Pink sea fan

1. A Definition

The pink sea fan *Eunicella verrucosa* is a beautiful but scarce marine warm water coral which has a limited western distribution in the British Isles, running from the north of Ireland around the South West of England and along the English Channel as far as Worbarrow Bay, Dorset.

Devon is the stronghold of the species in the UK, and particularly dense populations occur in waters to the east of Lundy, around Plymouth Sound, and in Lyme Bay.

It is found almost exclusively in the sub-tidal environment at depths from about 10 metres and thrives in relatively sheltered areas of rocky seabed or on boulders.

2. Why an Action Plan?

The pink sea fan remains rather poorly studied. Much information still needs to be learned of its ecology in order that we are better equipped to conserve this rare and beautiful species. For example, in recent years several populations have suffered form tissue necrosis and the cause of this is unknown. It has also been clear from a number of studies that mobile fishing gear physically removes the pink sea fan from the seabed. There may also be indirect effects such as smothering of pink sea fan by sediment suspended by mobile gear.

This Action Plan aims to encourage further work to investigate the distribution and ecology of the species and so inform measures to offer increased protection to key areas.

3. Relevant ecology

The pink sea fan in Devon is largely confined to boulders and bedrock at and below the depth of algal colonisation (from about 10 m), in areas of weak or moderate tidal streams and reduced levels of wave exposure.

Very little is known of the ecology of this species, and much of our knowledge is extrapolated from limited data and research of other species of sea fan.

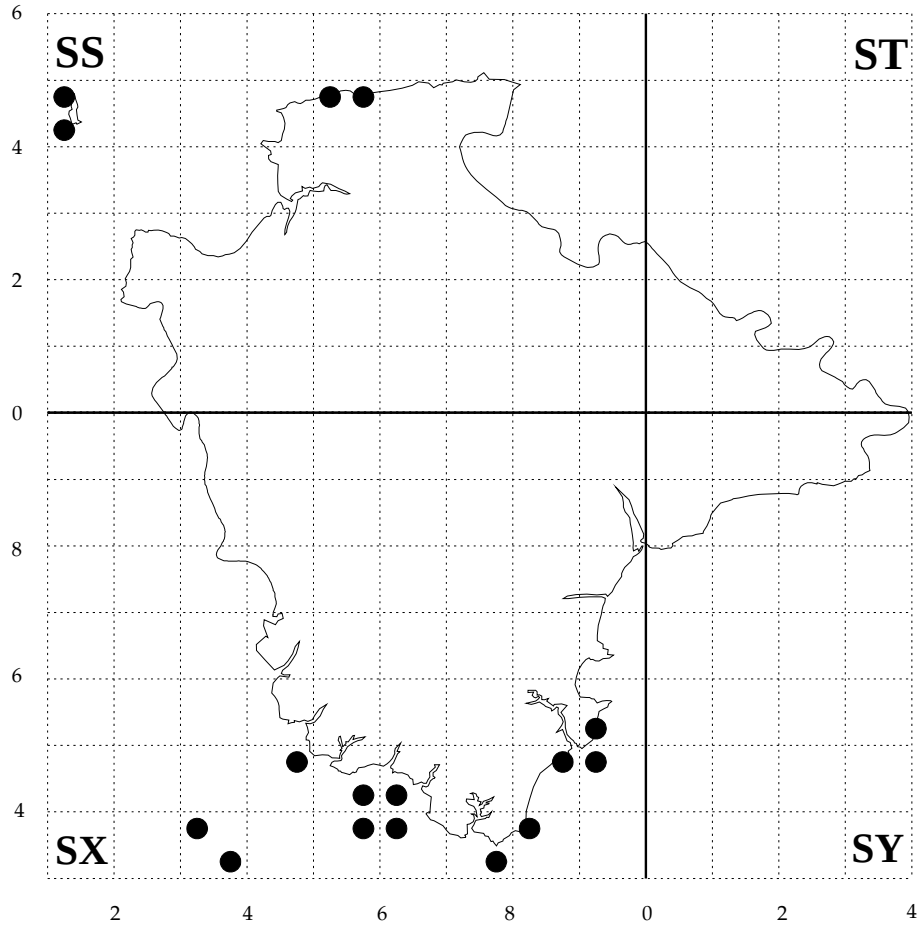
It is believed to be relatively slow-growing; mature individuals over 50 cm in height or width are likely to be several decades in age. Recruitment is thought to be infrequent, with successful seasonal reproduction in the UK being temperature dependent.

Sea fans in areas of strong tidal streams and high wave exposure are typically small, and those in shallow water compete rather unsuccessfully with algae. Populations may reach densities of over 5 individuals per square metre.

The relatively stable populations of many mature fans are typically associated with a rich and diverse seabed fauna which includes large numbers of slow-growing species such as sponges and cup corals.

The pink sea fan is also important as a host to several nationally rare species such as the sea slug *Tritonia nilsodhneri* (in the UK found only among pink sea fan) and the anemone *Amphianthus dohrnii*.

4. Distribution of pink sea fan in Devon (1998)



● Presence of Pink Sea Fan in 5 Km squares

(Data supplied by Devon Biodiversity Records Centre)

5. Current population (1998)

Devon is known to contain 67 sites at which the pink sea fan has been found. This compares to 48 around Cornwall and the Isles of Scilly, 10 in Dorset (Lyme Bay) and 24 in Pembrokeshire.

The pink sea fan undoubtedly occurs at many more sites than indicated here, due to the relatively incomplete survey coverage of the marine environment, compared to the terrestrial, and distribution figures may be influenced by variation in recording effort. Nevertheless, it is likely that these figures reflect the approximate proportional distribution of the species.

6. Current problems for pink sea fan in Devon (1998)

Mobile fishing gear such as scallop dredges, bar and rockhopper trawls damage pink sea fan colonies, as they sweep across or just under the sea bed, modifying the substratum and crushing or detaching elements of the sea bed fauna and flora. Areas of bedrock adjacent to soft substrata have also been coming under increasing pressure with increases in fishery competition.

Static fishing gear (pots and fixed bottom nets) may cause localised damage to sea fans.

Lost or discarded netting and angling line can entangle and abrade sea fan colonies, increasing their susceptibility to colonisation by animals and plants which live on top of others, possibly resulting in smothering and/or increased drag and eventual detachment.

Nutrient enrichment of water is likely to adversely affect shallow water populations due to increased algal competition.

2004 update: new occurrence of warm-water barnacles infesting sea fans.

7. Recent changes in population

Due to insufficient data it is not yet possible to ascertain any trends in the size of the pink sea fan population.

2004 update: note, though, that there has been substantial loss of sea fans at Lundy, and signs that similar losses have been occurring off south Devon.

8. Current protection

The pink sea fan is protected in law under the Wildlife and Countryside Act (WCA) 1981.

Certain areas which contain important populations of pink sea fan are protected by legislation; Lundy is a candidate Special Area of Conservation (SAC) under the EC Habitats Directive, and is England's only Marine National Nature Reserve (MNR). Plymouth sound and estuaries is a candidate SAC and a classified SPA (Specially Protected Area, under the EC Birds Directive).

9. Biodiversity planning context

National BAP Context

Species of principal importance in England (NERC Act, S.41):

- Pink sea-fan

Current national BAP targets can be viewed on the Biodiversity Action Reporting System (BARS).

Associated Action Plans within the Devon BAP:

- Rocky sea bed
- Rocky foreshore
- Estuaries

10. Biodiversity objectives and targets for pink sea fan in Devon

Please note: objectives and targets have not yet been reviewed.

Objective 1

Ensure the survival of the pink sea fan population at current levels in identified priority* areas and reduce man-induced loss at all known and new sites.

Target:

- Ongoing.

**Priority areas are those which exhibit the best national examples of high*

density pink sea fan population, for which long term conservation would be most effective.

Objective 2

Increase our knowledge of the effects of reduced water quality and of fisheries activity on populations of the pink sea fan.

Target:

- By 2002.

Objective 3

Increase our knowledge of the distribution, ecology and ecological requirements of the species.

Target:

- By 2005.

Objective 4

Raise awareness of the pink sea fan, its ecology and potential threats to its survival, among the general public and all users of the marine environment.

Target:

- Ongoing.

11. Wider benefits from pursuing these objectives

The pursuit of the objectives and targets set out above will not only benefit the pink sea fan. Conservation has wider benefits and advantages for society, by providing a resource that is the basis of many aspects of the local economy, and by adding to the quality of life of the people of Devon in ways that are beyond financial measure. Thus enhancing the interests of biodiversity will also enhance the interests of society as a whole. Some of these wider benefits are as follows:

- While aimed specifically at protecting and enhancing populations of pink sea fan these objectives are bound to have positive benefits for a wide range of other species within the seabed communities, especially those which share long lived and slow growing life cycles.

12. Priority or indicative actions for pink sea fan in Devon

Action	Key Partners
1. Continue to promote the development of a series of protected or 'sanctuary' areas with voluntary or statutory restrictions on identified damaging activities. These should cover priority pink sea fan sites that have already been identified.	EN; DWT; DSFC
2. Continue research into distribution and ecological requirements of pink sea fan in Devon.	DWT; Research Councils
3. Continue research into the effects of reduced water quality and of fishery activities (commercial and leisure) on populations of pink sea fans to help identify methods to reduce their impacts.	EN; EA; DWT; Research Councils
4. Continue to work with fishermen to increase awareness of the existence and reasons for pink sea fan priority areas.	DWT; EN
5. Use annual 'Marine Week' activities to raise awareness of pink sea fan to the general public.	DWT; HCS; LAs
6. Ensure records of pink sea fan communities are held at DBRC.	DBRC; DWT; EN

Pink Sea Fan Action Plan Champion - Devon Wildlife Trust

Abbreviations used in text and table

BAP	Biodiversity Action Plan
DBRC	Devon Biodiversity Records Centre
DSFC	Devon Sea Fisheries Committee
DWT	Devon Wildlife Trust
EA	Environment Agency
EN	English Nature
HCS	Heritage Coast Services
JNCC	Joint Nature Conservation Committee
LAs	Local Authorities
RCs	Research Councils
SAC	Special Area of Conservation
VMCA	Voluntary Marine Conservation Area