

A close-up photograph of a rocky shore. The foreground is dominated by dark, wet rocks and a dense layer of brown seaweed with small, rounded, fleshy leaves. Patches of bright green moss are scattered across the rocks and seaweed. The background shows more rocks and seaweed, slightly out of focus. The overall scene is a natural, coastal habitat.

North York Moors National Park Authority

Rocky shore

Habitat action plan

North York Moors National Park Rocky shore Habitat Action Plan 2008–2012

Rocky shore

Our objectives for rocky shores are:

1. To reduce the water pollution coming from becks and other water outlets on the shore.
2. To reduce the litter washed up and left on the shore, whilst maintaining the shore's natural strandline which is rich in invertebrates and vital for many coastal birds.
3. To conduct regular surveys of the effects on the shore of coastal defences, sewage treatment works and climate change.
4. To raise public awareness of these important biodiverse habitats.

Introduction

Rocky shores represent a complex and unique habitat. The erosive forces of the waves wear down the softer rocks, leaving the harder ones exposed. The character of the shore is therefore dependent on the underlying rock and the profile is related to the strata formation. Because the rock is stable it provides a secure surface for organisms such as seaweeds, mussels, limpets and barnacles to attach themselves. These creatures are adapted to tolerate the stresses of their environment, including tidal flooding and desiccation twice a day. On exposed rocky shores the physical pounding of the waves is a major stress which places a limit on species diversity, whereas sheltered rocky shore species do not suffer the same extremes. Different levels of the shoreline are subjected to varying degrees of tidal movement with particular species relevant to each level. The middle shore has the greatest diversity of species; the lower shore is the most prolific.

The presence of rock pools, gullies, crevices, boulders and other topographical changes on rocky shores provide refuges for less tolerant organisms and consequently increase biodiversity. Predators on the rocky shore, such as various species of gull, sandpiper, and other waders, are dependent on the success of the secondary producers for their survival in this environment.

National status

Approximately 34% of the UK coastline features rocky shores, which range from the wave-exposed headlands of the Atlantic coasts to the sheltered algae-covered shores of sea lochs. Although UK rocky shore habitat is not in decline, it is a unique, biodiverse habitat and thus well worth protecting. Access to this interesting study area is also a very important resource.

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Monitoring the diversity of rocky shores will give important information on the effects of coastal defence works and climate change.

Local status

Rocky shore occurs along most of the North York Moors' coastline, especially around the headlands. (NB Littoral sediment is largely confined to the Esk estuary in Whitby, which is outside of the boundaries in this plan. Scarborough BAP covers this area.)

Legal status

At Robin Hood's Bay the shoreline and inshore waters are part of a SSSI and a Sensitive Marine Area, noted for its important algal biotopes.

Links to other action plans

Habitat Action Plans	Species Action Plans
Marine subtidal habitats*#	Farmland birds*#
Maritime cliffs and slopes*#	
Rivers and streams*#	
Farmland*#	
* = Local Species Action Plan	
# = UK Species Action Plan(s)	

Threats

- Polluted becks and other outlets on the shore can cause algal blooms and have severe effects on invertebrates on rocky shore habitats. (Locally, all sewage from the main settlements on the coast is now pumped to treatment works inland, but other agricultural run-offs remain an issue.)
- Oil discharges and spills can be disastrous for the rocky shore environment, as can toxic chemicals found in the seawater. Anti-fouling agents used on boat hulls can also be poisonous to marine life.
- Litter and sewage-related debris can cause harm to marine life. Plastic bags are particularly problematic, getting caught around birds' necks and in their gullets.
- Commercial shellfish collection (depending on the quantities harvested and the methods used) can be very damaging to rocky-shore ecosystems. Dredging and raking can cause permanent damage to the sea bed. Even excessive removal by hand of shellfish (which naturally feed on algae) can cause large algal blooms. In addition large scale commercial collection removes an important food source for birds, and thus deplete their numbers.
- Coastal defence works (both during and post construction) can alter the degree of exposure on rocky shores, and affect the composition of rocky shore communities.

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- Trampling and collection of rocky shore flora and fauna by large numbers of visitors can have a negative impact on the environment. Sea slugs and sea hare are particularly susceptible to disturbance.
- Climate change and sea-level rise are already having a major impact on rocky shores in the south of England, where entire communities of organisms have been lost. These effects are likely to spread north.

Requirements

- Diurnal tides, and natural water flow.
- Natural strandline debris. Excluding human litter, strandline debris is an ecosystem which provides an important invertebrate resource for birds.
- Clean unpolluted water from becks and outlets.
- A clean and unpolluted marine environment

Local action

A Heritage Coast Project Officer is by the National Park Authority on behalf of the Heritage Coast partnership to work on specific projects from the Heritage Coast management plan. Works on rocky shores includes:

- Assisting landowners with agri-environment schemes to enable them to reduce pollution in coastal becks.
- Running a small-scale grants scheme to assist with practical conservation work.
- Raising awareness of the importance of coastal habitats through interpretation, walks, talks, work with schools, leaflets, etc.
- Running 'Adopt a Beach' projects to help clear up litter and keep an eye out for pollution.
- Monitoring coastline habitats and digitising data already collected during survey work by volunteers and professionals.
- Helping to write and distribute codes of conduct such as the shellfish collection code.
- Developing other ideas from the coast's habitat action plans and the Coastal Forum.

Opportunities

- Continue working with agri-environment schemes to reduce pollution in coastal becks.
- Encourage designations for the legal protection of coastal habitats.
- Work with the MarLin project to survey and monitor the rocky shore.
- Monitor the effects of sea defence projects on rocky shore.

What can you do to help

- Adopt a beach. Contact John Beech on 01439 770 657 for details.

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- Follow codes of conduct for intertidal and marine habitats, including the shellfish collection code.
- Report notable species to the National Park Authority using the online recording form on the National Park's website:
www.moors.uk.net/recording
- Assist the North York Moors National Park Volunteers with coastal management. Phone the Volunteers Service on 01439 770657 for details.
- Divers could undertake Sea-Search projects to help to map important local habitats and species. See www.seasearch.org.uk for more details.