoyed by many and can provide an inspiring experience of the natural world. The available collecting resource is, however, finite and only through adopting a responsible approach to collecting will it remain available for future generations to experience, study and enjoy. The need for collecting should be carefully considered on a site by site basis. In some situations collecting can threaten a site, but in most cases, if undertaken responsibly, it is a tool for positive management.

### **Responsible collecting**

#### ***Access and collecting***

Permission to enter private land and collect geological specimens must always be gained. Elsewhere permission to collect may be required. If in doubt seek further advice over whether permission is required to collect. In all cases any legal requirements and local by-laws or management guidance should be followed.

#### ***Ownership and collecting***

A clear agreement should be made with the landowner over the future of any specimens collected. In some cases, both the landowner and the owner of the mineral rights (often, but not always, the same person) may need to be approached. If in doubt seek further advice over who to talk to and ownership.

### **How to collect**

In general collect only a few representative specimens from fallen or loose material. Scientific study may require collection of *in situ* specimens; any such collecting should be carefully planned and focus on scientific needs. Always make a precise record of the locality at which specimens are found and, if collected *in situ*, record relevant horizon and associated details, including linking specimens to information such as site name, grid reference and, if possible, photographs. In most cases, collecting by hand from loose material is sufficient. Hand tools, where allowed, should only be used when essential and power tools only used in exceptional circumstances. Any form of excavation is likely to require permission before it is undertaken.

### **Site management and collecting**

Always avoid disturbance to wildlife, be aware of other people and ensure that the site is left in a tidy and safe condition for those who follow.

### **Looking after your collection**

Ensure that all records can be directly linked to any specimens collected. Where necessary seek further advice on specimen identification and care. Scientifically important specimens should be eventually placed in a suitably managed collection, such as a museum, where there are adequate curatorial and storage facilities to ensure they remain available for further study.

### Further information

Geological Curators' Group. *Rocks, fossils and minerals - how to make the most of your collection*.

[www.geocurator.org/pubs/A4Thumbs\\_uleaflet.pdf](http://www.geocurator.org/pubs/A4Thumbs_uleaflet.pdf)

Geologists' Association. *A Code for Geological Fieldwork*. (A leaflet available from the Geologists' Association, Burlington House, Piccadilly, London W1V 9AG).

Prosser, C.D., Murphy, M. & Larwood, J.G. 2006. *Geological conservation: a guide to good practice*. Peterborough: English Nature. <http://publications.naturalengland.org.uk/publication/83048?category=30050>

Scottish Natural Heritage. 2008. *The Scottish Fossil Code*. <https://www.nature.scot/landforms-and-geology/protecting-our-geodiversity/codes-researchers-and-collectors/scottish-fossil-code>

Natural England Technical Information Notes are available to download from the Natural England website:

[www.naturalengland.org.uk](http://www.naturalengland.org.uk).

In particular see:

- TIN111: *Managing geological specimen collecting* TIN113: *Managing geological specimen collecting: caves*
- TIN114: *Managing geological specimen collecting: Charmouth case study*
- TIN115: *Managing geological specimen collecting: Fowlmead Country Park case study*
- TIN116: *Managing geological specimen collecting: rock coring*
- TIN117: *Managing geological specimen collecting: Whittlesey Brick Pits and King's Dyke Nature Reserve case study*
- TIN118: *Managing geological specimen collecting: Wren's Nest case study*
- TIN119: *Managing geological specimen collecting: Writhlington case study*
- TIN127: *Managing geological specimen collecting: Caldbeck Fells case study*

For further information contact the Natural England Enquiry Service on 0300 060 3900 or email [enquiries@naturalengland.org.uk](mailto:enquiries@naturalengland.org.uk)

## A3-2 The West Dorset Fossil Collecting Code of Conduct

The West Dorset Fossil Collecting Code of Conduct was developed in the late 1990's and reviewed in 2011/13. The revised 2013 Code is the product of that review, details of which can be found under the management section of the Jurassic Coast web site at [www.jurassiccoast.org](http://www.jurassiccoast.org).

This Code, though specifically aimed at professional and dedicated amateur collectors, also applies to all those who come here to collect fossils, whether for study or recreation. The safest and best advice, particularly for inexperienced collectors and educational groups, is that they should restrict their activities to the beaches alone. Advice to this effect is provided by interpretation signs, leaflets and the services of the Charmouth Heritage Coast Centre and Lyme Regis Museum.

### The Geology and Fossils of the West Dorset coast

The West Dorset coast contains one of the finest exposures of rocks from the Lower and Middle Jurassic Period to be found anywhere in the world. High erosion rates, particularly in the winter, ensure a plentiful supply of fossils onto the beaches. This coast is one of the best sources of marine Jurassic aged fossils in the world and numerous important finds have been and continue to be made here. Geological Conservation Review (GCR) sites include: GCR number 916 for fossil reptiles, 2952 for fish, 794 for fossil insects and 87 for Lower Jurassic Stratigraphy. Geomorphological GCR sites are 1321 for Mass Movement in Black Ven and 2109 for the coast between Lyme Regis and Golden Cap. Not surprisingly this coast has been designated by Natural England as a Site of Special Scientific Interest (SSSI) for its geology, fossils and landslides. It also forms part of the Jurassic Coast World Heritage Site and this Code sits within the Management Plan for the Site (Policies 2.6 and 2.7).

### Fossil Collecting

On the rapidly eroding West Dorset coast, fossil collecting is essential if specimens, some of which may be of great scientific value, are to be saved from damage or destruction by the sea. Collecting also offers an opportunity for people to learn about the ancient past and to contribute to our understanding through the discovery of new finds or the development of scientific study. However, it is important that fossils are collected both responsibly and safely.

**Fossil Collectors** want to be able to collect fossils freely. For many it is both a great learning experience and recreational activity. Most collectors, both amateur and professional, have a deep-seated interest in palaeontology and a wish to contribute to the development of the science. Professional collectors have most time, are able to react quickly to the events particularly storms and landslides, that uncover the fossils, and have a great deal of local knowledge, but they need to sell their finds in order to earn a living.

As a general rule, **Landowners** own the fossils on or under their land. The National Trust is the principal landowner along the West Dorset coast. The Trust is a registered charity charged with preserving places of Historic Interest or Natural Beauty for the Nation to enjoy. All along the West Dorset coast it seeks to preserve the landscape and nature conservation interests and to provide public access over its property so far as that is consistent with its preservation.

**Natural England** is the Government's statutory advisor on conservation including the Earth sciences. It designates National Nature Reserves, Sites of Special Scientific Interest and Special Areas of Conservation and played a key role in achieving World Heritage Site designation. It promotes sustainable management of these sites.

**Museum curators and Researchers** are keen to secure key scientifically important specimens for recognised collections as part of the nation's heritage and to provide a collection upon which scientific research can be based. Curators and researchers seek to ensure that the maximum associated scientific data is gathered when specimens are collected. Some researchers require access to strata and specimens *in situ* in order to undertake their work.

## **Aims and Objectives of the Code**

The interests of all those involved with fossil collecting on the Dorset Coast need not be mutually exclusive. Indeed many interest groups can assist each other so long as each party is aware of, and accepts the interest of the other. The Fossil Collecting Code of Conduct is an attempt to balance those interests.

The aim of the Code is:

To encourage successful recovery of fossils so as to avoid their destruction by the sea

The objectives of the Code are to:

- ***promote responsible and safe fossil collecting***
- ***restrict the excessive digging or 'prospecting' in situ for fossils along fossil rich strata***
- ***clarify ownership of the fossils***
- ***promote better communication between all those with an interest in fossils from the West Dorset coast***
- ***promote the acquisition of key scientifically important fossils by recognised museum collections.***

Area covered by the Code

The area covered by the Code is land in National Trust and Charmouth Parish Council ownership between Lyme Regis and Hive Beach at Burton Bradstock. Discussions remain ongoing with the Crown Estate regarding their interest in fossils found in the foreshore and also with Natural England regarding proposals to extend the principles of the code into the Lyme Regis to Axmouth Undercliffs National Nature Reserve.

## **Health and Safety**

The following is a general list of practical advice aimed at all types of collector including professionals and amateurs, educational/academic visitors and the general public including holiday makers and local people.

- Always consult tide tables before collecting. It is advisable that you go collecting on a falling tide.
- Always advise someone of where you are going and at what time you can be expected to return.
- Be vigilant and exercise common sense in the vicinity of any cliffs. Cliff falls tend to occur suddenly and without warning. Avoid cliff bases.
- Avoid walking on, and keep clear of, visibly moving rock falls and mudflows. Note particularly that the seaward edges of mudflows may be covered by shingle and can be particularly treacherous.
- If you are using a hammer or other tools, it is advisable to wear safety goggles.
- Exercise common sense when considering what clothes and safety items to wear and take with you.
- Collectors should not descend the cliffs using ropes to get to a particular level under any circumstances.

**For professional and experienced amateurs collecting from cliffs, landslides, undercliffs and the foreshore, the Code provides as follows:**

1. There should be no digging *in situ* in the cliffs without permission (except in special circumstances - see 4 below).
2. Collectors should adopt a common sense approach to their activities and not expose themselves to excessive risks. They should cease immediately on becoming aware that their activities present a risk to a third party.
3. Collectors should take particular care with the following hazards:
  - Unstable cliffs, especially in areas where recent cliff falls have occurred or are ongoing
  - Mudflows and landslides
  - Tides, rough seas and poor weather conditions
4. Cliff excavations: Collectors wishing to extract fossils from *in situ* within the cliffs should use the following procedure:
  - i. Obtain the landowner's permission before taking any action to excavate any part of the find [subject to iv. below].
  - ii. Prepare a Risk Assessment (RA) for the excavation to identify the hazards that may arise in the course of the excavation, and the precautions that should be adopted, to protect the collector and others in the vicinity. This should then be discussed with the landowner.

Items that the RA is likely to cover are as follows:

- To cordon off the area of working.
- To ensure, as far as practicable, the stability of the surrounding area during the excavation.
- Effective communication among all parties involved in the excavation (including the landowner), and a procedure for dealing with accidents or problems arising from the work.
- To ensure as far as practicable that the site is safe when left unattended, and that appropriate signing etc. is in place.

This list is by no means exhaustive and collectors should satisfy themselves that all risks have been assessed.

- iii. Keep the landowner informed of progress with the excavation, and advise when completed. As a matter of courtesy it is recommended that EN is informed.
- iv. In the event of a fossil being located which is at immediate risk of being lost or damaged, the collector may proceed with the excavation provided that he gives full consideration to the risks and takes appropriate action to alleviate them, and is satisfied that the work will present no risk to any third parties. The collector should notify the landowner at the next available opportunity.

If a specimen is found close to a coastal defence or other structure, West Dorset District Council engineers should be consulted before undertaking any excavation.

## Scientifically Important Fossils Recording Scheme

There are two categories of fossils recognised within the Recording Scheme; **Category I, Key Scientifically Important Fossils**, and **Category II** for fossils of **some (but not key) importance**.

**Category I** fossils include new species or those specimens which may represent new species, fossils which are extremely rare such as the Charmouth dinosaur *Scelidosaurus* and fossils that exhibit exceptional preservation.

**Category II** fossils include vertebrates such as reptiles and fish, partial or complete, especially where the horizon of origin can be identified. Nautiloids and certain ammonites together with unusual assemblages of fossils are also included.

A full list of both categories can be found at the end of this document and on a new database that can be accessed at [www.palaeodata.dorset.org](http://www.palaeodata.dorset.org) or [www.dorset.fossilcode.org](http://www.dorset.fossilcode.org)

To comply with the Code, all Category 1 fossils are to be recorded at the Charmouth Heritage Coast Centre or recorded on line, in the database. Specimens taken to the centre for recording will be handed back to collectors. Certain restrictions apply if the collector wishes to sell or otherwise dispose of them (see 5 below). To comply with the code it is not obligatory to record Category 2 fossils although it is strongly recommended. As with Category 1 fossils, all Category 2 fossils are handed back to the collector after being recorded. (With regard to transfer of ownership, see under Fossil ownership below).

1. All Category I records should include an identification of the specimen (if known), a photograph, the exact location of the find together with the scientific horizon (if known), the date of the find and any other relevant observations. The name of the collector will be kept with the record but may not be available directly within public records depending upon the wishes of the individual.
2. The Charmouth Heritage Coast Centre will photograph the specimen and the record will be kept in paper form and on the online database. It is now also possible to record specimens on line and a scale bar has been produced, free for collectors, to use when taking photographs. The Centre will, as and where necessary, act as an intermediary between collectors and other interested parties.
3. Where a specimen is being recovered over a protracted period there is now provision in the database to record the multiple finds as one while still retaining details of the finders of each piece.
4. The preparation of Category I specimens should only proceed after consultation with appropriate academics or museum curators unless preparation is clearly straightforward or work needs to be carried out urgently.
5. Under the Code, collectors who intend to sell or otherwise dispose of their Category I specimens must first offer them to UK registered museums for a period of six months. If no purchase has been agreed by this time, the collector will be free to offer the specimen elsewhere. The recording scheme should be updated accordingly. Where an important specimen has been found by a number of collectors, it is permissible for one of those collectors to take a lead and acquire the other parts in order to reunite the specimen. Each finder's name should still be recorded in recognition of their contribution. The priority here is to offer the best chance of that specimen being reunited.
6. Those individuals with private collections that contain Category I specimens are encouraged to make provision for the ultimate placement of such specimens within UK registered museums.
7. The scheme offers a channel of communication for curators and researchers to convey their interests to collectors. The Charmouth Heritage Coast Centre staff will convey this information to collectors and generally promote communication between all parties.



## **Fossil ownership**

At present the Code as outlined above applies to National Trust and Charmouth Parish Council land only. Both landowners wish to make clear their ownership of these fossils but they are willing to see ownership transferred to those collectors who follow the Fossil Collecting Code of Conduct and record their key scientifically important fossils.

The Crown Estate own most, but not all of the foreshore and agree with the Fossil Collecting Code with one exception; they may require a proportion of the value of the specimens under the conditions of their Royal Charter which include an obligation to recover money from operations generating income on their land.

Some areas of the foreshore are attributed to owners whose modern-day relatives are unknown. The collector and/or purchaser are advised to satisfy themselves that everything reasonable has been done to track down the present owner prior to collection and any subsequent sale/purchase.

Maps of land ownership are available at the Charmouth Heritage Coast Centre and the Code will be promoted to other landowners along the West Dorset coast.

## **Contact information**

Charmouth Heritage Coast Centre, Lower Sea Lane, Charmouth, Dorset DT6 6LL Tel 01297 560772.  
[www.charmouth.org](http://www.charmouth.org)

Permission to undertake excavations should be sought from:

### **The National Trust, North and West Dorset:**

National Trust, West Dorset Office, Filcombe Farmhouse, Muddyford Lane, Morcombelake, Bridport, Dorset, DT6 6EP. Tel: 01297 480022.

General Manager: Hannah Jefferson, [hannah.jefferson@nationaltrust.org.uk](mailto:hannah.jefferson@nationaltrust.org.uk), 07483 929536.

Countryside Manager: Natalie Holt, [Natalie.Holt@nationaltrust.org.uk](mailto:Natalie.Holt@nationaltrust.org.uk), 07747 756549

### **Charmouth Parish Council:**

The Elms, The Street, Charmouth, Dorset DT6 6LN. Tel: 01297 560826

The **Crown Estate** (Dorset and Devon) Michael Bapty, 15 The Boatyard, Swanwick Marina, Southampton, SO31 1ZL. [michael.bapty@knightfrank.com](mailto:michael.bapty@knightfrank.com), 01489 667 840

**Natural England:** [enquiries@naturalengland.org.uk](mailto:enquiries@naturalengland.org.uk), Tel: 0300 060 3900

In relation to foreshore excavations and the Marine Management Organisation; this is their current view:

*Under the Marine and Coastal Access Act 2009, the removal of items from the UK marine area (below mean high water springs) is only licensable if using a vehicle, vessel, aircraft, marine structure or floating container. From the information you provided, removals by hand would not require a licence however larger removals requiring vehicles would qualify for a marine licence.*

Please note:

Those collectors who do not follow this voluntary code, particularly by digging or prospecting *in situ* in the cliffs, or failing to record Category I fossils, may be regarded as stealing the fossils, and appropriate legal action may be taken against them.

### **Key Scientifically Important Fossils**

The Jurassic rocks exposed on the West Dorset coast contain abundant and extremely diverse fossils. Therefore, the following lists aim to provide general guidance only and are not to be regarded as fully comprehensive. Wherever there is doubt about the scientific importance of any fossil finds, collectors are recommended to contact the relevant fossil group specialist(s) for assistance.

#### **Category I fossils**

- a) Fossils which certainly represent new species. These can belong to any taxonomic group – vertebrate, invertebrate or plant.
- b) Fossils that are thought to represent new species. Again these can belong to any group - vertebrate, invertebrate or plant. (Subsequent work may indicate that some of these are not in fact new species and provided that they do not fall within c or d below, they may be 'downgraded' to Category 2 fossils).
- c) Fossils that are extremely rare. Although not necessarily new species, they are nevertheless clearly of great scientific importance. Examples include: dinosaurs, pterosaurs, sharks and rays, complete or near complete insects and arthropods (crustaceans, crabs), recognisable leaf fronds and plant cones etc. This subcategory includes forms which are very rare in certain stratigraphic levels if found *in situ*, which would particularly relate to ammonites, or where the stratigraphic horizon can be identified satisfactorily; for example, fossil echinoids or gastropods are rarely found within the clay dominated Lower Lias strata.
- d) Fossils which exhibit exceptional preservation. For example, ichthyosaurs (or other vertebrates) showing skin texture, uncrushed skulls which could provide data on brain size or other physiological aspects etc. Among invertebrates, fossil cephalopods (cuttlefish, squids, ammonites or belemnites) showing traces of gill structures, arms and hooks etc. are of key scientific importance.

Note: Some fossils from the Lias, such as ichthyosaurs, are not uncommonly found with traces of soft tissues preserved. These would not be regarded as Category I unless there are soft part features preserved which are particularly rare or exceptional. The same may be true for certain invertebrate groups, such as belemnite 'ink sacs', which are not that uncommon in the Black Ven and Belemnite Marls.

#### **Category II Fossils**

**Reptiles: ichthyosaurs and plesiosaurs etc. Fish: including sharks, rays, coelacanths, bony fish etc.**

Fossil remains, especially fragmentary, isolated, bones or scales etc., may be relatively common in some beds. The stratigraphical range of many forms is poorly known and any data may be important to relevant specialists. It is recommended therefore that collectors do record significant, recognisable finds if found *in situ* or where the stratigraphic horizon can be identified satisfactorily.

#### **Arthropods: insects**

Relatively scarce fossils, mainly recorded from the woodstone/flatstone horizons. Many insect remains are indistinctly preserved, but given their scarcity, any recognisable forms are worthy of recording.

#### **Molluscs: belemnites**

Extremely common fossils in the form of isolated belemnite guards. It is not anticipated that these would be recorded, unless a particular bedding-plane concentration ('belemnite battlefield') or similar fauna was collected.

#### **Molluscs: ammonites**

One of the most common and characteristic fossils from the Dorset coast occurring throughout the section. It is not anticipated that these would be recorded, although any unusual species or particularly large/mature shells showing apertural details etc are worthy of inclusion in the database. The use of these fossils to demonstrate the zonation of the strata is protected through the requirement not to dig *in situ*

#### **Molluscs: nautiloids**

A neglected group of fossils, occurring throughout much of the succession. It is not expected that these would be recorded, though exceptional specimens (e.g. bedding plane assemblages or others yielding palaeoecological data) are worth considering for inclusion on the database.

#### **Molluscs: bivalves**

An abundant group of fossils, occurring through much of the succession and rarely collected commercially. It is not expected that these would be recorded, although exceptional specimens (e.g. bedding plane assemblages or other preservations yielding palaeoecological data) are worth considering within the database.

#### **Brachiopods**

As bivalves above

#### **Echinoderms: crinoids, starfish and sea urchins**

A group of considerable interest to collectors, especially specimens from the 'Pentacrinite' and 'Eype Starfish' beds. There are many of these in public collections and it is not anticipated that specimens would normally be recorded. However, exceptional accumulations of crinoids attached to drift wood etc, or of brittle stars, are worthy of recording on the database.

NOTE: It is our intention to produce 'fossil fact sheets' providing more detailed information on each of these groups as and when we can obtain expert advice on what may be interesting, the direction of new research etc.

#### **Background to the development of a Code of Conduct**

A Working Group of landowners, conservation organisations, museum curators and local fossil collectors developed this Fossil Collecting Code. The Group was established in order to address growing conflicts of interest with regard to fossil collecting along the West Dorset coast. The Group recognises the essential need for fossil collecting to continue. However, it also recognises that collecting must be carried out in such a way as to satisfy all those with an interest in our fossil heritage.

#### **The Code was developed by:**

**Jurassic Coast project (Dorset County Council)**

**English Nature (now Natural England)**

**The National Trust**

**West Dorset Heritage Coast Project**

**Charmouth Parish Council**

**Charmouth Heritage Coast Centre**

## **Dorset and Somerset Museum Services**

### **Local fossil collectors**

The Code was reviewed through a wide consultation process in 2011/12 particularly with the scientific community. The Review was overseen by the Science and Conservation Advisory Group on behalf of the World Heritage Site Steering Group. The review involved a consultation document which went out to a broad range of individuals and organisations with an invitation to comment and from the responses a number of changes were identified by which the operation of the code would and should be improved, as reflected in this 2013 revision.

## **A3-3 A Fossil Code and Recording Scheme for the Undercliffs National Nature Reserve**

A new fossil code has been prepared by Natural England and the Jurassic Coast Trust. It has been subject to consultation and has the agreement of landowners within the National Nature Reserve. The code advocates responsible and safe fossil collecting within the Axmouth to Lyme Regis Undercliffs National Nature Reserve (NNR). It encourages the recording and reporting of important fossil finds and the acquisition of scientifically valuable fossils by recognised museums. The code strengthens collaboration and communication between those with an interest in fossils from this spectacular NNR and supports the management of the NNR and wider Jurassic Coast World Heritage Site (WHS).

### **The National Nature Reserve**

The Axmouth to Lyme Regis Undercliffs National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) encompasses approximately 6 miles of landslipped undercliffs between Axmouth in Devon and Lyme Regis in Dorset. Inland the Reserve is largely covered in dense woodland vegetation, with sea cliffs and rocky shores extending down to the low water mark. It forms part of the WHS and contains a number of biological, geological, palaeontological and geomorphological features, some of which are unique to the Undercliffs NNR.

The Reserve contains rocks of Triassic, Jurassic and Cretaceous age although fossils are only found in significant numbers in the latter two Periods. The main fossil bearing strata are the Blue Lias Formation and the Shales with Beef Member of the Charmouth Mudstone Formation, both lower Jurassic. Originally made famous by the 19th century collector Mary Anning, collectors have been and remain critical to recovering fossil material that contributes to our understanding of this coastline and on-going palaeontological research. They are a source of exceptional fossils including fish, and superbly preserved reptiles such as ichthyosaurs, plesiosaurs and very rare pterosaurs. The Upper Greensand and Chalk sequences also contain a diverse fossil fauna that includes the source of several type ammonite species. More detailed descriptions are available in the relevant Geological Conservation Review (GCR) volumes which underpin the SSSI notification (see further reading).

New discoveries can happen at any time, so maintaining up to date information through liaison with the scientific community and collectors is essential for a complete understanding of the site as a scientific resource. The site is also important geomorphologically for the erosion and coastal landslides that create the unique character of the Reserve and provide the basis for its biological diversity. Fossil collecting at this site has greatly contributed to scientific research since the early 1800s. Collecting activity is facilitated by the dynamic nature of the coastline, as natural processes continuously erode the rock layers exposing more fossils. The very accessible eastern end of the foreshore, at Monmouth Beach, is particularly well visited by a variety of users including researchers, educational groups, collectors and tourists, who may participate in fossil collecting for a variety of reasons. This code is primarily aimed at experienced collectors (including both amateurs and professionals) though the principles of the code will be of relevance to all other visitors and collectors. Experienced collectors often have a more detailed knowledge of the fossil interest within

the NNR and collect on a regular basis, and so potentially have the best chance of recovering interesting or scientifically important specimens.

### **The need for a Fossil Collecting Code**

Responsible collecting and recording of fossils is a critical part of how the Undercliffs NNR is managed in terms of the geology and palaeontology and also how the scientific value is maintained and enhanced. It is recognised that collectors have a valuable role in recovering fossils that would otherwise be damaged and destroyed by natural erosion and in encouraging and supporting responsible collecting and recording. A fossil code needs to strike the right balance between the collectors, landowners, the scientific value of the site and its practical management. Currently, collecting is managed through the local promotion of responsible and safe collecting practice through signage on-site, leaflets and web-based information, wardening of the NNR (by Natural England and WHS summer fossil warden), and the establishment of good working relationships with collectors and geologists. In order to help manage the potential collecting pressure, a fossil collecting code is proposed that sets out some simple principles for responsible collecting, both *in situ* and *ex situ*, clarifies the relationship between land owner, land manager (Natural England) and collector (including ownership of fossils) and establishes a mechanism for recording important fossil finds.

To the east of Lyme Regis the West Dorset Collecting Code and Recording Scheme has been established since 1998 and reviewed in 2011/12. It is widely accepted as a practical and effective way of managing collecting and recording of scientifically important fossils (through the Charmouth Heritage Coast Centre). The Undercliffs NNR collecting code is based on the West Dorset Code but has been adapted to reflect local differences in geology, ownership and legal SSSI designation.

### **SSSI legislation**

Under the Wildlife and Countryside Act 1981 (as amended) (WCA), owners and occupiers of SSSI land are required to seek consent from Natural England for any operation they wish to undertake themselves or permit others to undertake that is on the Operations Requiring Natural England's Consent list (the ORNEC list was previously known as the OLD list). This requirement does not extend to third-parties. However, in order to protect SSSI interests from damaging third-party activities, the WCA includes the following offence:

*'any person who without reasonable excuse intentionally or recklessly destroys or damages any of the flora, fauna, or geological or physiographical features by reason of which a Site of Special Scientific Interest is of special interest, or intentionally or recklessly disturbs any of those fauna, is guilty of an offence'*

To avoid causing an offence, collectors need to ensure their activities do not damage or disturb the SSSI's special interests. The information set out in the Undercliffs Collecting Code acts as guidance to help secure that outcome. Collectors who choose to ignore the advice in this code may be damaging or disturbing the SSSI's special interests and, if found guilty of an offence will be *'liable on summary conviction to a fine not exceeding £20,000 or on conviction on indictment to a fine.'*

### **Land and fossil ownership<sup>1</sup>**

Within the Undercliffs NNR fossil collecting takes place on land that is privately owned, though often managed by Natural England. Legally *in situ* fossils within the Undercliffs NNR belong to the relevant landowner. Ownership of *ex situ* fossils is more complex as they may fall from the land of one owner onto that of another.

Current interpretation of the law suggests that *ex situ* fossils on a beach with open access have been abandoned and can legally be collected in good faith unless the landowner explicitly states their intention to retain ownership of all fossils on their land. All landowners within the NNR have agreed to adopt this code, thereby *ex situ* fossils can be legally collected in good faith. Ownership of any *in situ* fossils that are extracted and treated in accordance with the code will also transfer to the collector. Certain conditions are

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<sup>1</sup> Please note the Rousdon Estate is private land. At present there is no public access to the Undercliffs NNR through the Rousdon Estate from the A3052 coast road, nor is there any public access to Charton Bay from the South West Coast Path.

placed on the sale or donation of key scientifically important specimens (see Fossil Recording Scheme) and specified within a SSSI consent.

### **Roles and Responsibilities**

On the Undercliffs NNR Natural England acts as the landowner and/or legal occupier for the majority of the Reserve, overseeing day-to-day management of the NNR. In addition Natural England is responsible as a regulator concerning SSSI legislation under the Wildlife and Countryside Act 1989.

Natural England should be the first point of contact for any collecting that might require a SSSI consent or extraction of any *in situ* fossils, as set out in the following collecting code. Natural England will normally inform the landowner although a collector may also wish to approach the landowner directly. Natural England will also inform and seek advice if necessary from the Jurassic Coast Trust. In the event that a collector is unable to contact Natural England in the first instance, the Jurassic Coast Trust should be contacted for permissions or advice.

### **Further reading**

- Benton, M.J., Cook, E., and Turner, P., 2002. Pinhay Bay, Devon. In: Permian and Triassic Red Beds and the Penarth Group of Great Britain. Geological Conservation Review Series, No. 24, Joint Nature Conservation Committee, Peterborough, 269- 274.
- Benton, M.J., and Spencer, P.S., 1995. Lyme Regis (Pinhay Bay – Charmouth). In *Fossil reptiles of Great Britain*, Geological Conservation review Series No. 10, 105- 111.
- Cooper, R.G., 2007. Axmouth-Lyme Regis, Devon-Dorset. In *Mass movements in Great Britain*. Geological Conservation Review Series, No. 33, Joint Nature Conservation Committee, Peterborough, 209-223.
- Dineley, D.L., and Metcalf, S.J., 1999. Lyme Regis Coast (Pinhay Bay – Charmouth) In *Fossil fishes of Great Britain*, Geological Conservation Review Series No 16, 360- 369.
- Simms, M.J., Chidlaw, N., Morton, N. and Page, K.N., 2004. Pinhay Bay to Fault Corner and East Cliff, Dorset. In *British Lower Jurassic Stratigraphy*, Geological Conservation review Series No. 30, 61-82

### **Undercliffs NNR Fossil Collecting Code**

This fossil collecting code is aimed primarily at experienced collectors though the principles are relevant to all. Through following the code collectors are contributing to the successful management of the Undercliffs NNR, with the possibility of making, and sharing, new and exciting discoveries.

### **Objectives of this code**

- *Encourage responsible and safe fossil collecting (in line with SSSI legislation) and help manage public perception of collecting*
- *Set out circumstances for ex situ and in situ collecting*
- *Encourage recording and reporting of fossil finds*
- *Encourage the acquisition of scientifically important fossils by recognised museums*
- *Support the management and monitoring of the NNR and Jurassic Coast WHS, maintain the scientific value of the NNR and a fossil resource that continues to inspire and excite visitors to the NNR*
- *Promote better communication between all those with an interest in fossils from this coast*
- *Clarify ownership*
- *Cover H&S issues*

### **Fossil Ownership**

Transfer of fossil ownership from the landowner to the collector is one of the key outcomes of this code. By following the code collectors will add to the scientific understanding of the site and, crucially, be able to establish legal ownership ('good title') to specimens they collect.

This is made possible by:

- Adhering to the code, particularly the requirements for collecting *in situ* fossils
- Recording relevant specimens in the Fossil Recording Scheme

There are two categories of fossils recognised within the Fossil Recording Scheme; Category 1, for Key Scientifically Important Fossils, and Category 2 for fossils of some (but not key) importance. See section on 'Fossil recording scheme to the Undercliffs NNR'.

### Fossil collecting within the Undercliffs NNR

Type of exposure	Can I collect?
<p><b><i>In situ</i> rock (excluding shale)</b></p>	<p><b>No <i>in situ</i> excavation or digging in any rock layer without prior permission from NE or Jurassic Coast Trust.</b></p> <p>Within the terms of this Code, fossils identified within <i>in situ</i> rocks (except for shale under certain circumstances – see below) will not be considered to be at immediate risk and are not considered to require emergency excavations. NE will liaise with the landowner as necessary and take advice from the Jurassic Coast Trust concerning applications to collect <i>in situ</i> fossils.</p>
<p><b><i>In situ</i> shale</b></p>	<p><b>No <i>in situ</i> excavation or digging in shale without prior permission from NE or Jurassic Coast Trust, unless there is an immediate risk of damage or destruction by natural processes and an emergency excavation is necessary.</b></p> <p>In these instances excavation is permitted entirely at the risk and responsibility of the collector and the following conditions must be adhered to.</p> <p><b><i>Before you start</i></b></p> <ul style="list-style-type: none"> <li>• Notify NE and/or the Jurassic Coast Trust prior to any excavation work taking place or as soon as it is possible to do so (see contact details at the end of this document).</li> <li>• Make a note of the circumstances that justify the emergency excavation and take photographs before any work is carried out.</li> </ul> <p><b><i>During the excavation</i></b></p> <ul style="list-style-type: none"> <li>• Follow best practice including Health and Safety advice and undertake a Risk Assessment (see below).</li> <li>• Keep the extent of any excavations to an absolute minimum and only recover material that is immediately threatened or vulnerable</li> <li>• <b>Use hand tools only</b> unless otherwise agreed with Natural or the Jurassic Coast Trust</li> <li>• Ensure the following information is captured during any excavation; a 10 figure location grid reference, orientation of the specimen, stratigraphic information, sequential photographs, size of the specimen and area excavated, a record of associated fossils including additional specimens collected.</li> </ul> <p><b><i>After the excavation</i></b></p> <ul style="list-style-type: none"> <li>• A report to NE and the Jurassic Coast Trust should be submitted after the excavation that includes the information detailed above.</li> <li>• Category 1 finds must be entered on the Recording Scheme. Though not</li> </ul>

	<p>required, we strongly encourage the recording of Category 2 fossil finds.</p> <ul style="list-style-type: none"> <li>• <b>Emergency excavations</b> - if further work is needed to recover the fossil NE or the Jurassic Coast Trust must be consulted before work continues.</li> </ul> <p><b>Note: if you do have concerns about a specimen ‘at risk’ please contact Natural England or the Jurassic Coast Trust.</b></p>
<b>Ex situ</b>	<p><b>You may collect loose material found on the beaches, foreshore and inland.</b></p> <p><b>Collecting</b></p> <ul style="list-style-type: none"> <li>• Collect responsibly. If hand tools are needed wherever possible, moderate their use</li> <li>• Please avoid breaking up larger blocks/boulders (particularly when the beach is busy) unless clearly justifiable in the context of recovering category 1 or 2 fossils</li> <li>• Disturbance to foreshore habitats and wildlife must be kept to a minimum. Carefully replace any disturbed blocks</li> <li>• Be aware of and respect other beach users, act safely and ensure the foreshore is not left in a dangerous condition for those who follow</li> <li>• Vehicle access to the foreshore is not allowed. Wheelbarrows may be used with prior permission</li> </ul> <p><b>Recording</b></p> <ul style="list-style-type: none"> <li>• Category 1 - fossils must be recorded</li> <li>• Category 2 fossils or other finds of interest such as larger ammonites (eg <i>Arietites</i>) – recording is strongly encouraged</li> </ul> <p><b>See Fossil recording Scheme for the Undercliffs NNR</b></p> <p><b>Visible water-worn ammonites must be left.</b> These are a renowned feature within the NNR, particularly on Monmouth Beach. They contribute hugely to how people experience and come to appreciate the palaeontological interest of the NNR and are a very significant educational asset. They should not be collected or damaged. <b>The <i>in situ</i> ‘Ammonite pavement’ is of particular importance in this respect and must not be damaged.</b></p>
<b>Scientific collecting and sampling</b>	<p>Researchers should liaise with NE regarding any <i>in situ</i> collecting requirements (as set out above)</p>

### Use of tools

Unless agreed with Natural England, any excavation should be undertaken with hand tools only.

### Risk Assessment

Collectors are responsible for their own safety as well as that of other beach users who may be affected by their actions (see also 7. Liability below).

For planned *in situ* excavations, with permission from NE, it is essential that the collector undertakes a thorough Risk Assessment which should be agreed with NE or the Jurassic Coast Trust prior to any work



beginning on site. For emergency (unconsented) excavations the collector is also strongly encouraged to undertake an on-going/dynamic Risk Assessment bearing in mind the principles below:

- To cordon off the area of working to ensure the safety of other beach users.
- To ensure, as far as practicable, the stability of the surrounding area during the excavation.
- Effective communication among all parties involved in the excavation (including the landowner), and a procedure for dealing with accidents or problems that may arise.
- To ensure as far as practicable that the site is safe when left unattended and that appropriate signing etc. is in place.
- Keep NE and/or Jurassic Coast Trust and the landowner informed of progress with the excavation, and advise when completed.

The above list is by no means exhaustive and collectors should satisfy themselves that all risks have properly been assessed and that all reasonable steps have been taken to reduce risk.

### **Fossil Recording Scheme for the Undercliffs National Nature Reserve**

There are two categories of fossils recognised within the Fossil Recording Scheme;

#### ***Category 1: Key Scientifically Important Fossils***

Includes new species or those specimens which may represent new species, fossils which are extremely rare such as the Charmouth dinosaur *Scelidosaurus*, pterosaurs (including single bones), and fossils that exhibit exceptional preservation.

#### ***Category 2: fossils of some (but not key) importance***

Includes vertebrates such as reptiles and fish, partial or complete, especially where the horizon of origin can be identified. Nautiloids and certain ammonites together with unusual assemblages of fossils are also included.

For more details on Category 1 & 2 fossils please refer to the West Dorset Collecting Code <http://www.charmouth.org/chcc/images/pdf/WestDorsetFossilCode.PDF>, or contact Natural England or the Jurassic Coast Trust for further information (contact details at the end of this document).

To comply with the Undercliffs NNR Fossil Code, all Category 1 fossils are to be recorded at the Charmouth Heritage Coast Centre. To record a specimen please complete a recording form <https://charmouth.org/chcc/wp-content/uploads/2017/10/RecordingForm.pdf> and email it with several images of the specimen to [info@charmouth.org](mailto:info@charmouth.org). Alternatively, you can bring the specimen to the Charmouth Heritage Coast Centre to record it with a Warden, but please email or phone 01297 560772 to arrange your visit beforehand.

The recording of Category 2 fossils is strongly encouraged.

Specimens taken to the centre for recording will be handed back to collectors. Certain restrictions apply if the collector wishes to sell or otherwise dispose of those in category 1 (see 5 below). By adhering to the code and correctly recording the fossils as required, ownership is transferred to the collector.

Retrospective recording of fossils (collected prior to the establishment of the Undercliffs Collecting Code) would be welcomed.

1. All Category 1 and 2 records should include an identification of the specimen (if known), a photograph, the exact location of the find together with the scientific horizon (if known), the date of the find and any other relevant observations. The name of the collector will be kept with the record but may not be available directly within public records depending upon the wishes of the individual.

2. The Charmouth Heritage Coast Centre will photograph the specimen and the record will be kept in paper form and in the online database. The Centre will, as and when necessary, act as an intermediary between collectors and other interested parties.

3. Where a specimen is being recovered in pieces over a protracted period, there is provision in the database to record the multiple finds as one, while still retaining details of the finders of each piece.

4. The preparation of Category 1 specimens should only proceed after consultation with appropriate academics or museum curators unless preparation is clearly straightforward, work needs to be carried out urgently or that consultation might detrimentally delay the preparation/conservation of the fossil.

5. Under the Code, collectors who intend to sell or otherwise dispose of their Category 1 specimens must first offer them to UK registered museums for a period of six months and then for a further 6 months to relevant worldwide museums (further advice available from NE and the Jurassic Coast Trust). If no purchase has been agreed after 12 months, the collector will be free to offer the specimen elsewhere. The recording scheme should be updated as necessary. Where an important specimen has been found by a number of collectors, it is permissible for one of those collectors to take a lead and acquire the other parts in order to reunite the specimen. Each finder's name should still be recorded in recognition of their contribution. The priority here is to offer the best chance of that specimen being reunited.

6. Those individuals with private collections that contain Category 1 specimens are encouraged to make provision for the ultimate placement of such specimens within UK registered museums.

7. The scheme offers a channel of communication for curators and researchers to convey their interests to collectors. The Charmouth Heritage Coast Centre staff will convey this information to collectors and generally promote communication between all parties.

### **Health and Safety**

The following is a general list of practical advice aimed at all types of collector including professionals and amateurs, educational/academic visitors and the general public including holiday makers and local people.

#### ***Site awareness***

- Cliff falls tend to occur suddenly and without warning. Be vigilant, avoid cliff bases and exercise common sense in the vicinity of any cliffs.
- Avoid walking on, and keep clear of, visibly moving or active rock falls and mudflows. Note particularly that the seaward edges of mudflows may be covered by shingle and can be particularly treacherous.
- The foreshore is largely covered in rocks of varying sizes. These can be unstable and it is easy to turn an ankle so tread carefully.
- The middle and lower shores are often covered with slippery green or brown sea weed; take care.
- Tides and weather. Incoming tides and stormy conditions can force beach users too close to dangerous and unstable cliff bases, and also make return along the beach impossible. Always consult tide tables before setting out. It is advisable that you go collecting on a falling tide and return well before high tide.

#### ***Behaviour***

- Always advise someone of where you are going and at what time you can be expected to return. Parts of the undercliffs are remote and very rough in places. Mobile phones cannot be relied upon.
- Take a personal First Aid kit with you.
- Exercise common sense when considering what clothes and safety items to wear and take with you.
- Have regard for the safety and welfare of other beach users at all times.
- If you are using a hammer or other tools, it is advisable to wear safety goggles.
- No-one should descend or climb the cliffs using ropes to get to a particular level under any circumstances.

- Obtain permission and undertake a thorough risk assessment if you are carrying out any excavation of *in situ* material

#### **Review of the Undercliffs NNR Fossil Code**

Natural England and the Jurassic Coast Trust propose to undertake an initial review of this code after a period of 1-2 years to assess how successful the code has been and identify any issues or problems that may have occurred. The review may consider matters such as:

- Number of scientifically important finds reported to the Charmouth Heritage Coast Centre.
- Any transgressions or reports of activities that undermine or fall outside the Code.
- Number of emergency *in situ* excavations that have been reported or carried out.
- Number of retrospective records of fossils collected from the NNR prior to implementation of the Code.

#### **Liability**

Collectors remain responsible for their own safety, as well as that of other beach users who may be affected by their actions. Natural England and the landowners take no responsibility or liability for anyone undertaking fossil collecting within the Undercliffs NNR.

#### **Contact details**

<b>Natural England</b>	Tom Sunderland tom.sunderland@naturalengland.org.uk 07899 731404  Jonathan Larwood jonathan.larwood@naturalengland.org.uk 07867 660886
<b>Jurassic Coast Trust</b>	Sam Scriven sam.scriven@jurassiccoast.org 01308 807000
<b>Charmouth Heritage Coast Centre</b>	Phil Davidson info@charmouth.org 01297 560772