



# A Fossil Code and Recording Scheme for the Undercliffs National Nature Reserve.

This document and the associated fossil code have 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 (NNR).

This 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).

## 1. Background and Context

### 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 Originally made famous by the 19<sup>th</sup> 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

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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.

extracted and treated in accordance with the code will also transfer to the collector. Certain conditions are 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

## 2. 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.</p> <p>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><u>Before you start</u></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><u>During the excavation</u></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</li> </ul>

England or the Jurassic Coast Trust.

- 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.

**After the excavation**

- A report to NE and the Jurassic Coast Trust should be submitted after the excavation that includes the information detailed above.
- Category 1 finds must be entered on the Recording Scheme. Though not required, we strongly encourage the recording of Category 2 fossil finds.
- **Emergency excavations** - if further work is needed to recover the fossil NE or the Jurassic Coast Trust must be consulted before work continues.

**Note: if you do have concerns about a specimen 'at risk' please contact Natural England or the Jurassic Coast Trust.**

<i>Ex situ</i>	<p><b>You may collect loose material found on the beaches, foreshore and inland.</b></p> <p><b><u>Collecting</u></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><u>Recording</u></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>
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<b>Scientific collecting and sampling</b>	Researchers should liaise with NE regarding any <i>in situ</i> collecting requirements (as set out above)
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## 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.

### 3. 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.

## **4. 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

## 5. 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.

## 6. Contact information

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

## 7. 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.**



