Appendix 7. Key information review as a background to Species Action Plans (UK Biodiversity Action Plans)

KEY INFORMATION ON: *Eunicella verrucosa*
[This example uses a previous 5-level scale for sensitivity assessment]
AUTHOR: Keith Hiscock

1. Information from the Species Directory (with added common names):

Phylum:	Cnidaria
Class:	Hexacorallia
Subclass:	
Order:	Gorgonacea
Family:	Plexauridae
Genus:	*Eunicella*
Species & authority:	*verrucosa* (Pallas, 1766)
Subspecies / variety / form:	
Recent synonyms:	
Common name(s):	Pink sea fan

2. Key identification features:

Colonies are profusely branching usually in one plane creating a fan-shaped colony. The colonies may be up to 30 cm high and/or broad. The polyps are close-set and irregularly arranged on the branches giving a knobbly appearance. The colour is almost always salmon pink in British colonies but white becomes the predominant colour with increasing distance south along the coast of continental Europe. Irish colonies are also white. The living coenencycme coats a black or dark brown axis. Microscopic inspection of the spicules may be needed to confirm identification (Based on Manuel, 1988.)

3. Recorded distribution

Britain & Ireland: Extending eastwards to Lyme Bay and probably to Portland Bill in the English Channel but recorded almost to the Thames Estuary at Margate in historical times (Manual, 1988). To the north and east, recorded eastwards in the Bristol Channel from North Devon near Ilfracombe where it was present in the 1970's (K. Hiscock, own observations) but on the north shores of the Bristol Channel known only from the entrance at Skomer. The northwards distribution in the Irish Sea is to at least to north Pembrokeshire but specimens have been reported to have been caught by fishermen off Bardsey (R. Holt, pers. comm.). Occurs all along the west coast of Ireland to Northern Ireland and may occur in Scotland (Manual, 1988).

NE Atlantic: Recorded south to north-west Africa including sparse records from the Canary Isles and extensively present in the Mediterranean (Carpine & Grasshoff, 1975).

World: Western basin of the Mediterranean, north-west Africa and mainland coast of the north-east Atlantic north to south-west Britain.

4. Biotopes found in (* = characteristic of the biotope): *Alcyonium digitatum* with massive sponges (*Cliona celata* and *Pachymatisma johnstonia*) and *Nemertesia antennina* on moderately tide-swept exposed circalittoral rock (ECR.AlcMaS) (usually in local shelter); *Phakellia ventilabrum* and axinellid sponges on deep exposed circalittoral rock (MCR.PhaAxi); Erect sponges, *Eunicella verrucosa* and *Pentapora foliacea* on slightly tide-swept moderately exposed circalittoral rock (MCR.ErSEun)*; Cushion sponges (*Polymastia boletiformis, Tethya*), branching sponges, *Nemertesia* spp. and *Pentapora foliacea* on moderately exposed circalittoral rock (MCR.ErSPbolSH).

5. Other information (complete from initial review then opportunistically): Studies at Ilfracombe, Lundy and Skomer have shown that the branches of colonies grow at irregular rates but an approximate mean of 10 mm a year. This suggests that the larger colonies are 30 or more years old. Recruitment appears to be irregular but sufficiently frequent to maintain dense populations at some locations. The axis has annual growth rings which suggest slower growth in cold years (K. Hiscock, unpublished).

Photographs: [source and reference number]

Habitat found in:

Physiographic	Open coast
Substratum	Bedrock or stable boulders
Wave exposure	Very exposed to Sheltered.
Tidal stream strength	Moderately strong to weak.
Height/Depth (as zone)	Lower Infralittoral, Circalittoral.
Salinity	Full.
Other	On upward facing rock.

Description of habitat preferences: Present on upward facing rock in the lower infralittoral but especially the circalittoral where it may form forests in favourable conditions. Present to 200m depth (Manuel, 1988). Thrives most on exposed coasts but below the zone of multidirectional water movement (below about 25m on coasts exposed to prevailing winds and oceanic swell) and where there are moderately strong tidal streams.

Origin (non-native species): n/a

Date of arrival in UK (non-native species): n/a

Sensitivity (of adults) [Score as: 5 = minor impact/concentration/variation from normal in a single brief event would cause mortality; 4 = minor impact/concentration/variation from normal in a prolonged or multiple event would cause mortality; 3 = considerable force/concentration/variation from normal or prolonged or several events required to cause mortality; 2 = force of impact would have to be 'crushing' or prolonged/concentration high and long-term/variation from normal would be required to cause long-term to cause mortality; 1 = resilient, most likely because of ability to avoid the potentially damaging event (migration, close-up, bury) at least in the short term (hours or a few days); 0 = no damage likely even from major physical force or concentrated contaminant over a sustained period (several days) - either extremely tough or able to remain out of the impacting activity - for instance, by being buried or swimming away].

Physical impact (fragility) =	3
Physical disturbance (displacement) =	5
Siltation =	2
Turbidity =	3
Deoxygenation =	4
Salinity change =	4
Temperature change =	3
Oil pollution =	3
Chemical contaminants =	3
Eutrophication =	2
Other (name) =	

Recovery potential (in relation to a single event causing mortality) [Score as 5=Very poor, even partial recovery unlikely at the location for at least 25 years; 4=Poor, partial recovery likely within 10 years, full recovery likely to take up to 25 years; 3=Moderate, partial recovery likely within 5 years, full recovery likely to take up to 10 years; 2=High, full recovery will occur but will take at least several months; 1=Very high, full recovery likely within a few weeks or at most 6 months; 0=recovery immediate or within a few days).]

= 4

Feeding type: Carnivore

Life-span: [Score as: 5=possibly over 100 years; 4=several decades; 3=<10 years; 2=<5 years; 1=annual or <1 year]

= 4

Reproduction:

Asexual (budding, splitting)	
Planktonic larva - long	
Planktonic larva - short	
Benthic larva	X
live-bearer - parental care	
live-bearer - no parental care	
egg-layer -parental care	
egg-layer - no parental care	

Time of year reproduction occurs: Not known.

Frequency of reproduction: Not known but lack of small individuals in most years suggests that reproduction and settlement may occur only every few years.

Age at which sexual maturity reached: Not known.

Growth rate: About 1 cm in branch length per year. Likely to be more in south-west England and less at the eastern and northern limits of distribution.

Key references:

Taxonomy	Manuel (1988), Carpine & Grasshoff (1975).
Biology	Carpine & Grasshoff (1975).
Effects of human activities	Eno *et al.* (1996).
Fluctuations in abundance	

Historical information (eg past losses/gains, changes in distribution): May once have occurred as far east in the English Channel as Margate (Manuel, 1988).

Parasite on/in: n/a

Symbiont on/in: n/a

Inquilinist on/in: n/a

Host for: The sea anemone *Amphianthus dohrnii*; the sea slug *Tritonia nilsohdneri*; the prosobranch *Simnia patula*. Other species attach to branches especially ephemeral algae (in shallow depths) and branching bryozoans. Squid attach their eggs to branches.

Considered key-stone? Yes

Why keystone?:

Feeds on others (population control)	
Fed on by others (food chain link)	The sea slug *Tritonia nilsodneri*; the prosobranch *Simnia patula*.
Habitat for community	

Keystone species in which biotopes: ECR.AlcMaS, MCR.PhaAxi, MCR.ErSEun, MCR.ErSPbolSH.

Applications / use:

Trade	no
Aquaculture	no
Harvest	no
Curiosity / charisma (tourism)	minor
Research	minor
Culinary	no

Protected status or relevance under Conventions and Directives:

Berne	no
CITES	no
EC Habitats Directive	no
W&C 1981 Act	yes
NI ACT	no
UK Biodiversity Action Plans	yes
Other (name)	