Pembrokeshire Marine Special Area of Conservation

MANAGEMENT SCHEME

Produced by Sue Burton on behalf of the Relevant Authorities Group

April 2008

A draft management scheme was available for public consultation from February to April 2006. This completed document incorporates, where possible, all consultation feedback from that date. It was circulated amongst the relevant authorities for the site in December 2007 for final agreement; a couple of minor text amendments were made.

It should be noted that this is a working document and as such will be continually revised in light of any relevant new information and legislation. See the header and footer on each page for information on the publication version/date and check against the updated contents checklist for the latest updates.

Further general information on the SAC can be found on the website www.PembrokeshireMarineSAC.org.uk or from:

Pembrokeshire Marine SAC Officer,
Captain Superintendents Building,
Admiralty Way,
The Royal Dockyard,
Pembroke Dock,
Pembrokeshire,
SA72 6TD
Email: sacofficer@pembrokeshiremarinesac.org.uk
Phone: 01646 696108

FOREWORD

It is easy with a necessarily formal document such as this, to overlook the interest and excitement of what lies behind it. Around Pembrokeshire we have one of the UK's most important marine sites. The quality of Pembrokeshire's underwater life has long been recognised. The Skomer Marine Nature Reserve was one of the first voluntary marine reserves in the UK before its designation in 1991, and it remains one of only three MNRs in the UK.

Pembrokeshire is also one of the best studied areas of sea around the UK; marine biological research work has been focused throughout the area since the production of the Dale Fort *Marine Flora and Fauna* in 1966. The presence of the Field Studies Council's Oil Pollution Research Council through 1967-1999 helped ensure that Pembrokeshire firmly remained one of the prime sites for marine scientific research. Today the Skomer Marine Nature Reserve, the Milford Haven Waterway Environmental Surveillance Group and various visiting universities, colleges and others continue to study Pembrokeshire's marine wildlife.

We still however have an awful lot to learn about the underwater world. With so little of it visible from dry land, and for such short times, and with only a tiny amount of ground covered during an average 40 minute long dive, much of it still remains a mystery. But nearly everywhere surveyors have been, fascinating wildlife communities have been recorded. Rocky reefs are smothered with an abundance of common and unusual marine animals including small corals, bright anemones, sponges and large delicate sea fans. Caves and deceptively barren-looking sediments hide a multitude of creatures, some of which are being discovered for the first time. To catch a brief glimpse of this underwater world yourself, watch the short SAC video "Pembrokeshire Marine Special Area of Conservation – what's so special?"

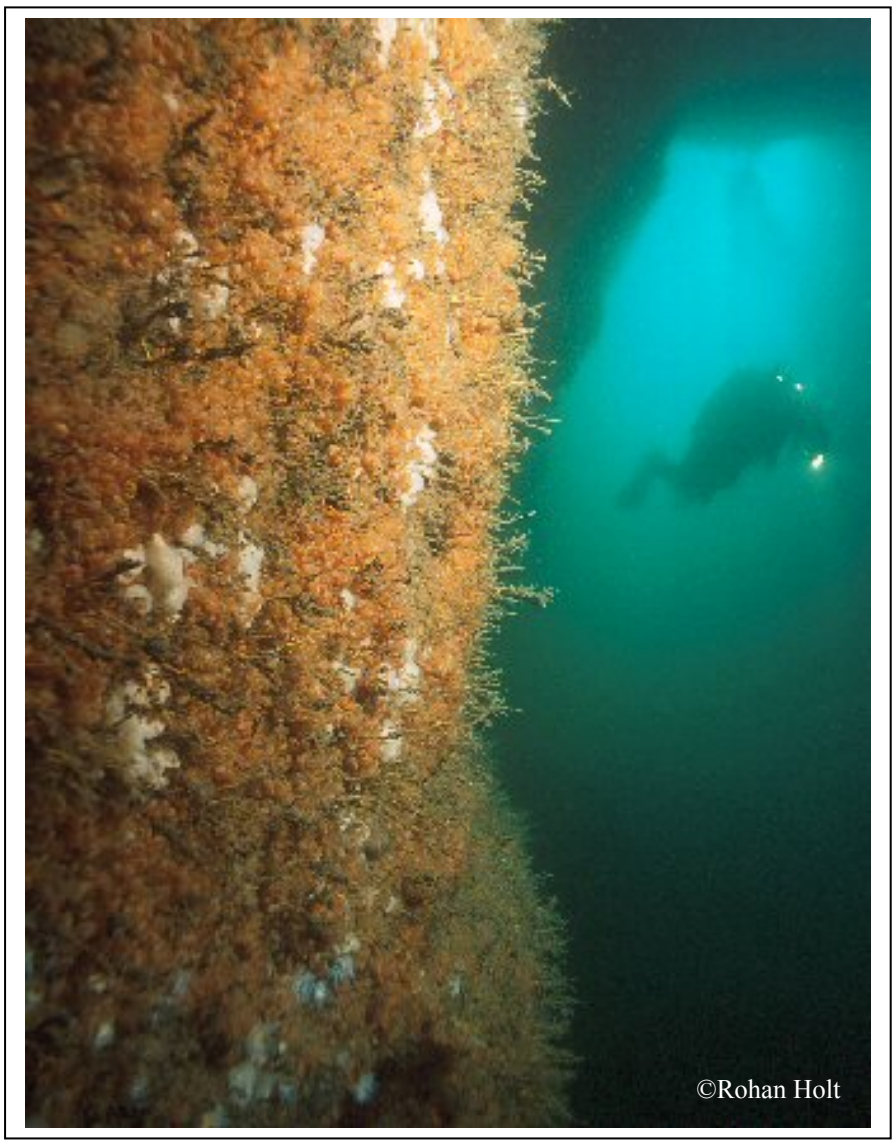
Compared to terrestrial conservation, we are at a disadvantage. Not only do we have insufficient understanding of the site's wildlife (What is their extent? How long do they live? How much human interaction can they tolerate?), but we also have limited detailed information on activities that take place throughout the site and their consequences. Add to this the sectoral nature and limited scope of legislative control in the marine environment, and it becomes easier to see why developing this management scheme has been such a long and complex process.

The next couple of years, for those of us who work within the marine environment, will prove to be an interesting time of change and opportunity (hopefully) as the Marine Bill revitalises marine policy. The Bill, and any legislation arising from it, could fill many existing management gaps and bring with it improved inshore fisheries management, an holistic approach to management (marine spatial planning) and improved marine nature conservation protection. Watch this space…any future legislative changes will be reflected in the SAC management scheme and action plan.

The SAC is utilised by a wide range of users for many diverse activities; it is an important resource for the fishing industry, tourism and recreational users. The natural deep water harbour of the Milford Haven ria is the reason why the port and its maritime industries can exist here. The document "*Issues for the Pembrokeshire Marine Candidate Special Area of Conservation*" (2002) outlined the potential threats to the site, which were seen to be many; overexploitation of the site's living resources, pollution, and disturbance from recreational activities all have the potential to harm the SAC's marine wildlife. An integrated management scheme that draws together the knowledge and powers of all the statutory authorities for the site is essential. If we don't succeed in protecting the features of the SAC, we stand to lose not just some fascinating species and important habitats, but important economic assets for the area and an opportunity to enhance the reputation of Pembrokeshire as an area of good environmental quality.

The ultimate success of the management scheme however, will not only be dependent on the statutory authorities, but all stakeholders of the site - interested bodies, individual users and local communities. Everyone has a part to play in the site's future management. We are fortunate to be in the position where we can learn from the experiences of other marine SACs across the UK. Successful ideas developed on other sites have been incorporated through this document, and it is hoped that this experience and the contributions made by the stakeholders for the site will ensure that the Pembrokeshire Marine SAC continues to be recognised for the quality of its marine wildlife, not only in Wales or the UK, but across Europe.

***Sue Burton**, SAC Officer, Pembrokeshire Marine Special Area of Conservation*



Marine caves are partly visible along the mainland coast and some of the offshore islands

CONTENTS

SECTION 6

SECTION 7

APPENDICES

UPDATED CONTENTS CHECKLIST

Please maintain and use this list to ensure that the most recent updates are incorporated into your working document.

Contents	Last updated	Incorporated?
SECTION 1		
1. INTRODUCTION		
1.1 Introduction to the management scheme		
1.2 SAC vision and management scheme aim		
1.3 Key principles for production of the management scheme		
1.4 Legislative background		
1.4.1 Habitats Directive		
1.4.2 Habitats Regulations		
1.5 SACs and the Natura 2000 network		
1.6 Site history		
1.7 Management framework		
1.7.1 Relevant Authorities		
1.7.2 Competent Authorities		
1.7.3 SAC Liaison Forum		
1.7.4 Other stakeholders		
1.7.5 SAC Officer		
1.7.6 Links to other documents		
SECTION 2		
2. SITE DESCRIPTION AND REASONS FOR RECOMMENDATION		
2.1 Site boundaries		
2.2 Reasons for recommendation		
2.3 Introduction to the features		
2.3.1 Reefs		
2.3.2 Caves		
2.3.3 Large shallow inlets and bays		
2.3.4 Subtidal sandbanks		
2.3.5 Estuaries		
2.3.6 Intertidal mudflats and sandflats		
2.3.7 Atlantic salt-meadow		
2.3.8 Lagoons		
2.3.9 Grey Seals		
2.3.10 Otters		
2.3.11 Shad (Allis and Twaite)		
2.3.12 Lampreys (sea and river)		
2.3.13 Shore dock		
2.4 Current condition of interest features		
2.5 MAPS		
SECTION 3		
3.1 Introduction		
3.2 Ports, Harbours & Shipping		
3.2.1 Introduction		
3.2.2 Shipping movements		
3.2.3 Anchoring & mooring (commercial)		
3.2.4 Capital & maintenance dredging		
3.2.5 Toxic antifoulant use		
3.2.6 Port & harbour facilities (port waste management)		
3.2.7 Ballast water discharge		
3.3 Living Resources		
3.3.1 Introduction		

SUMMARY

In the UK the designation of Special Areas of Conservation is a key measure in meeting the European Union's 1992 Habitats Directive. The Pembrokeshire Marine Special Area of Conservation (SAC) is the third largest marine SAC in the UK (138,069 ha) and has the second highest number of features (fifteen). It hosts eight Habitats Directive Annex I habitat types and seven Annex II species.

The Pembrokeshire Marine SAC was first submitted to the European Commission (EC) for consideration as a European Marine Site in 1997 (a marine SAC is also known as a European Marine Site). This document represents the culmination of considerable work since then, drawing together the necessary information to produce a management scheme for the SAC. The scheme will ensure that management measures are sufficient to meet the conservation objectives of the site and to highlight where any additional management might be required in order to maintain the site at favourable conservation status.

The relevant authorities have an obligation to ensure that the conservation objectives for the site are achieved. This joint draft management scheme is a collective attempt by the relevant authorities to fulfil their statutory requirements in relation to the SAC. The UK government needs to ensure that the requirements of the Habitats Directive are met and that suitable site management is delivered. Failure to adequately protect site features risks EC legal action against the UK government.

The management scheme has the challenging task of maintaining the important wildlife of the site whilst encouraging the site's use in a sustainable way, so as to meet the needs of its many users both now and into the future. There is no intention to prevent all activities, only to identify and improve the management of those activities which are damaging. Many activities are unlikely to damage the wildlife for which the site has been chosen, and so will not be affected. Activities with the potential to cause damage but that are already appropriately managed in some way are also unlikely to be affected. New management measures aimed at protecting or preventing damage to the interest features will only be introduced after consultation with interested parties. The management scheme therefore highlights new actions, and offers further new management solutions to be incorporated into existing and on-going actions that are contributing to the site's condition to date. It does not over-ride existing strategies / ongoing measures.

The management scheme process has identified a series of issues that need to be addressed by the relevant authorities and others to ensure that the interest features of the site are safeguarded. Some activities are known to have a significant impact on the interest features of the site. Management actions detailing methods for resolving these issues have been suggested and prioritised within a timetabled action plan. It is recognised that there is little, sometimes no available information on the effect of some activities with the potential to significantly impact the site and so further investigation and assessment of their effects upon the interest features are also incorporated into the action plan.

In general, three broad types of action are required for the successful implementation of the management scheme:

1. Implementation of proposed management actions identified from the review of existing management.
2. Investigative information gathering, particularly of activities with the potential to significantly impact the site along with an assessment of their effects upon the interest features, to help inform future management.
3. General promotion and education work so as to:
    - Raise awareness of the environmental importance of the site;
    - Raise awareness of the management needs for the site;
    - Encourage a sustainable approach to the use of the site's environment resources.

Those areas identified within the action plan and considered to require priority action include (in no particular priority order):

- Capital and maintenance dredging – the removal of areas of seabed, particularly a *reef* feature (in the case of capital dredging), has obvious detrimental effects on SAC features. Physical disturbance including smothering, and potential adverse effects of re-suspended pollutants can result from both capital and maintenance dredging. Although this operation is a 'plan or project' and appropriate assessments would most likely be required, local management would benefit from a long-term dredging strategy in which an holistic approach can be fostered and any necessary dredging minimised.
- Shipping movements – with movements of very large vessels set to significantly increase, the potential for collisions/groundings will also grow. On a lee shore, vulnerable from the action of prevailing winds, effects of a grounding could be immediate and damaging. Sensitive habitats and species (e.g. seals) can be affected by physical disturbance such as noise and vessel wash.
- Ballast water discharge – the discharge of ballast water is a concern for two reasons: one – that of suspended sediment contamination which could affect water quality and two – introduced 'alien' species which can cause permanent disruption/displacement to indigenous marine species/communities.
- Port waste management - current port waste plans and reception facilities are in need of enhancement in order to meet the requirements of the SAC. Without adequate facilities, littering and pollution incidents are more likely to occur, with the effects of such substances as organometals, biocides and bleaches being particularly chronic to marine species such as molluscs and algae.
- Seabed disturbance by dredging and trawling – the effects of trawling and dredging on the seabed can cause damage to SAC habitats. Of particular concern is fisheries activity in sheltered areas (the Haven), and hydraulic dredging in St Brides Bay.
- Lack of fisheries activity information – information is needed on fishing effort (location, type, extent, scale, frequency) to inform management; without it management has to be mainly broadscale and precautionary rather than more focused and realistic.
- Removal of non-target species – the amount of by-catch often depends upon the type of gear used. The removal of non-target species can be detrimental to the SAC features and lead to ecosystem effects.
- Commercial intertidal species collection – management of intertidal species collection is currently inadequate for SAC feature protection. Effects upon the *intertidal mud and sandflats* feature include physical disturbance, loss of species and knock-on effects. Of particular concern is commercial (i.e. large-scale) collection for bait (worms, shellfish), and commercial collection for consumption (particularly shellfish such as winkles, cockles and mussels).
- Unsustainable commercial resource exploitation – when species are fished/removed beyond their safe biological limits (too much for the species to be able to keep up with), the activity becomes unsustainable. This can also have ecosystem-wide repercussions which may affect SAC features.
- Fishing gear loss/disposal - fishing related debris (much of which could originate from outside the SAC) forms a large part of the marine litter in Pembrokeshire and can result in species entanglement (seals are particularly vulnerable). In addition lost gear including pots and nets can continue indiscriminately to fish ('ghost fishing').
- Persistent toxic pollutants - the history of local industrial use, particularly within the Haven, has given rise to pollution hotspots where accumulations of persistent toxic pollutants, such as hydro-carbons, organochlorines and heavy metals, have slowly accumulated over time within sediment 'sinks'. If released from such sinks, these substances may present a risk to marine species.
- Point source discharges – There are a large number of industrial and sewage discharges within the site that can have potential significant local effects on SAC features. Individual land-based discharges are now subject to control via permits/consents, which should adequately protect the environment from new releases. However, little is known about cumulative and possible combination effects.
- Diffuse pollution – With better control of point source discharges, there is increasing awareness of the contribution of diffuse sources, such as agricultural run-off and pollution from urban

development, to reduction in water and sediment quality. A reduction in water and sediment quality can have implications for all marine life, but particularly susceptible areas include *lagoons*, *estuaries*, and semi-enclosed *large shallow inlets and bays* where pollutant build-up is more likely.

- Maritime hydrocarbon pollution – the release of hydrocarbons to the marine environment (through operational practices/spills and accidental spills) is an inherent risk that can contaminate water and sediment and affect marine species. Areas requiring particular management are operational spills and bilge water discharge.
- Refuse and litter – litter can be found on just about every beach within the SAC at any time. Locally, fishing industry related debris and general beach/recreational user rubbish tends to form the majority of the litter found. SAC features, both on the shore and underwater, can be adversely effected by litter (seals are particularly vulnerable).
- Dredge spoil dumping – the dumping at sea of dredge spoil can have severe localised effects as well as far-field effects. Current designated disposal sites are most likely to affect the SAC *reef* and *large shallow inlets and bays* features. A strategy would improve management of spoil dumping.
- Changes in salinity and temperature – salinity and temperature variation, incorporating both global climate change and localised changes induced by industrial activity, can have far-reaching effects on the ecology of the SAC.
- Recreational sea angling – sea angling is a popular leisure activity within the site. Of most concern are indirect impacts of lost/discarded gear and litter upon the SAC features.
- Power craft use – the use of power craft is of concern particularly in the vicinity of sensitive species (e.g. seals and otters) and sheltered shores (e.g. *Atlantic salt meadow*, intertidal wave-sheltered muds) where physical disturbance can have detrimental effects. Of particular concern are wildlife boat trips which have been increasing in number over the last 3 years, with no regulation apart from on health and safety grounds, and use of a voluntary code of conduct.
- Recreational bait collection – current management of frequent but small-scale collection of bait for recreational angling is currently lacking. Physical disturbance to the *intertidal mud and sandflats* feature is a particular issue at collection 'hotspots'.
- Coastal development – the constant development of the coast (including for example marinas and industrial sites) leads to loss of habitat and associated effects. The cumulative effects of development upon the SAC can be significant.

The management scheme is intended to be a dynamic plan working with the activities taking place around and within the site as they evolve and circumstances change. It will be regularly viewed and modified taking into account new information, changing issues and legal obligations so as to aid decisions associated with the site's management. The Marine Bill for example, and any legislation arising from it, may well have wide implications for the future of marine nature conservation. Through the action plan it is hoped that new management measures will constantly address activities with the potential to damage the site so as to secure its long term sustainability and allow the Pembrokeshire Marine SAC to be enjoyed and used as a resource for future generations to come.

CRYNODEB

Mae'r cyfan o'r ddogfen hon ar gael hefyd yn Gymraeg

O fewn y DU, mae'r dynodiad Ardaloedd Cadwraeth Arbennig yn un o'r mesurau allweddol ar gyfer cydymffurfio â Chyfarwyddeb Cynefinoedd 1992 yr Undeb Ewropeaidd. Ardal Cadwraeth Arbennig (ACA) Forol Sir Benfro yw'r drydedd fwyaf o'r ACA morol yn y DU (138,069 ha) ac y mae ganddi'r nifer ail uchaf o nodweddion (sef pymtheg). Mae'n cynnwys wyth o'r mathau o gynefinoedd a restrir yn Atodiad I y Gyfarwyddeb Cynefinoedd, a saith o'r rhywogaethau a restrir yn Atodiad II.

Cyflwynwyd ACA Forol Sir Benfro i'r Comisiwn Ewropeaidd (CE) am y tro cyntaf ym 1997, i'w hystyried ar gyfer Safle Morol Ewropeaidd (cyfeirir hefyd at ACA forol fel Safle Morol Ewropeaidd). Y ddogfen hon yw ffrwyth y llafur sylweddol a gyflawnwyd yn y cyfamser, wrth ddwyn at ei gilydd yr holl wybodaeth a oedd yn angenrheidiol er mwyn paratoi cynllun rheoli ar gyfer yr ACA. Bydd y cynllun yn sicrhau bod y mesurau rheoli yn ddigonol i gyrraedd amcanion cadwraeth y safle, ac yn amlygu'r meysydd lle y mae rheolaeth ychwanegol efallai'n ofynnol, er mwyn cynnal statws cadwraeth ffafriol y safle.

Gosodwyd dyletswydd ar yr awdurdodau perthnasol i sicrhau y cyrhaeddir amcanion cadwraeth y safle. Ymgais yr awdurdodau perthnasol ar y cyd i gyflawni eu cyfrifoldebau statudol mewn perthynas â'r ACA yw'r cynllun rheoli drafft hwn. Mae angen i lywodraeth y DU sicrhau y cyflawnir gofynion y Gyfarwyddeb Cynefinoedd, ac y sefydlir rheolaeth briodol ar y safle. Pe methid â chyflawni hyn, gallai'r CE ddwyn achos cyfreithiol yn erbyn llywodraeth y DU.

Yr her i'r cynllun rheoli yw cynnal y bywyd gwyllt pwysig sydd yn yr ACA, tra'n annog defnyddio'r safle mewn ffordd gynaliadwy, sy'n bodloni anghenion y defnyddwyr niferus, yn awr ac yn y dyfodol. Nid y bwriad yw atal pob gweithgarwch, ond yn hytrach adnabod a gwella'r modd y rheolir y gweithgareddau a allai fod yn niweidiol. Mae llawer o'r gweithgareddau'n annhebygol o niweidio'r bywyd gwyllt, y dewiswyd y safle o'i herwydd, ac felly nid effeithir ar y gweithgareddau hynny. Prin yr effeithir hefyd ar weithgareddau a allai achosi difrod, ond a reolir yn effeithiol rwyfodd neu'i gilydd eisoes. Ni fabwysiedir unrhyw fesurau rheoli ar gyfer amddiffyn neu atal difrod i'r nodweddion sydd o ddiddordeb, heb ymgynghori yn gyntaf â'r holl fuddianwyr Mae'r cynllun rheoli, felly, yn amlygu gweithredoedd newydd, ac yn cynnig rhagor o atebion rheoli newydd, i'w cynnwys yn rhan o'r gweithredu presennol a pharhaus sydd wedi cyfrannu i gyflwr y safle hyd yma. Nid yw'n disodli'r strategaethau presennol/ mesurau parhaus.

Yn ystod proses y cynllun rheoli, nodwyd cyfres o faterion sy'n galw am sylw gan yr awdurdodau perthnasol ac eraill, er mwyn sicrhau y diogelir nodweddion diddordeb y safle. Mae'n hysbys fod rhai gweithgareddau'n dylanwadu'n sylweddol ar nodweddion diddordeb y safle. Cynigir a blaenoriaethir gweithredoedd rheoli ar gyfer datrys y materion hyn, o fewn cynllun gweithredu sydd wedi ei amserlennu. Sylweddolir mai ychydig neu ddim gwybodaeth sydd ar gael am effeithiau rhai gweithgareddau a allai fod yn dylanwadu'n drwm ar y safle; ac y mae'r cynllun gweithredu felly yn cynnwys asesu ac ymchwilio ymhellach i'w heffeithiau ar y nodweddion.

Yn fras, mae tri math cyffredinol o weithredoedd yn ofynnol, os am weithredu'r cynllun rheoli'n llwyddiannus:

4. Cyflawni gweithredoedd rheoli arfaethedig, a nodwyd o ganlyniad i adolygu'r rheolaeth bresennol.
5. Casglu gwybodaeth trwy ymchwilio, yn enwedig ynghylch gweithgareddau a allai ddylanwadu'n sylweddol ar y safle, ac asesu eu heffeithiau ar y nodweddion sydd o ddiddordeb, er mwyn goleuo rheolaeth yn y dyfodol.
6. Gwaith hyrwyddol ac addysgol cyffredinol er mwyn:
   - Cynyddu'r ymwybyddiaeth o bwysigrwydd amgylcheddol y safle;
   - Cynyddu'r ymwybyddiaeth o'r anghenion rheoli ar gyfer y safle
   - Annog dull cynaliadwy o ddefnyddio adnoddau amgylcheddol y safle.

Y meysydd a nodir yn y cynllun gweithredu fel rhai sy'n galw am sylw rhag blaen (ond nid mewn unrhyw drefn blaenoriaeth) yw:

- Gweithfeydd treillio, cyfalaf a chynnal a chadw – mae tynnu ymaith arwynebeddau o wely'r môr, yn enwedig nodwedd *creigres* (yn achos gweithfeydd treillio cyfalaf), yn amlwg yn cael effaith andwyol ar nodweddion yr ACA. Gall ymyrraeth ffisegol ddigwydd o ganlyniad i dreillio cyfalaf neu gynnal-a-chadw, gan achosi mygu neu greu daliannau newydd o lygryddion yn y dŵr. Er y byddai gweithrediadau o'r fath yn cael eu cyfrif yn 'gynllun neu brosiect' (gweler Adran 3.7) ac y byddai asesiadau priodol yn ofynnol yn ôl pob tebyg, byddai rheolaeth leol y safle ar ei hennill o gael strategaeth treillio hirdymor, a fyddai'n meithrin dull holistig o weithredu ac yn lleihau i'r eithaf unrhyw dreillio sy'n ofynnol.
- Symudiadau llongau - gan fod symudiadau llongau mawr iawn yn debyg o gynyddu'n arwyddocaol, mae pryder y bydd y cyfleoedd i wrthdaro /daearu hefyd yn cynyddu. Ar y lan sy'n agored i'r prifwyntoedd, ar ochr glytaf y llong, gallai effaith unrhyw ddaearu fod yn ddisymwth a dinistriol. Gall cynefinoedd a rhywogaethau sensitif (e.e. morloi) ddioddef oherwydd ymyrraeth ffisegol megis sŵn a llwrw'r llongau.
- Arllwys dŵr balast - mae arllwys dŵr balast yn peri pryder am ddau reswm – yn gyntaf, y daliant o waddodion llygredig a allai effeithio ar ansawdd y dŵr – ac yn ail, y perygl o gyflwyno rhywogaethau estron a allai ymyrryd â, neu ddisodli, rhywogaethau/cymunedau morol brodorol.
- Rheoli gwastraff porthladdoedd - mae angen gwella'r cynlluniau cyfredol ar gyfer gwastraff porthladdoedd er mwyn bodloni gofynion yr ACA. Heb gyfleusterau digonol, mae achosion o wasgaru ysbwriel a llygru yn fwy tebygol o ddigwydd, ac y mae effeithiau sylweddau megis organofetelau, bioladdwyr a chanyddion yn arbennig o hirbarhaol mewn molysgiaid ac algâu.
- Ymyrraeth â gwely'r môr trwy lusgrwydo a threillrwydo – gall effeithiau treillrwydo a llusgrwydo ar wely'r môr ddifrodi cynefinoedd yr ACA. Pryderir yn enwedig ynghylch gweithgaredd o'r fath yn y mannau cysgodol (yr Hafan) a llusgrwydo hydrolig ym Mae Sain Ffraid.
- Prinder gwybodaeth am weithgarwch mewn pysgodfeydd – mae angen gwybodaeth am yr ymdrech bysgota (lleoliad, math, graddfa, amlder) er mwyn goleuo'r rheoli; heb y wybodaeth honno rhaid gweithredu ar raddfa gyffredinol a thrwy ragofalon, yn hytrach nag yn benodol a realistig.
- Tynnu allan rhywogaethau nas targedir – mae maint y sgîl-ddaliadau yn aml yn dibynnu ar y gêr a ddefnyddir. Trwy dynnu allan rhywogaethau nas targedir gellir andwyo nodweddion yr ACA ac effeithio ar yr ecosystem.
- Casglu rhywogaethau rhynglanwol ar raddfa fasnachol – mae'r rheolaeth ar gasglu rhywogaethau rhynglanwol yn druenus o annigonol o safbwynt diogelu nodweddion yr ACA. Mae'r effeithiau ar y nodwedd *gwastadeddau* llaid a thywod rhynglanwol yn cynnwys ymyrraeth ffisegol a cholled rhywogaethau yn ogystal ag effeithiau canlyniadol. Mater sy'n peri pryder penodol yw casglu masnachol (h.y. ar raddfa fawr) ar gyfer abwyd (llyngyr, pysgod cregyn), a chasglu masnachol yn fwyd (yn enwedig cocos, gwichiaid a chregyn gleision).
- Ymelwa masnachol anghynaliadwy ar adnoddau - pan fo rhywogaethau'n cael eu pysgota/ tynnu allan y tu hwnt i'r terfynau sy'n ddiogel yn fiolegol (sef mwy nag y gall y rhywogaethau ei wrthsefyll) mae'r gweithgaredd wedyn anghynaliadwy. Gall hynny achosi canlyniadau pellach trwy'r ecosystem gyfan, gan effeithio ar nodweddion yr ACA.
- colli/gwaredu gêr pysgota - ysgyrion gêr pysgota (llawer ohono hwyrach yn tarddu o'r tu allan i'r ACA) yw rhan sylweddol o'r ysbwriel morol yn Sir Benfro, a gall achosi i rywogaethau ymgordeddu ynddo (mae hyn yn fygythiad i forloi yn benodol). Yn ychwanegol at hyn, gall cewyll a rhwydi colledig barhau i ddal pysgod ('rhith-bysgota').
- Llygryddion gwenwynig parhaol - mae'r hanes diwydiannol lleol, yn enwedig o fewn yr Hafan, wedi creu mannau penodol lle mae crynoadau o lygryddion gwenwynig parhaol, megis organoclorinau a metelau trwm, wedi cronni'n araf dros amser mewn 'sinciau' gwaddod. Os rhyddheir hwy o'r sinciau, gall y sylweddau hyn achosi risg barhau i'r rhywogaethau morol. Er

bod angen caniatâd ar gyfer unrhyw arllwysiad unigol, mae lle i bryderu oherwydd cyn lleied sy'n hysbys am yr effeithiau cronnus ac effeithiau cyfuniadol posibl.

- Llygredd tryledol - mae'r cynnydd yng nghyfraniad ffynonellau llygredd tryledol, megis dŵr ffo amaethyddol a llygredd o ddatblygiadau trefol, i'r gostyngiad yn ansawdd dŵr a gwaddodion. Gall unrhyw ostyngiad yn ansawdd y dŵr a'r gwaddodion effeithio ar bob bywyd morol, ond y mannau mwyaf agored i'w niweidio yw'r *lagwnau*, *aberoedd*, a *chilfachau a baeau eang a bas lled-gaeedig*, lle mae'r llygryddion yn fwy tebygol o grynhoi.
- Llygru arforol gan hydrocarbonau – mae rhyddhau hydrocarbonau i'r amgylchedd morol (trwy arferion /gorlifiadau gweithredol a cholledion trwy ddamwain) yn risg gynhenid barhaus a allai ddifwyno'r dŵr a'r gwaddod, gan effeithio ar rywogaethau morol. Agweddau sy'n galw am reolaeth arbennig yw gorlifiadau gweithredol ac arllwys dŵr gwaelodion
- Gwastraff ac Ysbwriel – gellir dod o hyd i ysbwriel ar bron bob traeth yn yr ACA ar unrhyw adeg. Yn lleol, ysgyrion a adewir gan y diwydiant pysgota a deunydd a adewir ar ôl gan ddefnyddwyr y traethau/ ymwelwyr yw'r rhan fwyaf o'r ysbwriel a ganfyddir. Gall ysbwriel o'r fath andwyo nodweddion yr ACA, ar y traethau ac o dan y dŵr (mae'n fygythiad i'r morloi yn arbennig),
- Gwaredu gwastraff treillio – gall yr arfer o arllwys deunydd treillio i'r môr achosi effeithiau difrifol yn lleol yn ogystal ag effeithiau ymhell i ffwrdd. Mae'r mannau gwaredu dynodedig presennol yn fwyaf tebygol o effeithio ar y nodweddion *creigresi* a *chilfachau a baeau eang a bas* oddi mewn i'r ACA. Byddai strategaeth yn gwella'r modd y rheolir gwaredu'r gwastraff hwn.
- Newidiadau mewn helïedd a thymheredd – gall unrhyw newidiadau mewn helïedd a thymheredd, boed oherwydd newid hinsawdd byd-eang neu newidiadau lleol a achosir gan weithgareddau diwydiannol, gael effaith bellgyrhaeddol ar ecoleg yr ACA.
- Arllwysiadau o darddleoedd penodol – gall y nifer fawr o arllwysiadau diwydiannol a charthion o fewn y safle effeithio'n sylweddol yn lleol ar nodweddion yr ACA.
- Pysgota yn y môr fel adloniant – mae pysgota yn y môr yn weithgarwch hamdden poblogaidd o fewn y safle. Y pryderon mwyaf yw effeithiau anuniongyrchol gêr a gollir /waredir ac ysbwriel ar nodweddion yr ACA.
- Defnyddio cychod pŵer – mae defnyddio cychod pŵer yn peri pryder yn enwedig yn agos at rywogaethau sensitif (e.e. morloi a dyfrgwn) a ger y glannau cysgodol (e.e. *dolydd heli Iwerydd*, gwastadeddau llaid rhynglanwol a gysgodir rhag y tonnau) lle y gall ymyrraeth ffisegol achosi effeithiau niweidiol. Pryderir yn arbennig am y teithiau cwch 'bywyd gwyllt', sydd wedi cynyddu o ran nifer dros y 3 blynedd diwethaf heb unrhyw reolaeth, ac eithrio ar sail iechyd a diogelwch a chod ymddygiad gwirfoddol.
- Casglu abwyd i ddibenion hamdden – mae diffyg rheolaeth ar hyn o bryd ar y casglu abwyd sy'n digwydd ar raddfa fach , ond yn aml, ar gyfer pysgota fel adloniant. Mae ymyrraeth ffisegol â'r *gwastadeddau llaid a thywod rhynglanwol* fyn ystyriaeth benodol mewn mannau lle mae hyn yn digwydd yn gyffredin.
- Datblygu'r arfordir - mae'r datblygu cyson sy'n digwydd ar yr arfordir (gan gynnwys, er enghraifft, marinâu a safleoedd diwydiannol) yn arwain at golli cynefinoedd a'r effeithiau sy'n gysylltiedig â hynny. Gall yr effeithiau cronedig ar yr ACA o ganlyniad i'r datblygu fod yn sylweddol.

Nod y cynllun rheoli yw bod yn gynllun dynamig a fydd yn cydweithio gyda gwahanol weithgareddau o amgylch ac o fewn y safle, wrth i'r rheini esblygu ac i'r amgylchiadau newid. Adolygir y cynllun yn rheolaidd, gan gymryd i ystyriaeth unrhyw wybodaeth, materion neu ddyletswyddau newydd, er mwyn goleuo'r penderfyniadau ynglŷn â rheolaeth y safle. Gall y Mesur Morol, er enghraifft, ac unrhyw ddeddfwriaeth a fydd yn tarddu ohono, ddylanwadu'n helaeth ar ddyfodol cadwraeth natur forol. Trwy'r cynllun gweithredu, gobeithir y bydd mesurau rheoli newydd yn rhoi sylw cyson i unrhyw weithgareddau a allai ddifrodi'r safle, er mwyn sicrhau cynaliadwyedd hirdymor, a chaniatáu i ACA Forol Sir Benfro gael ei mwynhau a'i defnyddio fel adnodd am genedlaethau i ddod.

1. INTRODUCTION

1.1 Introduction to the management scheme

This management scheme has been developed to fulfil the requirements of the UK Habitats Regulations[1] for the Pembrokeshire Marine Special Area of Conservation (SAC), and thereby contribute to meeting the UK's obligations under the European Union's Habitats Directive[2]. The management scheme sets the framework within which activities within the Pembrokeshire Marine SAC (also known as a European Marine Site) will be managed in ways compatible with the achievement of the nature conservation objectives. The underlying aspiration of the scheme is to secure the necessary management through voluntary co-operation and partnership wherever possible rather than regulation. The scheme is not intended to be a static document, but an ongoing process that aids decision-making and continually evolves to take account of changes in and changing information about activities, issues, scientific information, management practices and legal obligations.

The natural beauty and resources within the Pembrokeshire Marine SAC encourage many recreational activities. They also provide an important source of employment for the area, in particular because it encompasses the busiest cargo port in Wales - currently the fourth busiest in the UK. The management scheme therefore has the challenging task of maintaining the important wildlife of the site whilst encouraging the site's use in a sustainable way, so as to meet the needs of its many users both now and into the future. There is no intention to prevent all activities, only to identify and improve the management of those activities which are damaging. Many activities are unlikely to damage the wildlife for which the site has been chosen, and so will not be affected. Activities with the potential to cause damage but that are already appropriately managed in some way are also unlikely to be affected. New management measures aimed at protecting or preventing damage to the interest features will only be introduced after consultation with interested parties. This may for instance involve dialogue between the SAC Officer, the Countryside Council for Wales and the clubs or individuals undertaking the activity.

Whilst it is the responsibility of the relevant statutory organisations to develop and implement this management scheme, everyone with an interest in the site has been encouraged to contribute to the scheme's development, and the scheme's success is dependent on all users of the area playing their part in its management.

1.2 SAC vision and management scheme aim

The vision for the Pembrokeshire Marine Special Area of Conservation is one of a quality marine environment, where the habitats and species of the site are in a condition as good as or better than when the site was selected, and where sustainable use of the marine environment within the Special Area of Conservation is an important and integral part of local socio-economics for future generations.

The consequent aim of the management scheme, agreed by the relevant authorities (see Section 1.7.1), is:

[1] The Conservation (Natural Habitats, &c.) Regulations, Statutory Instrument No. 2716. SI 1994/2716, HMSO, London. http://www.legislation.hmso.gov.uk/si/si1994/uksi_19942716_en_1.htm

[2] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna. (OJ No L 206, 22.7.92 http://europa.eu.int/eur-lex/en/consleg/main/1992/en_1992L0043_index.html

"To secure and maintain the favourable conservation status of the Pembrokeshire Marine Special Area of Conservation by ensuring that human activities co-exist in harmony with the habitats and species of the site."

1.3 Key principles for production of the management scheme

To help ensure that the Pembrokeshire Marine SAC relevant authorities (see Section 1.7.1) are working toward the same goals, the following eight key principles were agreed. These principles are fundamental to and underlie the management scheme.

Principle 1 – Favourable conservation status
All management actions should contribute towards achieving and maintaining favourable conservation status for the SAC features.
Principle 2 – Sustainability
The management scheme will strive to ensure that activities are undertaken in sustainable ways that ensure social and economic objectives are integrated with the conservation objectives for the site.
Principle 3 – Precautionary Principle
All potential sources of risk to the SAC features will be examined. Where there is risk, lack of full scientific certainty will not be used as a reason for postponing identification and introduction of management measures that are likely to be cost effective in preventing damage.
Principle 4 – Assessment of Management Requirements
Identification of management requirements will be based on a full inventory of the necessary management action to secure and maintain favourable conservation status.
Principle 5 – Formulating Management Actions
Management actions will:
i) integrate with and, where necessary, build upon existing plans and initiatives without duplication;
ii) wherever possible, be specific, measurable, achievable, realistic and have a timescale;
iii) be based upon best available scientific advice, and where such advice is insufficient, be considered in light of the precautionary principle;
iv) utilise additional regulation (e.g. new byelaws) where it is the only effective solution.
Principle 6 – Partnership Approach
Maintain the involvement of, and partnership approach, with all stakeholders.
Principle 7 – Education/awareness
Raise awareness of Pembrokeshire's marine wildlife and the consequences of living nearby and/or using the marine SAC.
Principle 8 – Monitoring and Review
Regularly monitor and review the effectiveness of the scheme.

1.4 Legislative background

1.4.1 Habitats Directive

The Habitats Directive is a piece of legislation that was adopted by the European Community in 1992 as a major contribution to the Biodiversity Convention signed at the Rio Earth Summit[3]. Its main aim is to highlight the need to maintain biodiversity throughout all Member States. To make this enormous task more manageable, it focuses on rare or threatened habitats and species which are listed as Annexes within the Directive.

[3] 1992 International Convention on Biological Diversity http://www.biodiv.org/convention

The main mechanism used to protect the habitats and species listed in the Habitats Directive is the selection and subsequent designation of Special Areas of Conservation (SACs). Article 6(2) of the Directive requires member states to:

> *"take appropriate steps to avoid (in European sites) the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the sites have been designated, in so far as such disturbance could be significant in relation to the objectives of the Directive."*

Another important feature of the Directive is that it mentions the need to take account of the economic, cultural, social and recreational needs of local people when managing the site. A majority of the sites already chosen have been subject to human use for hundreds or thousands of years and the implications of the Directive on those patterns of use have to be considered as part of the whole management process.

Special Areas of Conservation are initially selected by each member state on the basis of the habitats and species listed in Annexes I and II of the Habitats Directive. The habitats and species found on each site are referred to as the "interest features". The best examples of these interest features for each country, once agreed locally and nationally through consultation, are then submitted to the EC for consideration. At this stage they are referred to as "candidate sites". After adoption by the EC, these candidate sites must then be formally designated by their member states.

1.4.2 Habitats Regulations

The Habitats Directive has been transposed into UK law by The Conservation (Natural Habitats &c) Regulations 1994 (commonly referred to as the Habitats Regulations)[4], with amendments in 1997[5]. These regulations set out the measures that can be employed to protect sites in the marine environment. They apply to all UK marine Special Areas of Conservation and the key provisions can be summarised as follows:

> *"In relation to marine areas any competent authority having functions relevant to marine conservation shall exercise those functions so as to secure compliance with the requirements of the Habitats Directive." Regulation 3(3)*
>
> *"… every competent authority in the exercise of any of their functions, shall have regard to the requirements of the Habitats Directive so far as they may be affected by the exercise of those functions." Regulation 3(4)*
>
> *"The relevant authorities, or any of them, may establish for a European marine site a management scheme under which their functions (including any power to make bylaws) shall be exercised so as to secure in relation to that site compliance with the requirements of the Habitats Directive. Only one management scheme may be made for each European marine site. A management scheme may be amended from time to time. As soon as a management scheme has been established, or is amended, a copy of it shall be sent by the relevant authority or authorities concerned to the appropriate nature conservation body."(Regulation 34)*

In June 1998 the Department of the Environment, Transport and the Regions and Welsh Office published guidance on the conservation management of European Marine Sites within the UK [6].

[4] http://www.opsi.gov.uk/si/si1994/Uksi_19942716_en_2.htm#end
[5] http://www.opsi.gov.uk/si/si1997/19973055.htm
[6] DETR / Welsh Office, 1998. European Marine Sites in England & Wales. A Guide to the Conservation (Natural Habitats &c) Regulations 1994 and to the Preparation and Application of Management Scheme. HMSO ISBN

1.5 SACs and the Natura 2000 network

Special Areas of Conservation designated under the Habitats Directive, and Special Protection Areas (SPAs) designated under the complementary Birds Directive[7] to protect wild birds, collectively form a network of protected sites across Europe called *Natura 2000*. SACs and SPAs cover both terrestrial and marine environments. Where they include the sea or the foreshore, they can also be referred to as "European Marine Sites". There are over 60 SACs within the UK that are marine or have a marine element. Sizes of sites vary, as do the number of habitats and species for which the sites have been chosen. It is important that any management of a European Marine Site gives due regard to the conservation requirements of other adjacent or nearby Natura 2000 sites.

1.6 Site history

The seas around Pembrokeshire have long been recognised for their marine conservation importance. The area around Skomer was designated a Marine Nature Reserve (MNR) in 1991. It remains Wales' only Marine Nature Reserve. Formerly, since 1976, it was one of the UK's two first voluntary marine reserves.

The Pembrokeshire Marine SAC site was proposed in 1995 (then called Pembrokeshire Islands) for its reefs, estuaries, shallow inlets and bays and for its grey seal population. In 1997 the site was submitted to the EC and so became known as a candidate site. It is important to note that UK government and the National Assembly for Wales' policy ensured that candidate sites should be protected as though they were already designated[8].

In 1999, the lists of candidate SACs from each European Union member state within the Atlantic biogeographical region, including the UK, were reviewed at meetings convened by the European Commission. Following this review, the UK along with a number of other member states was asked by the EC to submit further sites, and to identify additional features of interest on existing sites.
The EC considered that the UK list of sites did not sufficiently cover about half of the many different habitat types and species listed in Annexes I and II of the Directive as requiring SACs, and that therefore additional sites for a number of habitat types and species should be identified by the UK. They also wished to see all Annex I/II habitats and species with a significant presence on existing sites listed as interest features of those sites.
The process of identifying the additional sites, and the additional habitats and species (often referred to as the 'moderation process') started in November 1999 and was completed by the end of 2000. Moderation requirements specifically relevant to this site were to:

- modify the existing candidate SAC site to include additional habitats and species from Annex I and II of the Habitats Directive,
- change site boundaries to better encompass existing features or to accommodate new features.

The moderation process resulted in a boundary extension to include the south-east Pembrokeshire coast, additional features being identified and a name change from "Pembrokeshire Islands" to "Pembrokeshire Marine". The list of proposed sites in Wales was agreed following discussion between Countryside Council for Wales (CCW) specialists and colleagues in the conservation agencies in England, Scotland and Northern Ireland and the UK Joint Nature Conservation Committee (JNCC) to ensure consistency across the UK. Following this there were discussions with the National Assembly for Wales and UK government departments to help ensure that the proposed revisions to the UK site list met the requirements of the European Commission.

1851120874
[7] Council Directive 79/409/EEC on the Conservation of Wild Birds
[8] DETR / Welsh Office, 1998 *op cit* (section 1.4.2) para 3.6

In 2003 further amendments were made to the boundary in order to ensure consistency with UK conservation designations, in particular Sites of Special Scientific Interest (SSSIs).

Pembrokeshire Marine, along with all other candidate SACs in Wales, was formally designated in December 2004.

1.7 Management framework

1.7.1 Relevant Authorities

The UK Habitats Regulations make relevant authorities (see Box 1) responsible for the conservation and management of the SAC. However, no single relevant authority can have overall responsibility for the site, since none has all the necessary powers. The ultimate responsibility for ensuring compliance with the requirements of the Habitats Directive in Wales, both generally and in relation to the Pembrokeshire Marine SAC, lies with the National Assembly for Wales and the UK government.

Box 1: Competent authorities and relevant authorities
The Habitats Regulations use the terms relevant authorities and competent authorities to describe statutory bodies to which the Regulations apply.

The term **competent authorities** includes any statutory body or public office exercising legislative powers, whether on land or sea.

Relevant authorities are those competent authorities which have powers or functions which have, or could have, an impact on the marine area within or adjacent to a European marine site.

Whereas all relevant authorities are also competent authorities, not all competent authorities are relevant authorities. Regulation 5 lists those bodies that can be relevant authorities.

Each relevant authority is individually responsible for meeting its duties under the Habitats Regulations. However by jointly preparing, implementing and reviewing this management scheme, it is anticipated that the relevant authorities will be able to more effectively achieve the aims of the Habitats Directive in relation to this site, than if they acted alone. To this end the relevant authorities for the Pembrokeshire Marine SAC have formed the Relevant Authorities Group (RAG), a voluntary partnership. This Group has no additional powers but serves to ensure that all relevant authorities contribute to develop and implement the scheme. The Group's terms of reference can be found in Appendix 4.

There are eight relevant authorities for the Pembrokeshire Marine SAC (see Appendix 4 for details on roles and responsibilities and contact information). These authorities are equal members of the Pembrokeshire Marine SAC Relevant Authorities Group (RAG) and are as follows:

Countryside Council for Wales (CCW)
Environment Agency Wales (EAW)
Dŵr Cymru Welsh Water (DCWW)
Milford Haven Port Authority (MHPA)
Pembrokeshire Coast National Park Authority (PCNPA)
Pembrokeshire County Council (PCC)
South Wales Sea Fisheries Committee (SWSFC)
Trinity House Lighthouse Service

1.7.2 Competent Authorities

All competent authorities for the site (see Box 1 for a definition) are invited to sit on the Liaison Forum (see Section 1.7.3). They are regularly kept up to date with the work of the Relevant Authorities Group and closely involved in the development of the management scheme. Details on the roles and responsibilities of the competent authorities can be found in Appendix 5. The competent authorities for the Pembrokeshire Marine SAC are as follows:

Crown Estate (CE)
Maritime and Coastguard Agency (MCA)
Marine and Fisheries Agency (M&FA)
Ministry of Defence (MoD)
The National Trust (NT)
Welsh Assembly Government (WAG)

1.7.3 SAC Liaison Forum

Although only relevant and competent authorities have statutory responsibilities, other interested parties are encouraged to participate in the management of the site.

Following an initial public meeting held in Milford Haven in 1999 attended by 200 members of the public and interested stakeholders, it was agreed to establish a *Liaison Forum* where *Interest Groups* (see Box 2) could formally meet with relevant authorities and help to develop site management. The purpose and terms of reference for the SAC Liaison Forum can be found in Appendix 5.

Box 2: Interest Groups

The Interest Groups for the Pembrokeshire Marine SAC are as follows:

- Community
- Industry
- Commerce and Business
- Fisheries
- Nature Conservation/Environment
- Recreation
- Tourism
- Education
- Milford Harbour Users Association*
- Skomer Marine Nature Reserve Advisory Committee*
- Milford Haven Waterway Environmental Surveillance Group*

Although it was originally intended that members of these interest groups would meet individually to discuss relevant issues and then feed into the Liaison Forum via a representative, this has not always occurred as members, representatives, and the existence of other initiatives have changed. Most representatives however, if not actually representing an "SAC Interest Group" *are* involved in other relevant groups from which they draw knowledge and opinions. Currently only the Groups marked with an asterisk meet regularly; these existed as separate groups before the establishment of the Liaison Forum and continue to carry on their own work independently.

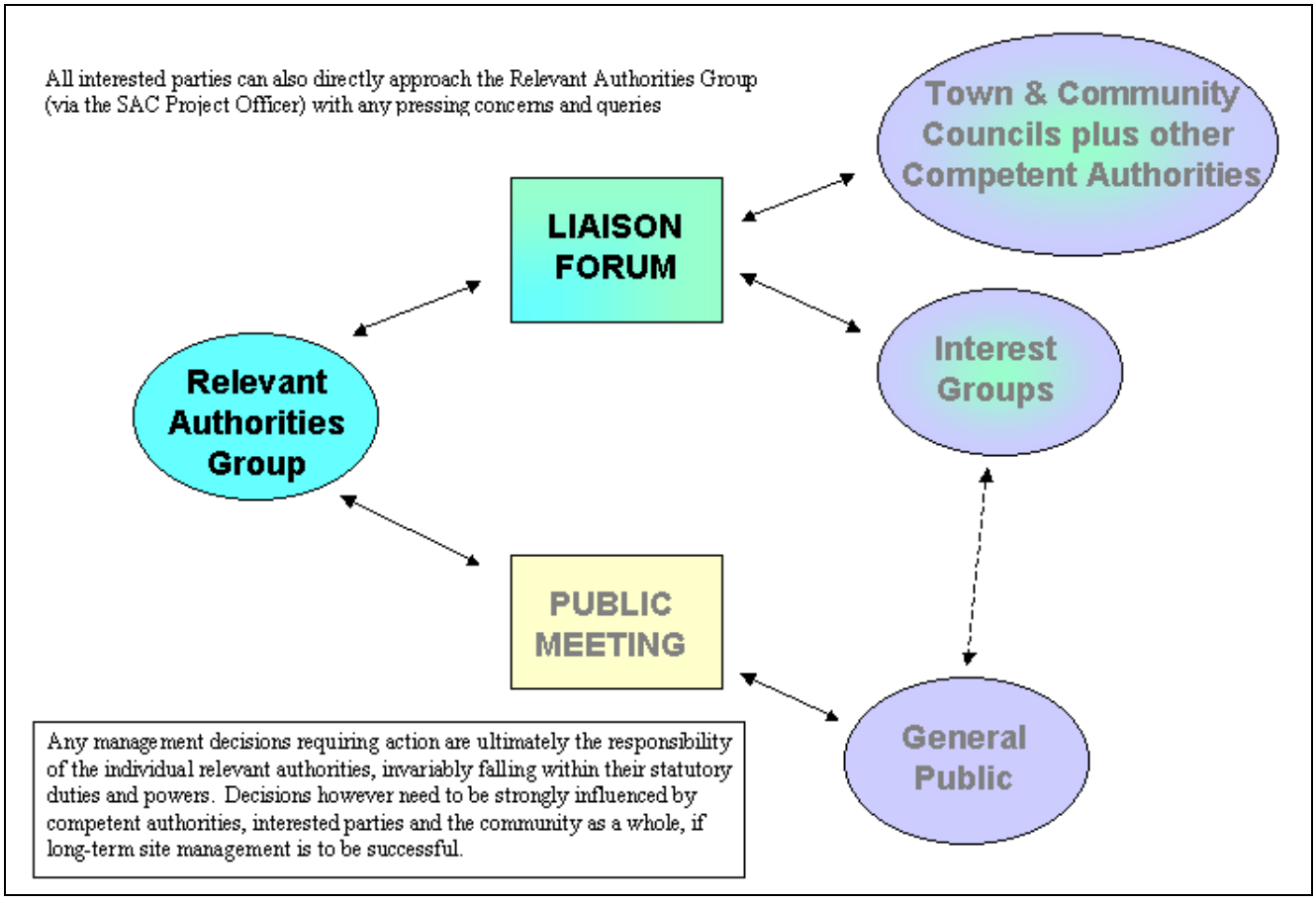
All "Interest Group" representatives on the Liaison Forum have considerable knowledge, experience and contacts within their interest area. All have also been involved in the work of the Pembrokeshire Coastal Forum (PCF) via Coastal Forum led 'Topic Groups'. The mutual involvement of key local experts in coastal/marine work ensures consistency and benefits for all involved.

The Liaison Forum has an important role in ensuring the relevant authorities address local issues. Members of the Liaison Forum advise the relevant authorities on local conditions and public opinion in relation to particular activities. Information supplied by this group (and others) and the knowledge they can bring to the management scheme is essential for its successful implementation. Figure 1 shows the management liaison structure for the site.

1.7.4 Other stakeholders

As can be seen from Figure 1, there is opportunity for the general public to become involved in site management through public meetings. Regular Marine and Coastal Surgeries are run which allow all stakeholders an opportunity to find out more about the SAC and how to contribute to its management. Marine and Coastal Surgeries are informal public "open days", based in the community (run for example from the local town or community hall) where local users of the SAC and members of the public are encouraged to call in for information on the site, voice opinions, and conduct one-to-one discussions on issues of concern. These surgeries are especially useful for those who do not welcome formal meetings, and they offer opportunities for joint working with other initiatives; many surgeries to date have been run in conjunction with the Pembrokeshire Coastal Forum.

Figure 1: Pembrokeshire Marine SAC Liaison Structure



1.7.5 SAC Officer

The SAC Officer is jointly funded by and works on behalf of the Relevant Authority Group. Main duties and responsibilities of the post are shown in Box 3.

Box 3: Main duties and responsibilities of the SAC Officer

Management Scheme

- Co-ordinate and facilitate with relevant authorities and all stakeholders, the continuing development and implementation of the management scheme for the Pembrokeshire Marine SAC.
- Progress actions contained in the management scheme. These will include:
    - Co-ordination and facilitation of actions arising from the management scheme which are the responsibility of several relevant authorities and require liaison between them and other stakeholders.
    - Co-ordination and facilitation of actions arising from the management scheme which are not the direct responsibility of any one relevant authority but require liaison between them and other interests.
    - Representing individual relevant authorities, where appropriate and agreed to do so.

Administration & Liaison

- Provide a secretariat for the Relevant Authorities Group including the production of written communications and organisation of meetings.
- Maintenance of the project's joint budget and production of a financial statement to the relevant authorities annually.
- Provide a point of contact between the Liaison Forum, relevant authorities, responsible managing organisations and other stakeholders, and organise and facilitate meetings as appropriate.
- Liaise with the Countryside Council for Wales to ensure appropriate consultation on changes to Regulation 33 advice and to ensure changes are disseminated to interested parties.
- Deal with general enquiries from the public, local organisations and relevant authorities and pass on to the correct relevant authorities for action.
- Liaise with other marine SACs and marine protected sites in order to exchange relevant information and promote best practice.

Reporting

- To review annually the action plan with the relevant authorities, Liaison Forum and others to take account of changing issues and management needs across the site as required by the UK Habitats Regulations. This will require considerable liaison between the parties involved and lead to the production of additional information to be contained in the management scheme. Production of an annual report to the members of the Relevant Authorities Group and the Liaison Forum will be required. This will include information on:
    - Each relevant authority's implementation of existing management measures to ensure compliance with the Habitats Regulations.
    - Progress made with the development of new management measures to address actions arising from the management scheme.
    - New issues developing across the site to be addressed in the forthcoming year.
    - Changes made to the Regulation 33 advice issued by the Countryside Council for Wales.
- To undertake a major review of the management scheme every 5 years.
- To ensure results of any relevant research within the site are disseminated as and when appropriate.

Publicity

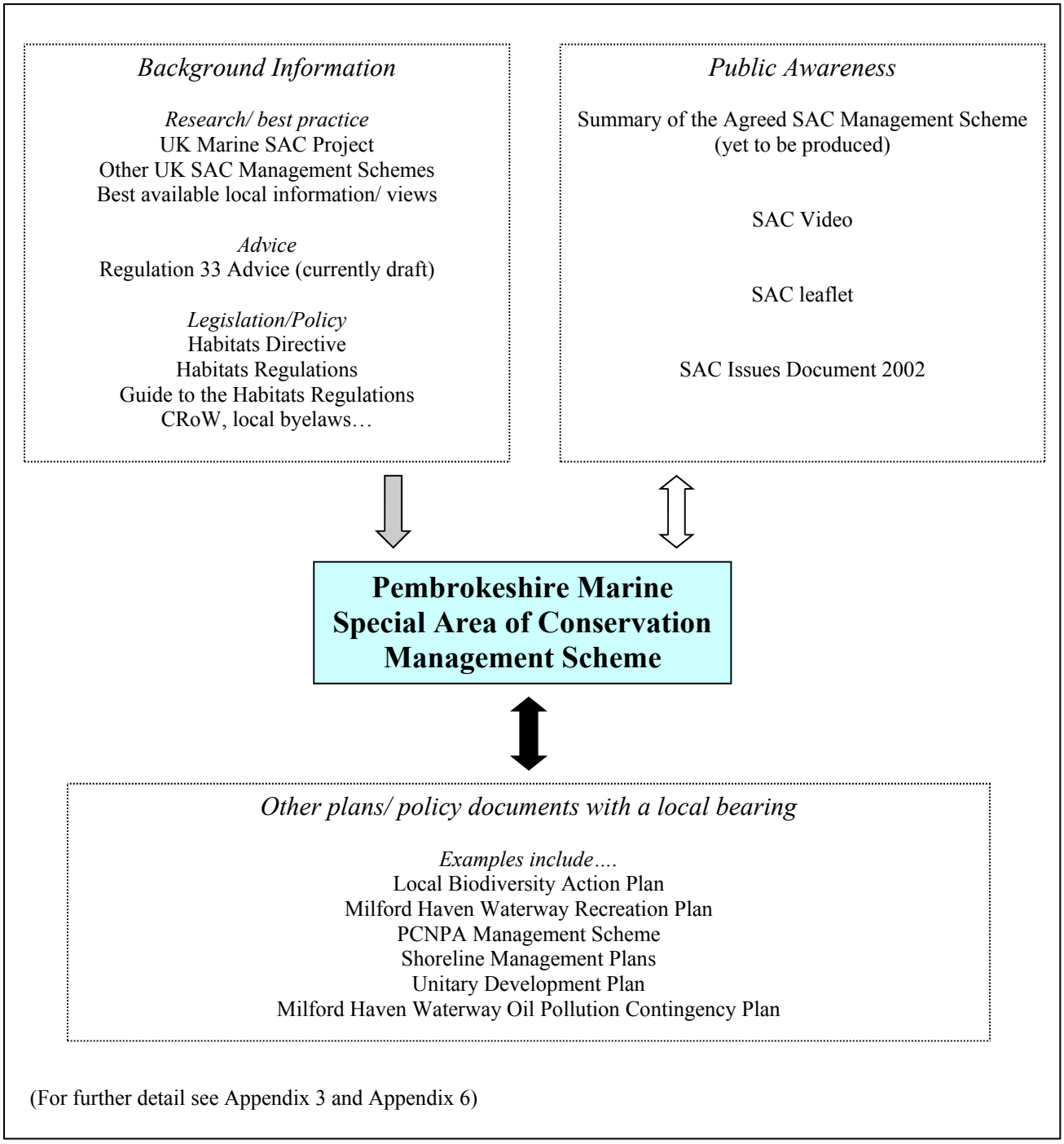
- Preparation of publicity products associated with the project including web site administration.
- General promotion and education work so as to:
    - Raise awareness of the environmental importance of the Pembrokeshire Marine SAC
    - Raise awareness of the management needs for the site
    - Encourage a sustainable approach to the use of the site's environmental resources

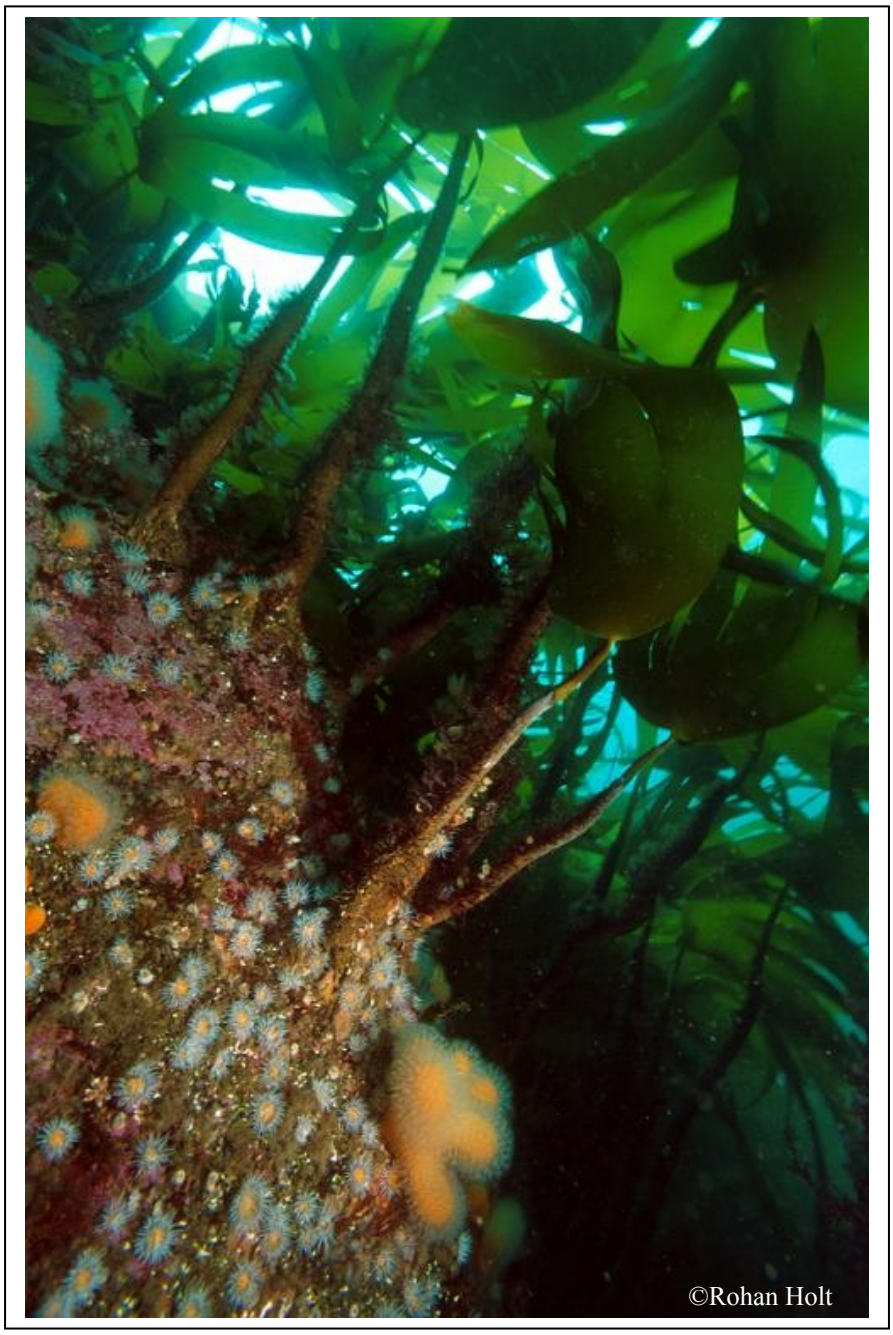
The long term role of the SAC Officer in the ongoing implementation of the management scheme is of critical importance.

1.7.6 Links to other documents

See Figure 2.

Figure 2: Pembrokeshire Marine SAC Management Scheme linkages





Kelp forest

2. SITE DESCRIPTION AND REASONS FOR RECOMMENDATION

2.1 Site boundaries

The Pembrokeshire Marine Special Area of Conservation (SAC) is the third largest marine SAC in the UK (138,069 ha). The SAC extends from just north of Abereiddy on the north Pembrokeshire coast to just east of Manorbier in the south and includes the coast of the islands of Ramsey, Skomer, Grassholm, Skokholm, the Bishops and Clerks and The Smalls. It also encompasses almost the entire Milford Haven Waterway. The landward boundary of the SAC mostly follows the extreme high water mark. For boundaries see MAP 1 in Section 2.5.

2.2 Reasons for recommendation

The Pembrokeshire Marine SAC has the second highest number of features (fifteen) of all the marine SACs in the UK. It has been selected for eight Habitats Directive Annex I habitat types and seven Annex II species. The site is considered to be one of the best areas in the UK for:

Reefs
Large shallow inlets and bays
Estuaries
Grey seal - *Halichoerus grypus*

and to support a significant presence of:

Coastal lagoons
Mudflats and sandflats not covered by seawater at low tide
Sandbanks which are slightly covered by seawater all the time
Submerged or partially submerged sea caves
Atlantic salt-meadow
Allis shad - *Alosa alosa*
Twaite shad - *Alosa fallax*
River lamprey - *Lampetra fluviatilis*
Sea lamprey - *Petromyzon marinus*
Otter - *Lutra lutra*
Shore dock - *Rumex rupestris*

The boundary of the site was determined to encompass the features for which the site was selected; it is not a representation of the precise extent of any one feature[9]. The features are distributed throughout the site; no one occupies the whole site and several overlap in places.

[9] "*As a general principle, site boundaries have been drawn closely around the qualifying habitat types or the habitats of species for which the sites have been selected, taking into account the need to ensure that the site operates as a functional whole for the conservation of the habitat type(s) or species and to maintain sensible management units.*" McLeod, CR, Yeo, M, Brown, AE, Burn, AJ, Hopkins, JJ, & Way, SF (eds.) (2002) The Habitats Directive: selection of Special Areas of Conservation in the UK. 2nd edn. Joint Nature Conservation Committee, Peterborough.

2.3 Introduction to the features

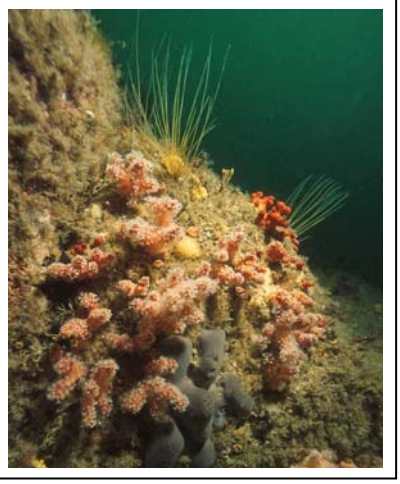
Much of this section has been taken from CCW's draft Regulation 33 Advice for the site (April 2005). Please see CCW's draft Regulation 33 Advice for additional detailed feature information.

2.3.1 Reefs

"Submarine, or exposed at low tide, rocky substrates and biogenic concretions, which arise from the sea floor in the sublittoral zone but may extend into the littoral zone where there is an uninterrupted zonation of plant and animal communities. These reefs generally support a zonation of benthic communities of algae and animals species including concretions, encrustations and corallogenic concretions. ... where an uninterrupted zonation of sublittoral and littoral communities exist, the integrity of ecological unit should be respected ..."[10]

Extensive areas of sublittoral rocky reef stretch offshore from the west Pembrokeshire coast, surrounding, between and westwards from the offshore islands and many small rocky islets. The exact distribution of reefs within the site is not yet known as current information is largely based on point data which does not provide an indication of the extent of a reef or where it begins or ends. Near-shore reef extends throughout the Milford Haven ria (one of the special and unusual characteristics of the Milford Haven ria is that it includes large amounts of rocky reef far upstream), together with both large, extensive and smaller discrete reef such as the Mid-channel and Chapel Rocks complex and Stack Rocks. Near-shore reef also extends into St Bride's Bay along the northern and southern shores, interspersed by small sediment embayments and inlets. Large, isolated reefs (e.g. the 'Handmarks') and islets are also distributed immediately offshore from both north and south coasts of the bay. Littoral reef comprises a high proportion of the linear extent of the coastline within the site, particularly the open coast but also within the Milford Haven waterway. Indicative distribution of *reefs* is shown in MAP 2 at Section 2.5.

Reef habitat overlaps significantly with the other habitat features, particularly *large shallow inlets and bays*.



Reef is a very broad habitat type. The huge variety of associated species is due to the extremely wide variation in structure, aspect, topography and exposure to an extreme range of hydrological gradients.

Included in the huge variety of species associated with *reefs* are populations that are rare, scarce, new to science, edge of range, particularly well developed or exceptionally good examples of their type, slow-growing, long-lived, possibly infrequently recruiting, structurally fragile, and species with very precise and / or infrequently occurring habitat requirements.

Soft corals and animal turf on reef habitat
(Photo:Rohan Holt)

Skomer Marine Nature Reserve has the best studied *reef* habitat within the site. Long-term monitoring sites are set up on both littoral and sublittoral rock. Steep sublittoral walls off the north coast of Skomer

[10] EU Interpretation Manual *ibid*

are covered with soft corals (*Alcyonium digitatum* and *A.glomeratum*), pink sea-fans *Eunicella verrucosa* (a biodiversity action plan species), and turfs of seamats, hydroids, sponges and anemones. Mobile species such as lobsters (*Homarus gammarus*), spiny starfish (*Marthasterias glacialis*), urchins (*Echinus esculentus*) and territorial wrasse are found here. On the south side of Skomer island, large silted boulders and rock plateaux display rich sponge communities and rarities such as the nationally scarce scarlet and gold star coral *Balanophyllia regia*.

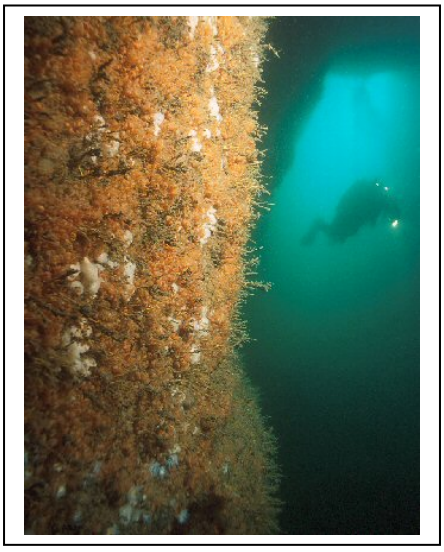
2.3.2 Caves

"Caves situated under the sea or opened to it, at least at high tide, including partially submerged sea caves. Their bottom and sides harbour communities of marine invertebrates and algae."[11]

Sea caves are distributed widely throughout much of the site in areas of suitable geological structure. The predominantly rocky coastline within the site is geologically complex, in both the range of rock types and the complexity of faulting and folding, and is highly predisposed to *sea cave* formation. Partially submerged, intertidal caves are widely distributed throughout the length of the rocky coast, with the largest known concentrations on St David's peninsula, Ramsey Island, Skomer Island and the Castlemartin coast. The distribution of submerged *sea caves* is poorly known; the few that have been documented have been the result of opportunistic discovery. Individual caves range in size from very small (little more than deep, enclosed overhangs) to extremely large; either very long (e.g. Ramsey Island, > 50 metres) or high and wide (e.g. South Pembrokeshire limestone). Indicative distribution of *sea caves* is shown in MAP 2 at Section 2.5.

Sea caves also make a significant contribution to the diversity of the *reefs* feature and are an essential part of *grey seal* habitat.

The range of species typical of *sea caves* is wide. A particular feature of *sea caves* is that they typically support species that are "out of place" because caves provide environmental conditions which differ from the conditions prevailing immediately outside the cave (e.g. sponges typical of deep water in intertidal caves; mud dwelling anemones in sediments on the floor of caves in exposed rocky areas). Species populations in sea caves include those typical of the substrate and hydrographic regime, species tolerant of scour and of extreme wave surge, and cryptic apparent cave specialist species, including *Palludinella littorina.* Variety of species is increased by the range of caves in different rock types; caves in limestone have high species variety in part because of the complex microtopography of the rock surface and the species which can bore into the rock.



Sea cave **(Photo: Rohan Holt)**

The caves of Ramsey Island are particularly notable. As an example, 'Little Howler' cave on the SE of Ynys Cantwr penetrates approximately 28m into the hard rock, branching into a Y-shape at its head where seals haul out. This partially submerged cave contains large numbers of the cup coral *Balanophyllia regia* on the bedrock floor and large growths of the sponges *Thymosia guernei, Pachymatisma johnstonia* and *Dercitus bucklandi* on the cave walls. [12]

[11] EU Interpretation Manual *ibid*

[12] Bunker F. StP.D & Holt, R H F 2003 Surveys of caves in Welsh Special Area of conservation. CCW marine monitoring report 6.

2.3.3 Large shallow inlets and bays

"Large indentations of the coast where, in contrast to estuaries, the influence of freshwater is generally limited. These shallow indentations are generally sheltered from wave action and contain a great diversity of sediments and substrates … Several physiographic types may be included under this category … embayments, fjards, rias and voes." [13]

The *large shallow inlets and bays* feature comprises the embayment of St Brides Bay, the marine inlet or ria of the Milford Haven Waterway and peripheral embayments including: Whitesands Bay; South Haven, Skomer; Gateholm – West Dale bays; Freshwater West. Indicative distribution of *inlets & bays* is shown in MAP 3 at Section 2.5.

Open coast *large shallow inlets and bays* encompass, in part, Annex I habitats *reefs, intertidal mud & sand-flats, sea-caves* and *subtidal sandbanks,* and contribute to supporting the presence of at least the Annex II species *grey seal* and *otter.*

St Brides Bay seabed generally slopes gradually westwards from the sediment flats at its eastern shore. Depth in the outer parts of the bay reaches 50 m. The Bay has a wide range of sediment types. The southern part of St Brides Bay, within the Skomer MNR, has been surveyed in the greatest detail. The extensive and very heterogeneous areas of stable mixed sediments here support a wide variety of species including long-lived macrofauna buried within and living on the sediment surface. Infauna consist of populations of long-lived and/or rare and scare species including molluscs (eg *Ensis, Arctica*); anthozoans (*eg Mesacmea, Peachia, Aureliania*), tube living polychaetes and echinoderms. Sediment epifauna includes a relatively isolated population of great scallop (*Pecten maximus*) and a wide variety of species characteristic of reefs living on and in stony material, molluscan shell debris and in association with species consolidating mobile substrates, *eg* Ross coral (*Pentapora folicea*).

Eelgrass (**Photo: Skomer MNR**)

Areas of particular interest within the *large shallow inlets and bays* feature include eelgrass and maerl beds. Eelgrass (*Zostera* spp.) is the only subtidal British marine flowering plant and is rare in Wales. The plants form very productive beds which stabilise mobile sediment and provide shelter for fish. Known subtidal beds within the SAC include North Haven, Skomer and Littlewick Bay within the Milford Haven waterway. Maerl is a calcareous red alga that interlocks to form a loose lattice structure which provides a useful microhabitat for other species. Maerl beds are present along the north side of the waterway.

[13] EU Interpretation Manual *ibid*

2.3.4 Subtidal sandbanks

"*Sublittoral sandbanks, permanently submerged. Water depth is seldom more than 20 m below chart datum. Non-vegetated sandbanks or sandbanks with vegetation*" [14]

The major known *subtidal sandbanks* (to date) include Bais Bank, Turbot Bank, sandbanks in the vicinity of Skokholm (Wild Goose Race & The Knoll), and sandbanks associated with Grassholm Island. There are also deeper sandbanks associated with the Bishops & Clerks, Hats & Barrels and St Govan's Shoals reefs and in NW and SW St Bride's Bay. Indicative distribution of *subtidal sandbanks* is shown in MAP 3 at Section 2.5.

Subtidal sandbanks is a habitat type that varies considerably throughout the site. Species diversity differs from bank to bank, as well as across each bank's structure, often in a characteristic 'top to bottom' manner. The inherent structure of sandbanks and their associated biota tend to be mobile, constantly modifying each sandbank's mosaic of communities. Species richness is higher in deeper, more heterogeneous sediments toward the lowest extremities of the banks, and in sandbanks extending from nearshore sediments in areas of lower water movement energy. Species richness is lowest in the dynamic well sorted sands in the upper parts of the banks and is dominated by species tolerant of the highly specialised habitat conditions. Sandbanks typically include a range of species which provide a rich food source for birds and fish.

Turbot Bank, SW of the entrance to the Milford Haven waterway, is roughly ovoid in shape and influenced by complex tidal stream patterns. Dunes, waves and ripples are important sandbank micro-niches which increase habitat and community diversity. The fine-medium sand here tends to show an increased species richness with depth, with possible seasonal variability.

Plaice
(Photo: Rohan Holt)

2.3.5 Estuaries

Estuaries: "Downstream part of a river valley, subject to the tide and extending from the limit of brackish waters. River estuaries are coastal inlets where, unlike 'large shallow inlets and bays' there is generally a substantial freshwater influence. The mixing of freshwater and sea water and the reduced current flows in the shelter of the estuary lead to deposition of fine sediments, often forming extensive intertidal sand and mud flats. Where the tidal currents are faster than flood tides, most sediments deposit to form a delta at the mouth of the estuary. An estuary forms an ecological unit with the surrounding terrestrial coastal habitat types. In terms of nature conservation, these different habitat types should not be separated, and this reality must be taken into account during the selection of sites." [15]

The Milford Haven waterway is a ria-estuary, an uncommon estuary type restricted in the UK to SW England & Wales. The Milford Haven waterway is the only example of its kind in Wales and the largest ria-estuary complex in the UK (c 170 km coastal length, 55 km^2 area - of which c.1710 ha (c 30%) is intertidal - c 34% UK resource of the estuary type). For the formal purpose of site designation, an arbitrary line is drawn within the waterway for the *estuary* feature boundary (see MAP 4, Section 2.5),

[14] EU Interpretation Manual *ibid*
[15] EU Interpretation Manual *ibid*

although there is no scientific justification for this and the whole waterway is treated as a single unit by CCW in the Regulation 33 advice for the site.

The *estuary* feature includes tributary estuaries that drain into the ria-estuary system: Eastern & Western Cleddau; Daugleddau (Picton Point to Cosheston -Barnlake Points); Garron Pill; Carew / Cresswell Rivers; Cosheston Pill; Pembroke River; The Gann; Sandy Haven Pill.

Estuaries encompass the Annex I habitats *Lagoons* and *Atlantic salt-meadow* and, in part, the Annex I habitats *intertidal mud & sand-flats,* and *reefs.* Also supported are the Annex II species *grey seals*, *otters* and *river* and *sea lampreys*.

In estuarine areas of fluctuating salinity, species variety is generally lower than that found within other parts of the Milford Haven waterway, but included are additional species tolerant of or with preference for reduced salinity. Species variety is increased by the presence of rocky and stony substrates, particularly in drainage channels. Wave sheltered rocky shores in the upper reaches of the waterway support a rich variety of algae, whilst tide-swept but wave sheltered sublittoral rock supports large aggregations of sponge, sea-squirts, anemones and sea mats.

Sponges (Photo: CCW)

A particularly good and representative *estuary* area is the Daugleddau estuary with its diverse shoreline and seabed mosaic of habitats. Dense swaths of the brown alga *Ascophyllum nodosum* are found on littoral rock, and waterfowl feed on polychaete worms and crustaceans from the sediment shoreline. Sublittorally, the cobbles found in the middle of the channel are dominated by crustacean and molluscs (including oysters and slipper limpets). Sublittoral bedrock and boulders are smothered in animal life including sponges and sea-squirts.

2.3.6 Intertidal mudflats and sandflats

"Sands and muds of the coasts of the oceans, their connected seas and associated lagoons, not covered by sea water at low tide, devoid of vascular plants, usually coated by blue algae and diatoms. They are of particular importance as feeding grounds for wildfowl and waders. … diverse intertidal communities of invertebrates and algae …. eelgrass communities that may be exposed for a few hours in the course of every tide … brackish water vegetation of permanent pools … Eelgrass communities are included in this habitat type." [16]

Intertidal mud & sand flats is a habitat type that varies considerably throughout the site, primarily according to local conditions of coastal topography, shore morphology, exposure to water movement, sediment processes and salinity regime. The resultant intertidal mudflats and sandflats characterise a range of different environmental conditions.

Intertidal mud & sand flats are distributed throughout *large shallow inlets and bays* and *estuaries* within the site. Sediment flats in open coast bays are both extensive and restricted to the mid to lower shore by rock features at the base of cliffs. Flats in more sheltered bays, inlets and estuaries range from 'pockets' of sediment restricted by coastal geomorphology to extensive mud flats fringing inlets and estuaries. Indicative distribution of *intertidal mud & sand flats* is shown in MAPS 3 and 5 at Section 2.5.

[16] EU Interpretation Manual *ibid*

Ragworm (**Photo: Rohan Holt**)

The Gann Flats are the most biologically diverse intertidal sediment site within the SAC, despite being used heavily for bait digging. This area of very mixed substrate supports a mosaic of distinct communities including sandy *Echinocardium cordatum* and muddy sand *Macoma balthica* communities. The muddy gravel *Venerupis senegalensis* community at the Gann is considered to the richest in south-west Wales.

2.3.7 Atlantic salt-meadow

"Salt meadows of Baltic, North Sea, English Channel and Atlantic shores" [17]

Tributary *estuaries* and *lagoons* within the Milford Haven waterway are characterised by extensive pioneer salt-marsh and *Atlantic salt-meadows*. Salt-meadow is also distributed discontinuously on upper shores throughout and flanking both sides of the central-lower waterway, and extending into the large shallow bays of Dale, Angle Bay and Sandy Haven. Precise distribution of small fringes and ribbons of *Atlantic salt-meadow* in the central waterway have not been surveyed. Rock cliff and reef, adjacent hinterland, drainange channels and main estuary channel form geomorphological constraints to the extent of salt-meadow. Indicative distribution of *Atlantic salt-meadow* is shown in MAP 5 at Section 2.5.

Communities, species and species assemblages of particular nature conservation importance, including nationally rare & scarce salt- meadow / salt-marsh transition species have been recorded within the SAC. Populations of notable salt-marsh species include: *Limonium humile, L. procerum, Salicornia pusilla, Althaea officinalis, Apium graveolens, Carex punctata, Hordeum secalinum,* and *Lathyrus palustris.*

Salt marsh flower (**Photo: Mark Burton**)

A particularly good area for *Atlantic salt-meadow* is within the Pembroke River.

[17] Interpretation Manual *ibid*

2.3.8 Lagoons

"… expanses of shallow coastal salt water, of varying salinity and water volume, wholly or partially separated from the sea by sandbanks or shingle, or, less frequently, by rocks. Salinity may vary from brackish water to hypersalinity depending on rainfall, evaporation and through the addition of fresh seawater from storms, temporary flooding of the sea in winter or tidal exchange. Salt-marshes form part of this complex." [18]

Three small *coastal lagoons* are located in the upper extremities of tributary *estuaries* in the upper, middle and lower Milford Haven Waterway: Pickleridge Lagoon on the Gann estuary (established as saline lagoon between 1950s and 1980s); Neyland Weir Pool at Westfield Pill (established as saline pool mid-1980s); and Carew Mill Pond on the Carew River (date of establishment as saline lagoon at least the early 1600s, history of flushing via sluices variable over time). All are semi-natural habitats created by naturalisation behind artificial impoundment structures. All three, but particularly Pickleridge and Neyland lagoons, are actively undergoing successional change. Carew Mill Pond is of historical significance; the Mill itself and tidal causeway are Listed Buildings, and the nearby Carew bridge, Castle green and walled garden comprise a Scheduled Ancient Monument. Distribution of *coastal lagoons* is shown in MAP 5 at Section 2.5.

Pickleridge Lagoon **(Photo: Blaise Bullimore)**

Pickleridge Lagoon (*c* 5.6 ha) has a maximum depth of 1.5 m. It has a boulder/cobble/shingle embankment with one end mostly open water and the other a series of drying sandy islets. It has possibly the largest population of lagoon cockle (*Cerastoderma glaucum*) in Wales

2.3.9 Grey Seals

Grey seals around the west Wales coast are the most southerly breeding population in Europe of one of the least common seal species. The seals utilising the area of the Pembrokeshire Marine SAC comprise the major proportion of an isolated breeding population, in which the breeding ecology differs from that of grey seals elsewhere. The West Wales population size, as determined by pup production estimates, is approximately 5000 individuals. This represents c.4% of the UK population and c.2% of the world population of *grey seals*.

Grey seals breed on undisturbed beaches of cobble and boulders, and on cobble beaches within sea-caves along the coast. Pupping time occurs primarily from August through to December with September generally being the busiest month. Pups tend to be born earlier on Ramsey than they are on Skomer. After three weeks the white coated pups have moulted and are ready to fend for themselves. Adult seals congregate in large numbers on beaches between December and February to moult.

[18] EU Interpretation Manual *ibid*

Grey seals can be found within the site throughout the year, particularly obvious at low tide when they can often be seen 'hauled out' on the rocks. The best places to see seals are the offshore islands, although they do venture within the Milford Haven waterway and have been seen feeding within the Daugleddau. Stack Fort is a popular haul out site. Indicative pupping distribution of *grey seals* is shown in MAP 6 at Section 2.5.

Grey seals are afforded some seasonal protection by the Conservation of Seals Act 1970 (as amended). They are a local Biodiversity Action Plan species.

Seals hauled out during moulting season (Photo: CCW)

2.3.10 Otters

Otter (Photo: CCW)

Distribution of spraint records and reported sightings indicates that otters (*Lutra lutra*) are frequent throughout the site, both on the open coast and within the Milford Haven waterway, particularly within the Daugleddau and Cleddau. Distribution is mostly associated with foreshore access via small river and stream valleys with sufficient scrub or tree cover and suitable feeding locations (rock-pools for fish with freshwater pools/streams for washing off salt) and access along the shore from access to egress points. There is sightings evidence that otters use both sea and foreshore to move between freshwater watercourses. A survey by Lyles (2003)[19] gives more detailed distribution information. A network of volunteers was established in 2004 to build upon the work of Lyles by studying the seasonal use of foreshore sites by otters. Indicative distribution of *otter* feeding locations is shown in MAP 6 at Section 2.5.

The otter is a local Biodiversity Action Plan species.

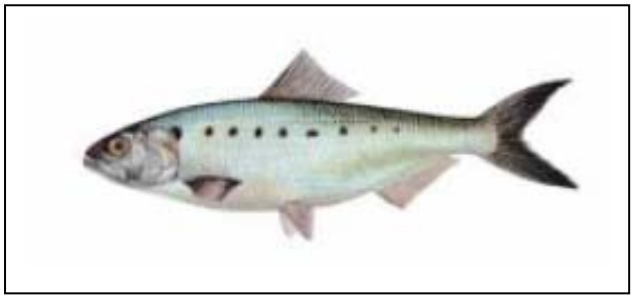
2.3.11 Shad (Allis and Twaite)

Shad are herring-like fish that spend most of their adult lives in the sea but spawn in rivers (or, occasionally, in the upper reaches of estuaries) and usually migrate through estuaries in spring months on their way to the spawning grounds. The simplest way to distinguish between the two species is by their size (Allis shad are usually 30-50cm, Twaite shad 25-40cm), the number of scales running along the lateral line, and number of gill rakers on the first gill arch.

There are few records of shad in the SAC. Both are considered to be nationally rare and vulnerable, the Allis shad (*Alosa alosa*) more so than the Twaite (*Alosa fallax*). Data is needed to confirm whether these

[19] Lyles, G. 2003. Otter (Lutra lutra) activity and habitat availability on the Pembrokeshire coast and Milford Haven waterway, within the Pembrokeshire Marine SAC. Report to Pembrokeshire Marine SAC Relevant Authorities Group.

species are indeed still present within the site, and whether they are breeding. Nationally the Environment Agency, Countryside Council for Wales and English Nature are involved in a joint work programme to identify key rivers and spawning sites for both species.



Both species are included in Section 9 (4) (a) of the Wildlife and Countryside Act (1981), (amended April 1998), which makes it an offence to intentionally obstruct access to spawning areas or to damage or destroy gravels used for spawning. The Twaite shad is also protected under Section 5 of the Wildlife and Countryside Act (1981). Both species are Priority Species in the UK Biodiversity Action Plan.

Shad

2.3.12 Lampreys (sea and river)

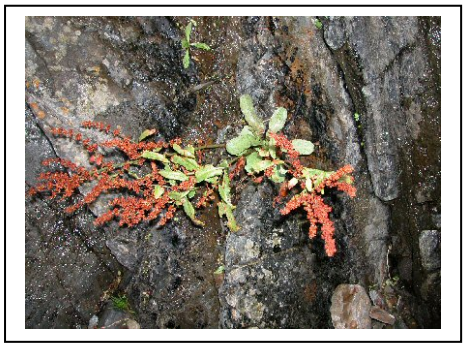
Lampreys are a primitive type of fish that have a distinctive suckered mouth rather than jaws, quite unlike any other fish in Britain. Eel-like lampreys parasitise other fish; by fastening on to the living fish, lampreys rasp into the flesh and feed on the body fluids. Sea (*Petromyzon marinus*) and river (*Lampetra fluviatilis*) lampreys spend their adult life in the sea or estuaries but spawn and spend the juvenile part of their life cycle in rivers.

Although there are few records of lampreys in the site, there are known populations within the Cleddau Rivers and the fish must therefore pass through both the open coast waters and the Milford Haven waterway to access the rivers systems.

Sea lamprey
(Photo: Annalisa Bianchessi)

2.3.13 Shore dock

Shore dock *Rumex rupestris* grows on rocky, sandy and raised beaches, shore platforms and the lower slopes of cliffs, and rarely in dune slacks. Plants can be found growing in isolation on the strand-line, through to tall-herb perennial communities at the base of flushed cliffs. However, it occurs only where a constant source of freshwater, running or static, is available. It is most commonly found growing by the side of streams entering beaches, on oozing soft-rock cliffs, and in rock clefts where flushing occurs.



Shore dock **(Photo: Stephen Evans)**

Shore dock is one of Europe's most threatened endemic vascular plants. The UK is the world stronghold for this species. It is currently known from about 40 locations in south-west Britain, of which very few (three known) are in Wales. It is locally extinct in former parts of its range. Colonies supporting 50-100 individuals are considered large, most (especially those on rocky shores) generally hold fewer than ten individuals. The total UK

population is estimated to comprise <650 plants [20]. Shore dock is known to occur in two locations within the SAC (see MAP 3 at Section 2.5).

2.4 Current condition of interest features

The assessment of current condition has been based upon existing knowledge of the site. Due to the huge costs associated with marine surveys, particularly subtidal work, there are gaps in current information on particular habitats and species. Where records exist, these may require updating; a considerable proportion of information is, and will always be, non-recent and therefore may no longer be correct. As further survey work is undertaken, these gaps will be filled and older work updated, with priority wherever feasible given to the most sensitive or threatened habitats. A summary of the current condition of features is provided by CCW in their draft Regulation 33 Advice for the site (see Section 4).

2.5 MAPS

MAP 1 – Pembrokeshire Marine Special Area of Conservation - boundary
MAP 2 – Indicative feature distribution: Reefs and Caves
MAP 3 – Indicative feature distribution: Inlets & bays, Sandbanks, Intertidal mud/sand-flats and Shore dock
MAP 4 – Indicative feature distribution: Estuary/ marine inlet (ria)
MAP 5 – Indicative feature distribution: Atlantic Salt-meadow, Lagoons and Intertidal mud/sand-flats within the Milford Haven Waterway
MAP 6 – Indicative feature distribution: Grey seals and Otters

[20] http://www.jncc.gov.uk/ProtectedSites/SACselection/species.asp?FeatureIntCode=S1441

Cyngor Cefn Gwlad Cymru
Countryside Council for Wales

Pembrokeshire Marine / Sir Benfro Forol

Map 1 / 1

Côd Safle y GE
EC Site Code UK0013116

Ardal Cadwraeth Arbennig (ACA)
Special Area of Conservation (SAC)

Arwynebedd cyfan **Total area**	138,069.45 ha	
Hydred **Longitude**	05° 36' 57"	Gorllewin **West**
Lledred **Latitude**	51° 43' 35"	Gogledd **North**

G/N

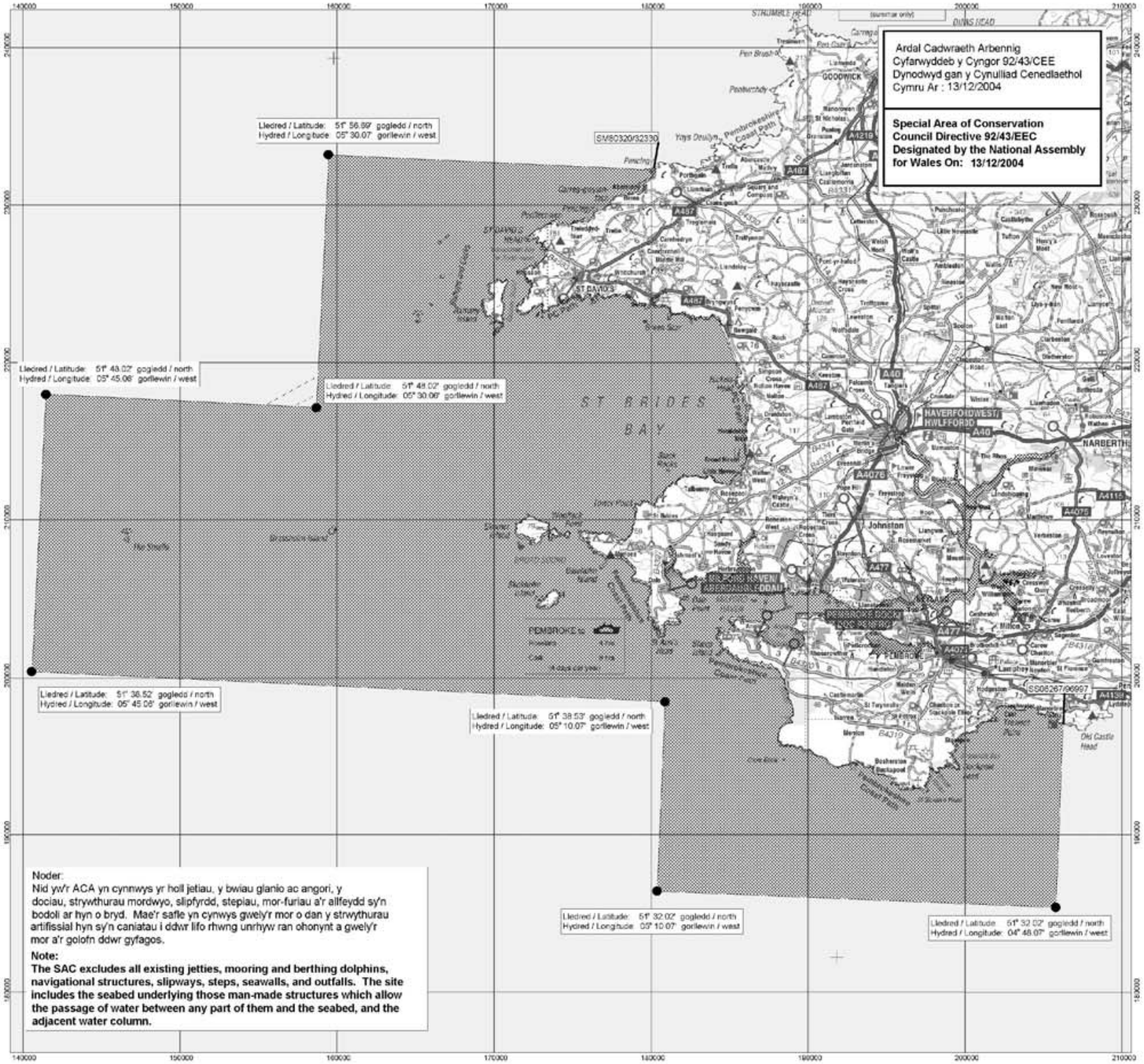
N.G. Mae'r ffigurau Lledred/Hydred i gyd wedi deillio o System Geodesig y Byd 84 (WGS 84)
N.B. All Latitude/Longitude figures have been derived from World Geodetic System 84 (WGS 84).

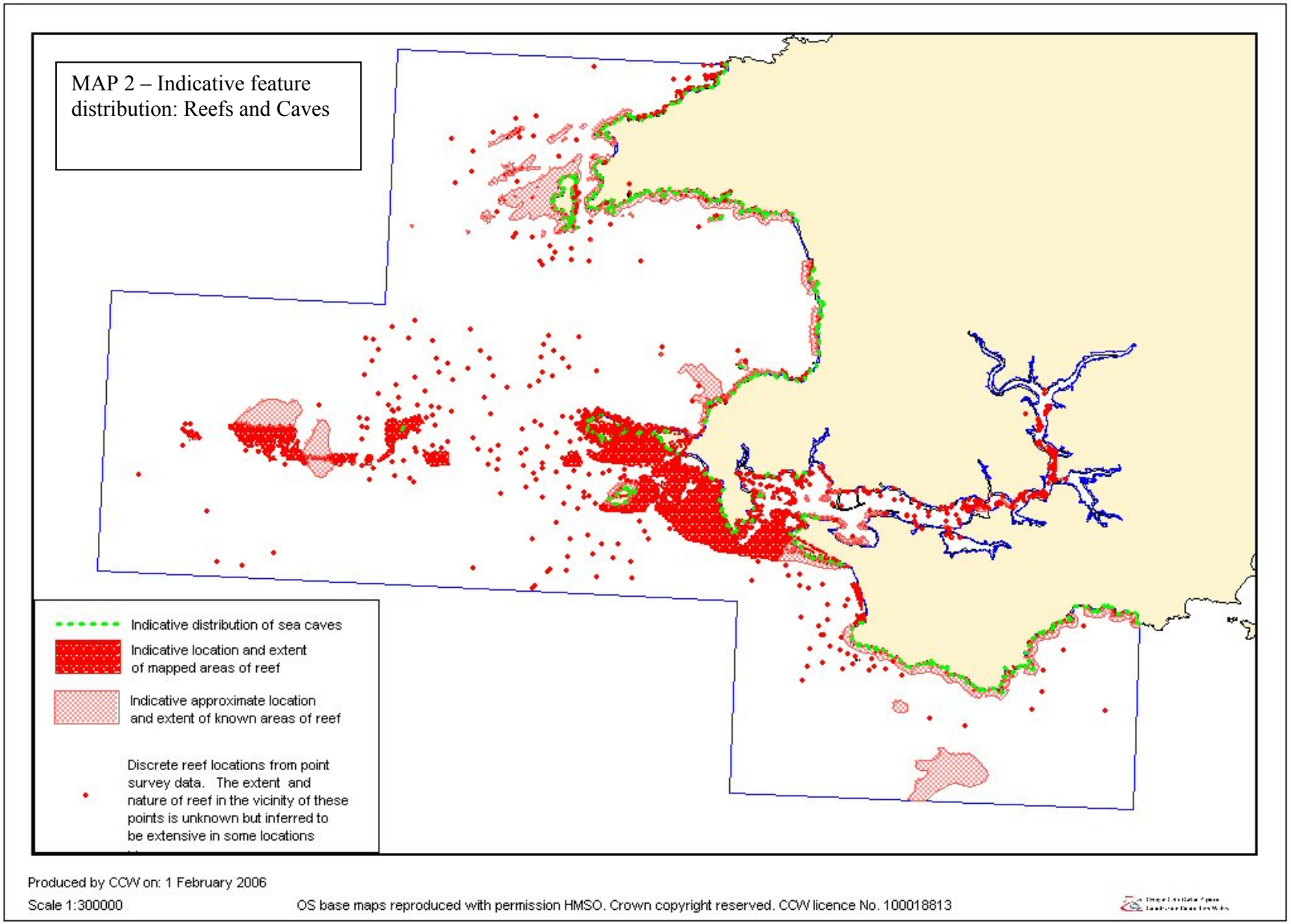
Tafluniad map: Y Grid Cenedlaethol Prydeinig
Projection: British National Grid

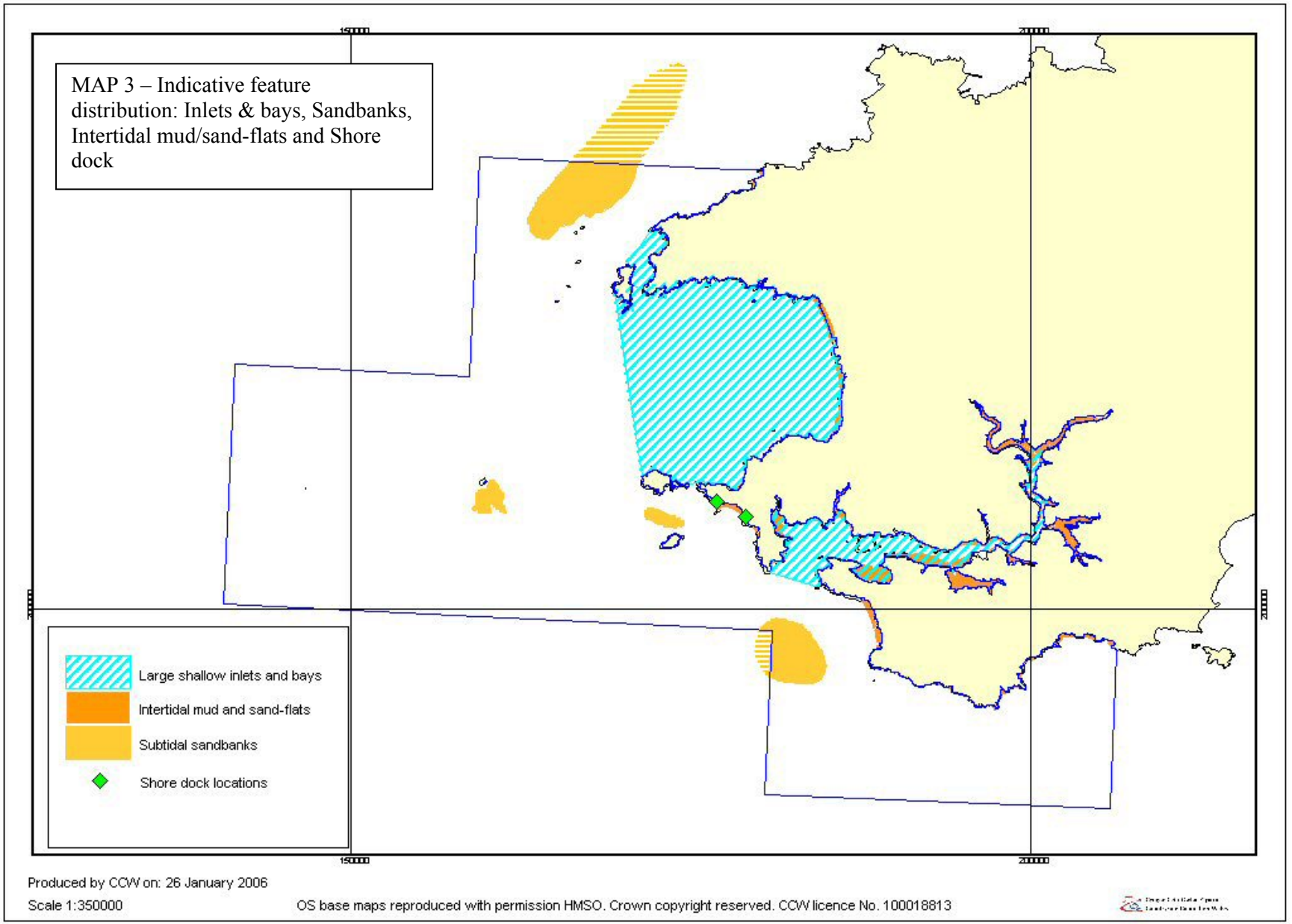
Rhif diweddaraf **Version number**	5	22/02/2005
Graddfa **Scale**	1 : 250,000	

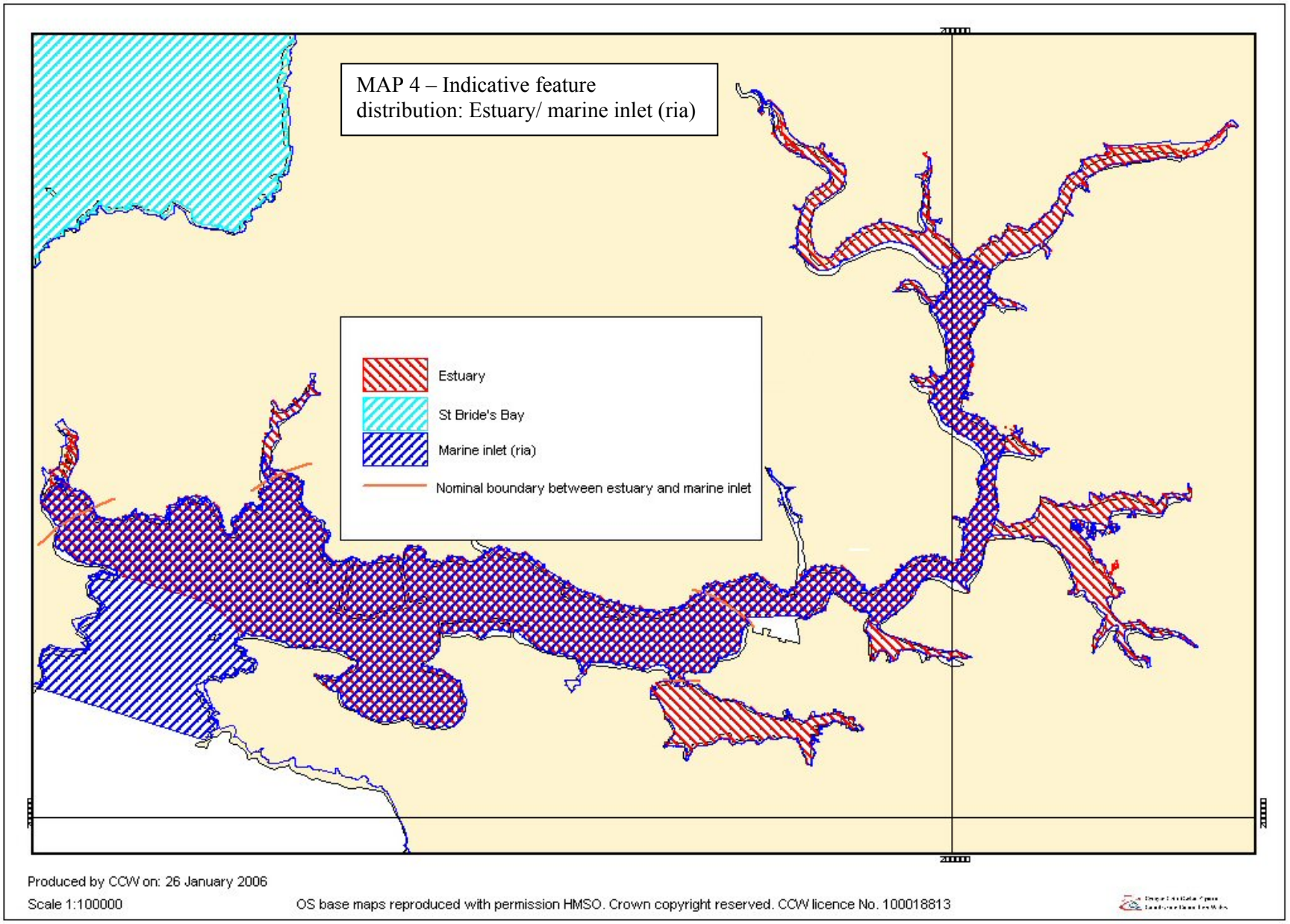
Noder: Arwynydd yn unig yw ffin yr ardal, ac nid yw ar raddfa. Mae mapiau graddfa-fawr swyddogol ar gael gan CCGC.
Note: This site boundary is indicative only and is not drawn to scale. A definitive large scale map is available on request from CCW.

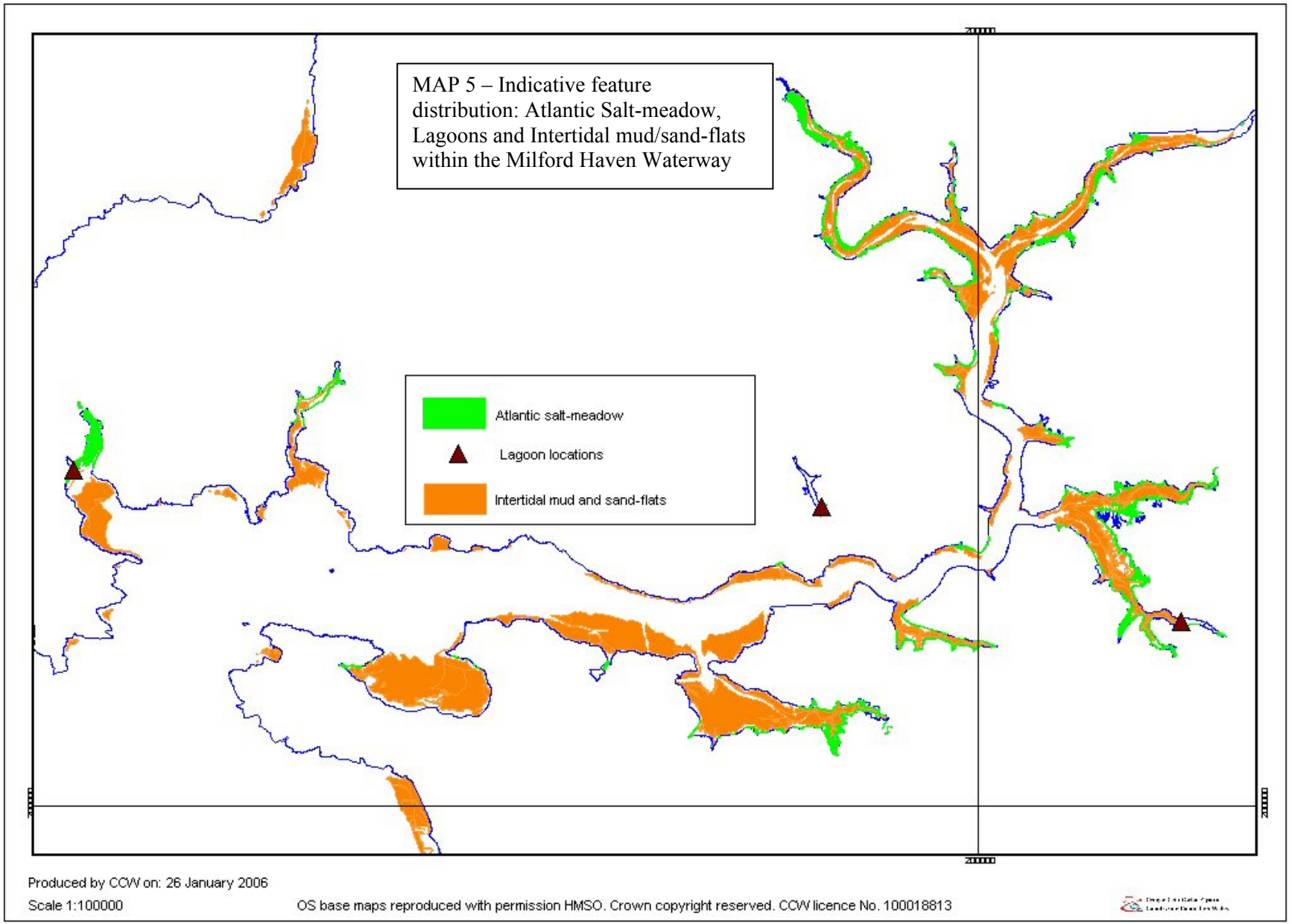
Noder: Gall ffin newid lle mae'n dilyn llinell Marc Penllanw Cymedrol a/neu linell Marc Distyll Cymedrol.
Note: Where the boundary follows the lines of Mean High and/or Mean Low Water Marks it is subject to change.

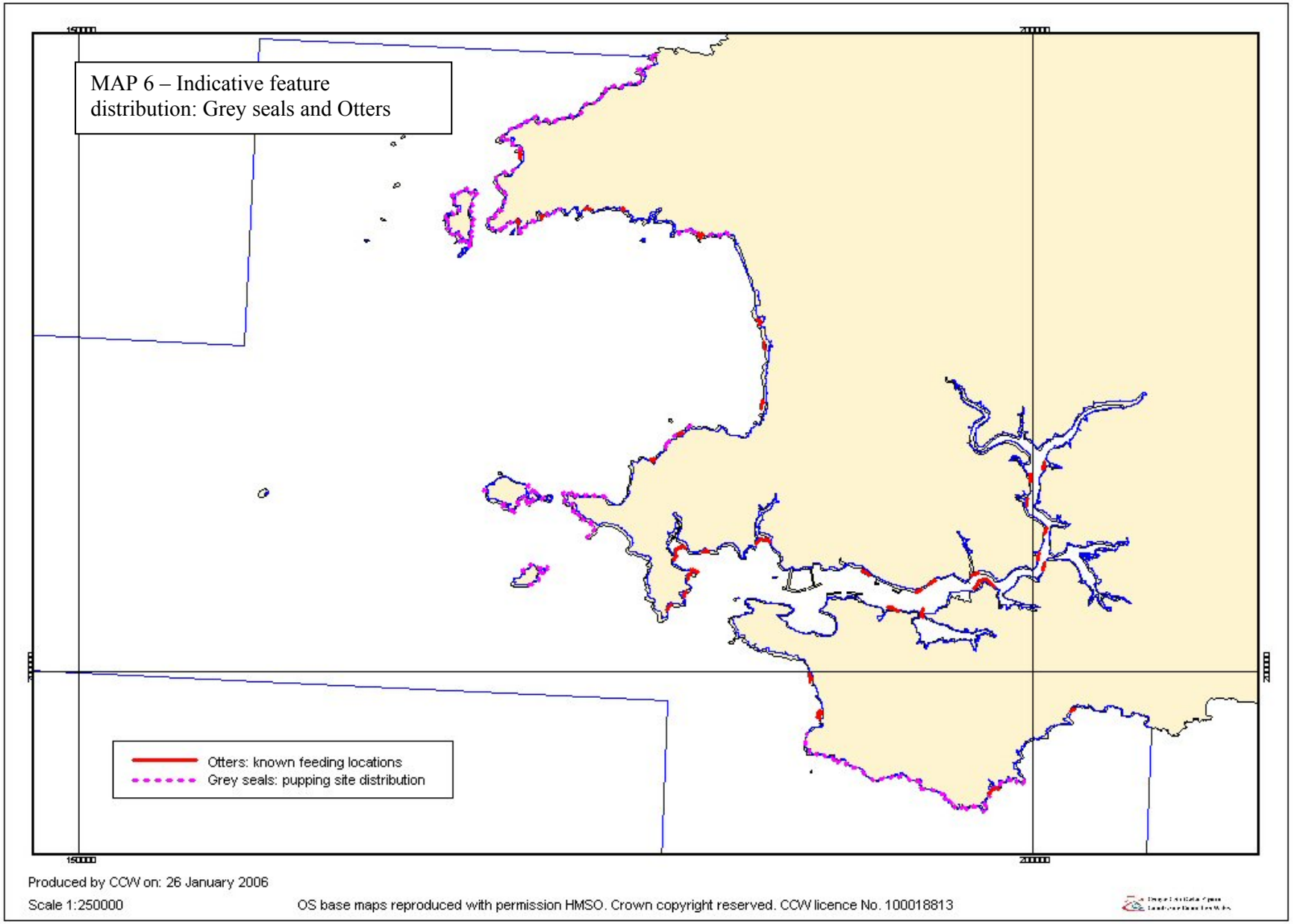


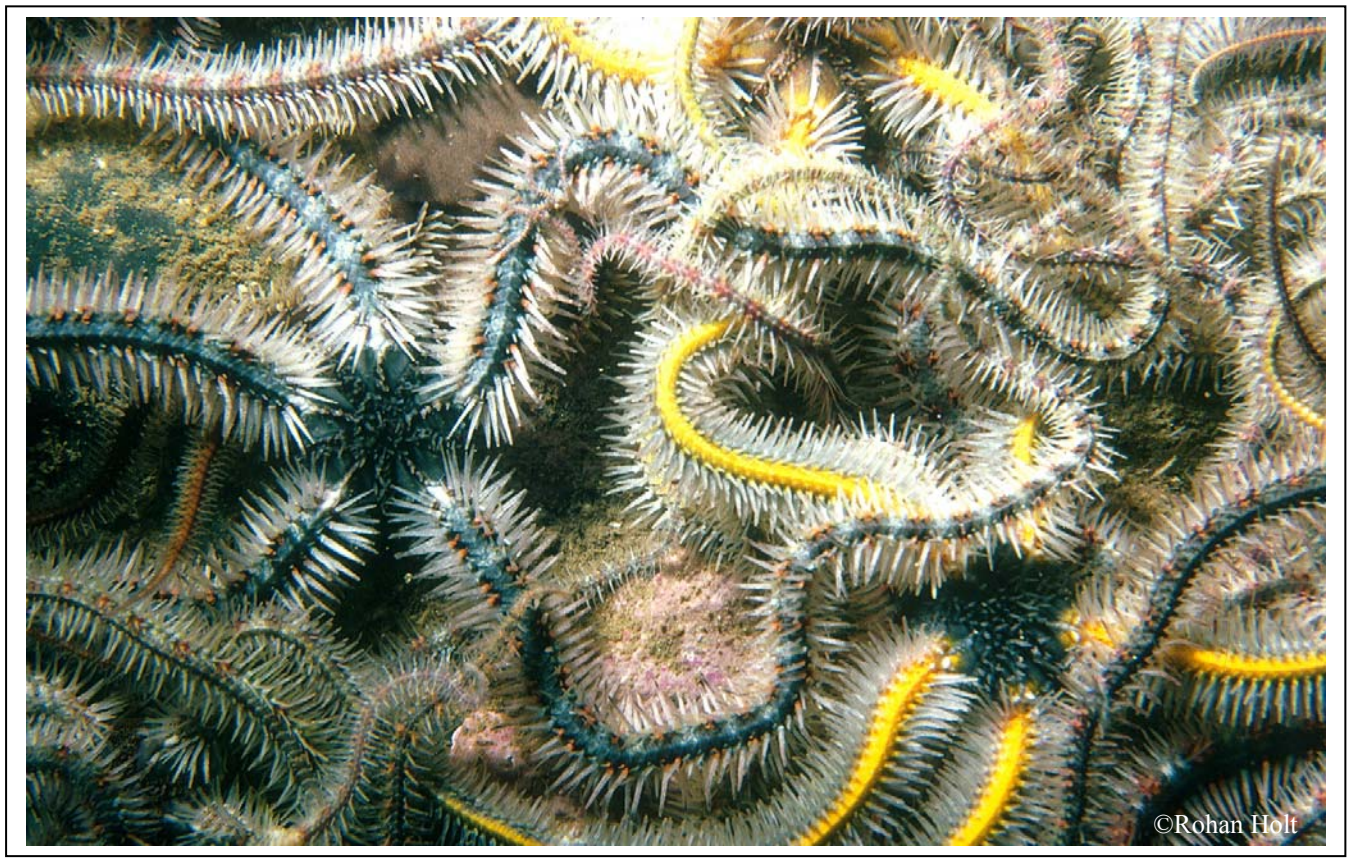

MAP 2 – Indicative feature distribution: Reefs and Caves
Indicative distribution of sea caves
Indicative location and extent of mapped areas of reef
Indicative approximate location and extent of known areas of reef
Discrete reef locations from point survey data. The extent and nature of reef in the vicinity of these points is unknown but inferred to be extensive in some locations
Produced by CCW on: 1 February 2006
Scale 1:300000
OS base maps reproduced with permission HMSO. Crown copyright reserved. CCW licence No. 100018813


MAP 3 – Indicative feature distribution: Inlets & bays, Sandbanks, Intertidal mud/sand-flats and Shore dock
Large shallow inlets and bays
Intertidal mud and sand-flats
Subtidal sandbanks
Shore dock locations
Produced by CCW on: 26 January 2006
Scale 1:350000
OS base maps reproduced with permission HMSO. Crown copyright reserved. CCW licence No. 100018813


MAP 4 – Indicative feature distribution: Estuary/ marine inlet (ria)
Estuary
St Bride's Bay
Marine inlet (ria)
Nominal boundary between estuary and marine inlet
Produced by CCW on: 26 January 2006
Scale 1:100000
OS base maps reproduced with permission HMSO. Crown copyright reserved. CCW licence No. 100018813


MAP 5 – Indicative feature distribution: Atlantic Salt-meadow, Lagoons and Intertidal mud/sand-flats within the Milford Haven Waterway
Atlantic salt-meadow
Lagoon locations
Intertidal mud and sand-flats
Produced by CCW on: 26 January 2006
Scale 1:100000
OS base maps reproduced with permission HMSO. Crown copyright reserved. CCW licence No. 100018813


MAP 6 – Indicative feature distribution: Grey seals and Otters
Otters: known feeding locations
Grey seals: pupping site distribution
Produced by CCW on: 26 January 2006
Scale 1:250000
OS base maps reproduced with permission HMSO. Crown copyright reserved. CCW licence No. 100018813



Brittlestars

3. HUMAN ACTIVITIES IN AND AROUND THE SAC

3.1 Introduction

The Pembrokeshire Marine Special Area of Conservation (SAC) is a resource vitally important to the local economy. The area has a long history of diverse human activity use. It is important that this wide range of activities continues to be accommodated within the overall management of the SAC whilst ensuring that the conservation objectives of the site are met.

Information on each current activity, including a brief description, the status of the activity within the SAC, some indication of its potential impacts, and current management is given in the document *Issues for the Pembrokeshire Marine Candidate Special Area of Conservation: draft for Consultation* (see Section 5.2.1). Additional sources of information are given, under relevant section headings, in Appendix 3.

The Countryside Council for Wales' Regulation 33b (draft) Advice (as to operations which may cause deterioration or disturbance to the features) lists the potential adverse effects of operations upon the SAC features and gives some advice as to the likely required actions to minimise such effects (see Section 4). This draft advice is being used to enable clear links to be made between activities, their operations and the resultant actions themselves.

The following Sections (3.2 – 3.6) briefly outline the range of activities currently identified as requiring further management for SAC feature conservation. Not all the activities occurring within the site are discussed within these sections, only those of most current concern for the SAC. It is important to note that although some activities may raise general concerns, if an activity is not currently seen to impact upon the SAC features, it is not addressed within the management scheme. Table 2 (see Section 5.3) shows those specific activities, based on current available information, known to be currently occurring within the site or likely to occur in the future that are considered to be potentially detrimental to the conservation interest of the site. Activities within the site, and their potential effects on the SAC features, will be regularly reviewed. As further information becomes available, the list of activities considered to be potentially detrimental is subject to change.

3.2 Ports, Harbours & Shipping

3.2.1 Introduction

Milford Haven is the biggest port in Wales and currently the fifth biggest port in the UK. The presence of 2 oil refineries (Chevron and Murco), 1 oil storage unit (SemLogistics), Milford Docks, and the Port of Pembroke with its ro-ro Irish Ferry, general cargo, and MoD activity all result in a considerable amount of shipping; almost 11,000 movements were recorded in 2006. The current development of 2 LNG (liquid natural gas) terminals (South Hook LNG and Dragon LNG), a possible biodiesel facility, and also potential power stations will increase shipping movements and usage of the port considerably.

The UK Government retains overall responsibility for meeting its commitments under the various international conventions and protocols that exist. Over the years, the IMO (International Maritime Organisation - a specialised agency of the United Nations) has adopted some 40 conventions and protocols and numerous codes and recommendations relating to, amongst others, safety and pollution prevention. The principal convention covering prevention of marine pollution by ships is the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 (MARPOL 73/78). All 6 Annexes to the Convention are now in force.

UK legislation concerning pollution from ships has now been consolidated in the Merchant Shipping Act 1995, and subsequently amended by the Merchant Shipping and Maritime Security Act 1997. The application of MARPOL requirements are made under the Merchant Shipping (Prevention of Oil Pollution) Order 1983, the Merchant Shipping (Prevention and Control of Pollution) Order 1987, and the Merchant Shipping (Prevention of Pollution by Garbage) Order 1988. Harbour development is controlled by the Harbours Act 1964 (as amended by the Transport and Works Act 1992), as well as local planning control. Also available to harbour authorities are Harbour Orders and byelaws. Powers are broad, but so too are a harbour authority's duties (including the common-law obligation to conserve and facilitate the safe use of the harbour).

Milford Haven Port Authority has a statutory duty to "maintain, improve, protect and regulate the navigation, and in particular the water facilities, in the Haven and to prevent or reduce the discharge of oil, or risk of discharge of oil, into the water from vessels in the Haven. The Authority complies fully with the requirements of the Port Marine Safety Code, i.e. has undertaken appropriate risk assessments and has implemented a Safety Management System for marine operations.

Whilst management within the Milford Haven waterway is at a very high level, there are areas that could be improved with regard to the marine environment and nature conservation, both within and outside the port authority's jurisdiction. Issues that are of most potential current concern in terms of the SAC features, and therefore considered to require the highest priority actions include:

- Capital and maintenance dredging – the removal of areas of seabed, particularly a *reef* feature (in the case of capital dredging), has obvious detrimental effects on SAC features. Physical disturbance including smothering, and potential adverse effects of resuspended pollutants can result from both capital and maintenance dredging. Although this operation is a 'plan or project' (see Section 3.7) and appropriate assessments would most likely be required, local management would benefit from a long-term dredging strategy in which an holistic approach can be fostered and any necessary dredging minimised. (See also dredge spoil disposal in Section 3.4)
- Shipping movements – with movements of very large vessels set to significantly increase, there is concern that the potential for collisions/groundings will also grow. On a lee shore, vulnerable from the action of prevailing winds, effects of a grounding could be immediate and damaging. Sensitive habitats and species (e.g. seals) can be affected by physical disturbance such as noise and vessel wash.
- Ballast water discharge – the discharge of ballast water is a concern for two reasons, one – that of suspended sediment contamination which could affect water quality, and two – introduced 'alien' species which can cause permanent disruption/displacement to indigenous marine species/communities.
- Port waste management - current port waste plans and reception facilities are in need of enhancement in order to meet the requirements of the SAC. Without adequate facilities, littering and pollution incidents are more likely to occur, with the effects of such substances as organometals, biocides and bleaches being particularly chronic to marine species such as molluscs and algae.

Other major activities of concern include the discharge from vessels of sewage, and refuse and litter (see Section 3.4), dredge spoil disposal (see Section 3.4), and maritime hydrocarbon pollution (see Section 3.4). The issues relating to recreational vessel use can be found in Section 3.5.

The ports, harbours and shipping related activities which follow below (in no order of priority) are considered to be those upon which management efforts should be most directed. Section 6 details all the actions currently considered necessary to meet or maintain the favourable conservation status of the SAC features.

3.2.2 Shipping movements

Description:
The movement of ships through the SAC is high; the port of Milford Haven is currently the fifth busiest in the UK. Shipping includes oil and gas tankers, general cargo tankers and passenger ferries. In addition, many ships using the Irish Sea pass by the SAC.

Current management:
A Safety Management System is in place within the jurisdiction of the Milford Haven Port Authority to control shipping movements. Outside port authority jurisdiction, the MCA have overall responsibility for shipping management locally. Traffic separation schemes and avoidance areas are in place which seek to control shipping movements. The area around the Pembrokeshire islands is designated a MEHRA (Marine Environmental High Risk Area), although this brings with it no new management provisions. Another designation is the Western European Waters PSSA (Potentially Sensitive Sea Area), which includes most of the SAC (it is hard to tell from the map whether the boundary is St David's or Strumble Head); this was designated in 2004. Existing PSSA management measures are of limited relevance to the SAC however. The MCA has undertaken to carry out an assessment of the ETV provision, and is developing an Environmental Strategy for Shipping operating under the UK Register or using UK waters. The new Vessel Traffic Management Directive (implemented in the UK by SI 2004/2110) is improving the regulatory framework.

Issue Rationale:
Potential effects include physical disturbance, particularly of sensitive habitats (sheltered, intertidal, shallow subtidal) and species (seals). Mammals can be affected primarily through noise and visual disturbance, and sensitive habitats by vessel wash. Sediment mobilisation can also occur, leading to increased turbidity which can result in smothering and low light levels. Associated with ship movements, is potential introduction of non-native 'alien' species. Non-native species can compete with local indigenous species causing knock-on ecological effects.

Shipping movements are currently considered to fall under the broad management response options F4, F5 and F7 (see Section 5.3 for further detail) depending on the location and type and speed of vessel. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F5 is where there is a known mechanism for the activity to have an effect, but evidence shows that it is not having a significant effect at present. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.3 A, 6.9 A, 6.10 A (see also 6.3 F)

3.2.3 Anchoring & mooring (commercial)

Description:
Anchoring of large commercial vessels is common in St Bride's Bay and allocated areas within the Haven. Some allocated inshore anchoring areas around the coast are also used. Some commercial vessel moorings are available within the Haven. It should be noted that navigation marks, pontoons, and MoD range targets are also moored to the seabed.

Current management:
Milford Haven Port Authority has designated anchoring and mooring areas within the port. Outside port authority jurisdiction, MCA are the responsible authority. The Crown Estate own the seabed in most areas, and any permanent structure (such as a mooring) placed upon it requires a lease; within the Haven, the Port Authority act as leasing agent.

Issue Rationale:
Potential effects include physical disturbance (abrasion, crushing and displacement) and knock-on biological effects. There are also general concerns over the use of St Bride's Bay as an anchoring area due to the potential for incident given the combination of mechanical failure and lee shore proximity.

Anchoring and mooring are currently considered to fall under the broad management response options F4 and F7 (see Section 5.3 for further detail) depending on the location. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.3 B, 6.9 A, 6.10 A

3.2.4 Capital & maintenance dredging

Description:
Capital dredging is sometimes needed to create development areas and open up suitable navigation channels for vessels. Maintenance dredging of shipping berths, marinas and navigation routes is needed regularly in order to prevent excessive build-up of sediments. Almost all dredging currently takes place within the Haven. Capital dredging has recently taken place in order to make safe the navigation channels for LNG vessels.

Current management:
A power to dredge is required. In the case of MHPA this is through an existing local Act of Parliament. Otherwise, authorisation can be obtained through a Harbour Revision Order (under the Harbours Act 1964), or for areas outside harbours, a Harbour Empowerment Order. Consent for dredge disposal is required from WAG/DfT prior to removal of substrate. The dredging operation itself is managed by MHPA (within the Haven) or others where acting as the harbour authority. Dredging is considered to be a 'plan or project' (see Section 3.7) and an *appropriate assessment* is needed where there may be a 'likely significant effect' upon the SAC features.

Issue Rationale:
Potential effects include loss of habitats/species and physical effects including visual, noise, abrasion, smothering and displacement with associated knock-on biological effects. Elevated suspended sediments (and possible contaminants) also affect benthic fauna.

Capital and maintenance dredging mainly fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive. This is because an authorisation/consent is required for the activity. An exception is plough dredging which requires no consent. This is classed as F4 or F7 depending on location and intensity.

Actions needed: See Sections 6.3 C, 6.10 A (see also 6.5 H)

3.2.5 Vessel & structure maintenance (includes toxic antifoulant use & introduced species)

Description:
Some degree of antifouling is necessary on vessels and structures which are submerged in seawater in order to discourage marine growth. The Haven due to its heavy flow of vessel traffic and other smaller harbours are areas at particular risk from contamination from antifoulants, as are waters adjacent to marinas and boat yards where boat maintenance is carried out.
The deposit of antifoulant into the sea resulting from the removal of paints from a vessel's hull or a submerged structure is one issue associated with maintenance. The other is the release of non-native

animals and plants into the sea resulting from their being scrubbed or scraped off a vessel's hull (though it should be noted that such species can be introduced simply by ship movements).

Current management:
Legislation includes the International Convention on the Control of Harmful Anti-fouling Systems on ships (and the associated EC Regulation No. 782/2003). Article 5 of this Convention states that "Taking into account international rules, standards and requirements, a Party (e.g. the UK) shall take appropriate measures in its territory to require that wastes from the application or removal of an anti-fouling system … are collected, handled, treated and disposed of in a safe and environmentally sound manner to protect human health and the environment."

Deposition of waste material into the sea generally requires a FEPA licence (from WAG).

Scraping non-native (introduced) species off ships' hulls, (for example bivalves or crustaceans), which resulted in releasing them into the wild in Great Britain would fall within the provisions of the Wildlife and Countryside Act 1981. Under Section 14(1) of this Act it is an offence to release or allow to escape into the wild any animal which:
a) is of a kind which is not ordinarily resident in and is not a regular visitor to Great Britain the wild state; or
b) is included in Schedule 9 Part I (this includes established invasive non-native species of birds and other animals).
Under Section 14(2) of the Act, it is an offence to plant or otherwise cause to grow in the wild any plant listed on Schedule 9 Part II (which includes some species of established invasive non-native plants, including some marine seaweeds). There is therefore a general prohibition on the introduction of all non-native animal species, but only for specified plant species.

Deliberately scraping non-native marine organisms off a ship's hull and effectively releasing them into the water is liable to constitute an offence under the Wildlife and Countryside Act 1981, especially if no measures were taken to prevent their release into the sea. Given that the licensing authority is unable to license an activity that contravenes other legislation and that it is illegal to make a deposit without a FEPA licence where there is an evident risk to the marine ecosystem, such activity would also be an offence under FEPA.

Issue Rationale:
Potential effects of antifoulant use include chemical contamination and increased likelihood of toxic bioaccumulation of species. By their very nature, toxic antifoulants are a risk to marine life, and if contamination occurs, this is not restricted to the surface on which the effect is intended. Toxic antifoulant use has been reduced in recent years (the issue is primarily due to widespread historical use of such compounds as TBT). Ironically this can lead to an increase in fouling on hulls (and sea chests) which may increase the chances of non-native species introduction. Non-native species can compete with local indigenous species causing knock-on ecological effects.

Vessel and structure maintenance (including toxic antifoulant use and introduced species) is currently considered to fall under the broad management response options F4 and F7 (see Section 5.3 for further detail) depending on activity location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.3 D, 6.9 A, 6.10 A (see also 6.3 E, 6.5 C+E)

3.2.6 Port waste management (port & harbour facilities)

Description:
Ports are responsible for providing adequate waste reception facilities – including for sewage, oil, chemicals and litter (see also Section 3.4 for more on bilge water discharge, sewage discharge and refuse and litter). The large number of commercial and recreational users within the Haven produce a lot of waste, and reception facilities ensure that best practice can be promoted.

Current management:
Milford Haven Port Waste Management Plan enacted under the Port Waste Reception Facilities Directive (implemented in the UK by SI 2003/1809) is an overarching plan for a number of facilities within the Haven, particularly the major oil terminals, Pembroke Port, Milford Docks, Port Authority Jetty, Ferry Terminal and the Moorings & Salvage depot for the Royal Navy. The plan is a statutory plan approved and audited by the Maritime & Coastguard Agency.

Issue Rationale:
Potential effects include reduction in water quality and chemical contamination, both of which can have impacts upon marine species and habitats.

Actions needed: See Sections 6.3 D+E, 6.5 C+E+G+I, 6.9 A+D, 6.10 A

3.2.7 Ballast water discharge

Description:
Ships require ballast in order to maintain their position in the water. The amount of water held as ballast is dependant on the amount and weight of cargo carried. Consequently ballast water often needs to be exchanged and loss to the surrounding environment occurs. Ballast water can carry marine species (often in planktonic form) from one area to another and thereby introduce non-native species. Contaminants may also be present (although segregated ballast minimises hydrocarbon contamination). The Haven is an area of particular concern due to the amount of shipping. Ships with little cargo will discharge ballast into the Haven on loading, whilst those ships bringing full cargos into the Haven will take on ballast as they leave.

Current management:
Legislation includes the International Convention for the Control & Management of Ship's Ballast Water and Sediments.

Issue Rationale:
Potential effects include contamination (see Section 3.2.5) and ecosystem effects to indigenous species and habitats.

Ballast water discharge is currently considered to fall under the broad management response options F4 (see Section 5.3 for further detail) depending on activity location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed: See Sections 6.3 F, 6.9 A, 6.10 A

3.3 Living Resources

3.3.1 Introduction

In this document, living resources are considered in three categories; fisheries, aquaculture, and other (which includes hand gathering, curio collection and saltmarsh grazing). The following text relates

primarily to commercial fishing; further detail on the other living resources can be found in Sections 3.3.8 to 3.3.11.

The Port of Milford Haven has been the centre of Pembrokeshire's fishing industry since the 17th Century. At its height in the early part of the 20th century, Milford Haven was home to Britain's fifth largest fishing fleet comprising 130 vessels; it has declined substantially since then. Pembrokeshire no longer has an indigenous high seas fishing fleet (the offshore fleet is mainly Spanish flagship, French and Belgian vessels). Pembrokeshire's inshore fleet are widely dispersed amongst small harbours and fish close to the shore (<6nm) for a wide range of species, including bass, crabs, lobster, and scallops21. The exposed open coast often restricts inshore fishing activity, as – to a lesser and more localised degree – does the Sea Danger Area off the South Pembrokeshire MoD Ranges. There are small voluntary seasonal closed areas within the Skomer Marine Nature Reserve.

The administration and management of sea fisheries is carried out in accordance with the current Common Fisheries Policy (CFP) of the EU, which came into effect in 1983 and has been subsequently amended especially in 2002. Under the CFP all EC States are entitled to fish for all descriptions of sea fish between 12 and 200 miles, subject to quotas and conservation measures. Between 6-12 miles certain other member states (locally France & Belgium) retain historical rights to exploit certain species. Waters out to 6 miles from the baseline may only be fished by vessels registered in the UK. The conduct of these vessels is governed by EC regulations. However member states are free to implement additional legislation in inshore (0 – 12nm) waters, provided these are consistent with, and not weaker than, the basic principles of the CFP. UK legislation can only be applied to UK registered vessels (and not any that are there exercising a historical right; only EC derived rules limit their activity).
The principle Act governing inshore fisheries is the Sea Fisheries Regulation Act 1966 (c.38) which defines the powers and responsibilities of the 12 Sea Fisheries Committees (SFCs) who are responsible for the management and conservation of principally shellfisheries within the 0 – 6nm band in England and Wales. Under the 1966 Act, SFCs may make byelaws regulating the fishing for or taking of sea fish and control any method of fishing within the Fisheries District.
Government may apply additional legislation under various fishery acts (mainly through Statutory Instrument or vessel licensing) to the fishing activity of UK vessels within the 0 - 12 nm zone.
For example the Sea Fish (Conservation) Act 1967 (as amended 1992) allows for the setting of minimum landing sizes for fish and shellfish, control of the use of different types of gear, and licensing of fishing vessels. In Wales management of fisheries within 12nm waters is devolved to the Welsh Assembly Government (WAG). Outside of SFC jurisdiction this is undertaken by the Marine and Fisheries Agency on behalf of WAG (from April 2008 the WAG will have assumed direct responsibility).
The Environment Agency also has fisheries management responsibilities (in general within rivers/estuaries and for diadromous fish species).
Pembrokeshire is within the South Wales Sea Fisheries Committee (SWSFC) district.

Current systems of UK and EU fisheries management will not ensure long-term sustainable commercial fish stocks without continuing reform. Changes were introduced to the CFP in 2002, with a move to a more ecosystem-based approach. Reform however will take some time to take effect and the success of the new measures will depend on their effective implementation and enforcement. The report from the Prime Minister's Strategy Unit *Net benefits: A Sustainable and Profitable Future for UK Fishing* (April, 2004) recommends that the overarching aim of fisheries management should be 'to maximise the return to the UK of the sustainable use of fisheries resources and protection of the marine environment'. The same report recognises that fishing has the largest single negative impact on the environmental sustainability of the marine environment and highlights the need to ensure marine biodiversity is preserved. Removal of target species, seabed disturbances, and effects of discards and mortality of non-

[21] For more information on fisheries activity see http://www.cefas.co.uk/Publications/techrep/tech140.pdf

target species also account for three out of the six impacts of greatest significance in the OSPAR North Sea Quality Status Report (2000). UK Government produced a joint follow up action report - "Securing the benefits" in 2005. DEFRA subsequently produced strategy documents "Fisheries 2027 – a long term vision for sustainable fisheries" and "Delivering Fisheries 2027 – towards an implementation plan" in 2007. The WAG launched its own consultation document "Welsh Fisheries Strategy" on 6th December 2007 providing a vision for the next 15 – 20 years; following this it is intended to produce an implementation plan which is annually reviewed.

Issues that are of most potential current concern in terms of the SAC features, and therefore considered to require the highest priority actions include:

- Seabed disturbance by dredging and trawling – trawling and dredging of the seabed can cause damage to SAC habitats. Of particular concern is activity in sheltered areas (the Haven), and hydraulic dredging in St Brides Bay.
- Lack of fisheries activity information – information is needed on fishing effort (location, type, extent, scale, frequency) to inform management; without it management has to be mainly broadscale and precautionary rather than more focused and realistic.
- Removal of non-target species – the amount of by-catch often depends upon the type of gear used. The removal of non-target species can be detrimental to the SAC features and lead to wider ecosystem effects.
- Commercial intertidal species collection – management of intertidal species collection is often inadequate for SAC feature protection. Effects upon the *intertidal mud and sandflats* feature include physical disturbance, loss of species and knock-on effects. Of particular concern is commercial (i.e. large-scale) collection for bait (worms, shellfish), and commercial collection for consumption (particularly shellfish such as winkles, cockles and mussels).
- Commercial collection for aquaculture purposes (e.g. collection and relaying of wild mussel seed).
- Unsustainable commercial resource exploitation – when species are unable to maintain their population size whilst being commercially exploited, the activity becomes unsustainable (the sustainability of commercial exploitation should encompass the wider consequence of the activity such as impacts on non-target species, impacts on stock, impacts on habitat etc…). This can therefore have ecosystem-wide repercussions, which will affect SAC features.
- Fishing gear loss/disposal - fishing related debris (much of which could originate from outside the SAC) forms a large part of the marine litter in Pembrokeshire and can result in species entanglement (seals and sea birds are particularly vulnerable). In addition lost gear including pots and nets can continue to fish ('ghost fishing'). See also Section 3.4.6

Other major activities of concern include the discharge from vessels of sewage and general refuse and litter (see Section 3.4), and maritime hydrocarbon pollution (see Section 3.4). The issues relating to recreation can be found in Section 3.5.

The living resources activities which follow below (in no order of priority) are considered to be those upon which management efforts should be most directed. Section 6 details all the actions currently considered necessary to meet or maintain the favourable conservation status of the SAC features.

3.3.2 Fisheries dredging and trawling

Description:

Both toothed/blade dredging (mainly for oysters and scallops), and hydraulic dredging occur within the SAC. Oyster dredging occurs mainly in the subtidal areas of mixed sediment within the Haven; it is generally small scale and seasonal. Scallop dredging takes place occasionally both inside and outside the Haven in suitable areas. Hydraulic dredging for razorfish (*Ensis* spp.) is focused on the low shore and subtidally in sandy sediment areas; it has been known to take place occasionally in St Brides Bay.

Some demersal (seabed) trawling occurs within the site, although the extent and location is largely unknown. This is done by mainly Swansea and North Devon based vessels; the large European Beam trawl vessels are obligated to fish beyond 6nm (outside the SAC).

Current management:
SWSFC byelaws/authorisations (and also general code of practice) apply, in particular:
For hydraulic dredging, SWSFC authorisation is currently limited to deeper than 10m below chart datum with technical measures.
Byelaw 27 prohibits the use of any fishing dredge or beam trawl within the Skomer Marine Nature Reserve. The taking of scallop (*Pecten maximus*) by any means is banned from the Skomer MNR (Byelaw 28). National Statutory Instrument SI 1717 (2005) limits the use of scallop dredges in Wales and applies a 1 June to 31 October annual closed season.
Byelaw 25 requires written authority to dredge upstream of the Cleddau Bridge.

Byelaw 26 prohibits use of trawls within the inner part of the Haven. Byelaw 39 limits beam trawls to those < 4m aggregate length throughout the district.

For any fishing activity within the Haven, approval on navigational and safety criteria is required from MHPA. National measures (enforced by the M&FA, in addition to SWSFC, on behalf of WAG) and EU size restrictions (e.g. on minimum fish size) also apply.

Issue Rationale:
Oyster dredging: The native oyster, *Ostrea edulis*, is part of the estuary feature for the SAC, and is also a priority Biodiversity Action Plan species at a UK level. Milford Haven is host to one of only three surviving significant oyster beds in Wales. There is no doubt that the Haven's native oyster population is recognised to be in need of recovery (the population size is greatly reduced compared with historical levels; consequently historic records show a huge reduction in catch). Draft conservation objectives for the SAC seek recovery of stocks in need of it. The large scale removal of a single species can shift overall species composition towards opportunistic species and lead to further ecosystem effects which would affect the SAC *estuary* feature. The situation is not helped by the presence of the slipper limpet, *Crepidula fornicata*, a non-indigenous species first introduced to the UK between 1897 and 1890 with imported American oysters, or the recently discovered *Bonamia* parasite, neither of which contribute to the continued well-being of the oyster population.

Fishing for oysters, as well as removing the target species, also damages juvenile oysters, and damages the seabed *estuary* habitat. Dredging can smother adjacent beds including areas recently dredged. Although not the primary target areas, oyster dredging within the Haven can affect discrete or nearby areas of *reef* habitat, which are in themselves particularly species rich and unique. Deep sublittoral reefs in an estuarine environment are uncommon in the UK. Management measures that limited oyster dredging within the Haven could aid oyster species recovery and minimise damage to oyster habitat and adjacent reef species.

Dredging (general including for scallop) and demersal trawling: Trawling was perceived to be the joint 4th priority issue for the SAC, based on feedback on the SAC *Issues document* (2002). In point of fact, very few trawlers now fish the Pembrokeshire SAC area; historically numbers were much higher. Evidence as to the damaging effects of these activities on the seabed is well documented in the scientific literature. Physical disturbance of the seabed in this way is more of an issue for *reefs*, with their delicate and long-lived species, and sheltered environments such as *shallow inlets* and *estuaries* with their sensitive species, than for exposed sediment areas such as *sandbanks* which are naturally accustomed to more dynamic change. Removal of typical species (targeted and by-catch) can however lead to ecosystem effects for all substrate types; this is the issue for the SAC feature *sandbanks*. Restoration

targets for some typical species are set in the draft conservation objectives. The draft conservation objectives, in line with EU guidance, seek no further deterioration of site features. Accordingly, any increase in activity levels or changes in distribution are seen to result in deterioration of the site features where they coincide. Management measures should be considered to minimise coincidence of dredging or demersal trawling over the SAC features *reefs*, *shallow inlets and bays*, *estuaries* and *sandbanks*. Preventative measures should be considered for particularly sensitive species/areas where recoverability in the event of dredging/trawling is unlikely or extremely slow. Immediate action is needed to protect existing sensitive sublittoral maerl and seagrass (*Zostera*) beds within the Haven.

There is an ongoing debate on whether fisheries dredging should be considered to mainly fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive. This is because, in the main areas exploited, an authorisation/consent is required to dredge shellfish from the SWSFC under a discretionary restrictive byelaw, whilst the commercial fishing vessels can only legally fish under an authority which is given by Government (a higher authority) without such restriction (a fishing vessel license is required from WAG, however WAG do not currently treat this authorisation as a plan or project).
Commercial trawling operates similarly, but without there being a SWSFC byelaw for most areas. In this case, the activity is currently considered to mainly fall under the broad management response option F4 (see Section 5.3 for further detail) where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed:
See Sections 6.4 C+D, 6.9 A+B, 6.10 B (see also 6.3 D, 6.5 E+G+I)

3.3.3 Potting

Description:
Potting, using mainly parlour pots, for crustaceans such as crabs and lobsters is the dominant inshore fishing activity within the SAC. Potting occurs commonly throughout the site in areas of reef wherever conditions allow. Potting effort is variable, depending on location. Whereas it has reduced offshore since the inception of the SAC, it has increased in the Skomer MNR (MNR data shows a localised 3 fold increase from 2001 to 2007) and probably some other inshore areas. This is probably a result of fewer vessels but an increase in pot numbers set per vessel (source: SWSFC annual statistics).

Current management:
The main regulations relate to the minimum sizes of species, which apply to all persons regardless of capture method, set under EU, national, and SWSFC legislation. SWSFC Byelaw 5 makes it illegal to remove female (v-tail notched) lobsters. The voluntary v-notching programme has been augmented by two EU grant aid schemes and aims to boost the spawning stock.

Issue Rationale:
There is only a limited amount of information available about the impacts of pot fisheries on reef habitats, communities and species. Studies that have been undertaken show that some species, such as Ross coral *Pentapora foliacea*, can be sensitive to damage by potting. The effects of continuous and large-scale depletion of target species through potting are largely unknown, but may also lead to wider ecosystem effects on the *reef* feature. Other effects may include removal of non-target species and the effects of littering/'ghost fishing'.

Potting is currently considered to mainly fall under the broad management response option F4 (see Section 5.3 for further detail) where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed: See Sections 6.4 C+E, 6.9 A+B, 6.10 B (see also 6.3 D, 6.5 E+G+I)

3.3.4 Netting

Description:
Netting for both fin fish and shellfish species is known to be widespread and common throughout the SAC, but information is needed in order to better describe its extent. Fixed nets (gill, tangle and trammel) are usually bottom-set for example around reef areas, targeting finfish such as herring and bass, bottom dwelling fish such as ray, flatfish, cod and pollack, and also crustaceans. Drift nets (those that are not fixed or anchored in some way) are also used in the SAC. Beach seines (encircling nets) are used in inshore waters to target sand eel under special (small mesh) permit from the SWSFC. A traditional compass net fishery also exists within the Daugleddau although license numbers have now reduced to only 4.

Current management:
SWSFC byelaws/authorisations (and also general code of practice) apply, in particular:
Byelaw 26 prohibits use of Danish (Anchor) seine or Fly dragging seine nets within the Haven.
Byelaw 30 restricts use of fixed nets within the district.
Byelaw 31 prohibits use of drift nets within the district, but notably the Haven upstream of the Cleddau Bridge.
Byelaws 32, 33 and 34 set very stringent general gear and operational limitations for nets.
Byelaw 37 sets limitations on the use of beach drag and beach seine nets.

The EAW administers the Cleddau Net Limitation Order for compass nets.

For any fishing activity within the Haven, approval on navigational and safety criteria is required from MHPA. National measures (enforced by the M&FA, in addition to SWSFC, on behalf of WAG) and EU size restrictions also apply.

Issue Rationale:
The removal of target and non-target species, as well as being issues in themselves as the species often form part of the SAC features, may also lead to wider ecosystem effects. Other effects may include disturbance/ damage (possibly leading to death) of seals and potentially otters due to entanglement, physical disturbance to vulnerable *reef* species through abrasion and entanglement, and the general effects, particularly on seals and the *reef* feature, of littering/'ghost fishing' by nets.

Netting is currently considered to mainly fall under the broad management response option F4 (see Section 5.3 for further detail) where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed:
See Sections 6.4 C+E, 6.9 A+B, 6.10 B (see also 6.3 D, 6.5 E+G+I)

3.3.5 Commercial rod & handline fishing

Description:
Commercial rod and handline fishing for bass and salmonids occurs occasionally within the SAC, primarily within the Haven and on Turbot Bank.

Current management:
SWSFC byelaws/authorisations (and also general code of practice) apply, in particular:
Byelaw 29 restricts fishing from designated bass nursery areas.
EAW licence/byelaws apply to freshwater and some migratory fish.

Codes of practice produced by PCNPA, CCW, EAW and Keep Wales Tidy (Tidy Tackle Campaign) aim to reduce the effects of fishing litter. There are some NT byelaws in operation in certain areas and national/EU size restrictions apply.

Issue Rationale:
Potential effects (primarily on the SAC features *reefs* and *sandbanks*) include the removal of target and non-target species and knock-on ecosystem effects. There are also indirect impacts from lost / discarded gear.

Commercial rod and handline fishing is currently considered to fall under the broad management response options F4 (see Section 5.3 for further detail) where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect, or F7 where there is evidence to suggest that an activity is having an adverse effect (in this case mainly due to the indirect impacts) and the mechanism is known. Whether the activity is classed as F4 or F7 depends on activity location and intensity.

Actions needed:
See Section 6.4 C+F, 6.6 B, 6.9 A+B, 6.10 B (vessel users see also 6.3 D, 6.5 E+G+I)

3.3.6 Commercial bait collection

Description:
Bait collection for commercial use is dominated within the SAC by manual digging for rag and lug worm. This is widespread and common within the site, with particular hotspots at the Gann near Dale, and at Angle. Other forms of bait collection do occur in the SAC such as boulder turning for shore crab (peelers), the placement of crab shelters (e.g. using tyres, tiles or guttering/piping to attract moulting crabs), bait pumping, bait salting (generally used for razorfish) and hand picking. The extent of commercial as opposed to recreational activity is currently uncertain (note that recreational bait collection is dealt with separately under Section 3.5 Recreation).

Current management:
The public right to collect bait is generally interpreted to be ancillary to the public right to fish, but it is limited to personal use only. This activity is not directly regulated by present legislation, although it may be regulated indirectly by a variety of local authority, public health, nature conservation, fisheries and harbour authority byelaws. There are no other general public rights over the foreshore; the owner/occupiers permission must first be gained. Nevertheless, the public may pass across it if there is a lawfully established right of way over the foreshore. Vehicle use on the foreshore is illegal unless authorised by the land owner (Section 34 Road Traffic Act 1988). The foreshore itself is generally owned by The Crown Estate and leased to PCC and PCNPA (in some areas within their jurisdictions).

Size restrictions apply for sea fish (including shellfish) as per national (WAG) measures and local (SWSFC) byelaws. Many of the sea angling codes of conduct also cover the collection of bait.

Issue Rationale:
Of most concern within the SAC are the impacts of large-scale digging for rag worm upon *intertidal mudflats*, in particular nationally scarce muddy gravel habitat. Mudflats are a local and national biodiversity action plan habitat. As well as the physical disturbance of the activity (compounded by not back-filling dug holes), regular large-scale removal of target species can lead to knock-on ecological effects. Changes to community composition have already been seen at the Gann and more research on bait digging and its impacts is to be conducted there. On more dynamic *sandflats*, the digging of lug has less of an impact upon the habitat itself. Species composition on boulder shores can be disturbed by the hand collection of bait (compounded by not replacing over-turned boulders) and changed by regular

large-scale removal of target species. Management measures are needed to minimise damage to *intertidal mudflats and sandflats* and *reefs* within the SAC. Priority action is needed to protect existing vulnerable hotspots such as the Gann and Angle which lie within the *intertidal mudflats* feature.

To conduct an activity that would damage a special feature of an SSSI, a permission should first generally be sought (ultimately some authorisation is usually required from CCW). This is a little more complicated where a public right is being exercised, however the public right to collect bait is limited to personal use and should be 'reasonable'; it therefore does not cover commercial collection. In any case, in theory, permission should be gained from the landowner/occupier prior to undertaking commercial collection. For these reasons, commercial bait collection could currently be considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive. However there may be circumstances where prior permission is not gained. For these instances, and in practice however to date, the broad management response options F4, F5 and F7 (see Section 5.3 for further detail) have been applied depending on activity location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F5 is where there is a known mechanism for the activity to have an effect, but evidence shows that it is not having a significant effect at present. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed:
See Sections 6.4 C+G, 6.6 C, 6.9 C, 6.10 D (see also 6.9 E)

3.3.7 Hand gathering of animals for consumption

Description:
Hand gathering of shellfish occurs throughout the site. In the intertidal, this is currently mainly small-scale and for personal use (species taken include mussels, winkles, cockles, clams and razor fish), although commercial collection has occurred within the Haven of mussels (for seed stock), cockles and winkles. In the subtidal, some hand gathering of lobsters/crabs and scallops occurs by divers and snorkellers for personal use, and some finfish (particularly bass) are taken by occasional snorkelling spearfishers.

Current management:
SWSFC byelaws and national (WAG/M&FA) and EU measures and size restrictions are applicable to seafish (including molluscs). Prior to commercial exploitation for public sale, molluscan fisheries require health classification from PCC. CCW along with owner/occupiers manage SSSIs in the intertidal area. Owner/occupiers also control access to the shore.

Issue Rationale:
Large scale and/or regular collection has the potential to result in physical disturbance, removal of target species and knock-on ecosystem effects, particularly to *intertidal mudflats and sandflats* and *reefs* within the SAC. In addition, the use of vehicles on the shore (for large-scale removal of collected species) often leads in itself to damage to intertidal species and habitats.

To conduct an activity that would damage a special feature of an SSSI, a permission should first generally be sought (ultimately some authorisation is usually required from CCW). For this reason, hand collection of animals (primarily commercial) is currently considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive. However there may be circumstances where prior permission is not gained. For these instances, and in practice for hand gathering of animals for personal consumption, the broad management response options F4, F5 and F7 (see Section 5.3 for further detail) are applied

depending on activity location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F5 is where there is a known mechanism for the activity to have an effect, but evidence shows that it is not having a significant effect at present. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed:
See Sections 6.4 C+J, 6.9 C, 6.10 C (see also 6.6 E)

3.3.8 Collection of marine plants

Description:
Hand gathering of seaweed occurs from areas of intertidal *reefs*, primarily *Porphyra* sp. for the making of laver bread. Seaweed for laver bread is collected commercially from several locations in the site. Drift seaweed is also removed from the strandline for garden fertiliser or mulch. Glasswort or samphire (*Salicornia* spp.) is taken in small quantities occasionally when in season from saltmarsh areas.

Current management:
There is no specific management relating to the collection of marine plants. Seaweed and marsh plants are not "sea fish" and no legislative control exists beyond that of the landowner. Unlike for bait, there is no public right to harvest marine plants from the seashore which are attached to the seabed and therefore belong to the owner of the seabed (likely to be PCC, PCNPA or CEC). CCW along with owner/occupiers manage SSSIs in the intertidal area. Owner/occupiers also control access to the shore.

Issue Rationale:
Large scale and/or regular collection has the potential to result in physical disturbance, removal of target species and knock-on ecosystem effects, particularly to *atlantic salt-meadow* and *reefs* within the SAC. In addition, the use of vehicles on the shore (for large-scale removal of collected species) often leads in itself to damage to intertidal species and habitats.

To conduct an activity that would damage a special feature of an SSSI, a permission should first generally be sought (ultimately some authorisation is usually required from CCW). For this reason, collection of marine plants (primarily commercial) could currently be considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive. However there may be circumstances where prior permission is not gained. For these instances, and in practice for collection of marine plants for personal use, the broad management response option F4 (see Section 5.3 for further detail) is applied where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed:
See Sections 6.4 J, 6.9 C, 6.10 C

3.3.9 Collection for the aquarium & curio trade

Description:
The collection of marine species for the aquarium trade (temperate saltwater fish and invertebrates) or as curios (shells etc.), although not common within the SAC, does occur. Sea urchins have been frequently collected in the past as curios. Current collection is generally small scale and by aquarists.

Current management:
SWSFC byelaws and size restrictions and national (WAG/M&FA) and EU measures are applicable only to sea fish. CCW and any owner/occupiers should be notified of the removal of species from an SSSI. Owner/occupiers also control access to the shore.

Issue Rationale:
Large scale and/or regular collection has the potential to result in physical disturbance, removal of target species and knock-on ecosystem effects; *reef* feature is most likely to be affected.

To conduct an activity that would damage a special feature of an SSSI, a permission should first generally be sought (ultimately some authorisation is usually required from CCW). For this reason, collection of marine species for the aquarium trade or as curios (primarily commercial) could currently be considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive. However there may be circumstances where prior permission is not gained. For these instances, and in practice for collection of marine plants for personal use, the broad management response option F5 (see Section 5.3 for further detail) is applied where there is a known mechanism for the activity to have an effect, but evidence shows that it is not having a significant effect at present.

Actions needed:
See Sections 6.4 K, 6.9 C, 6.10 C

3.3.10 Aquaculture

Description:
Aquaculture as discussed here includes molluscan farming (and ranching), and fish farming. There are currently no active aquaculture facilities within the SAC although interest has been expressed in mussel ranching within the Haven. Salmonids have recently been farmed within the Daugleddau Estuary, and an oyster farm used to operate on the Carew River. The wave shelter, tidal flushing, and deep water of the Milford Haven Waterway attracts aquaculture interest.

Current management:
Most new aquaculture developments within the SAC would have to be considered as a 'plan or project' and follow the due process (in the event of ranching – no permission is required for laying, but if the 'owner' wants to protect their investment via a Several Order, permission is required from WAG). WAG/M&FA consenting procedures are applicable. In addition, prior to commercial exploitation for public sale, molluscan fisheries require health classification from the Food Standards Agency (FSA) supported by PCC. Permanent seabed structures must also have permission from the Crown Estate or other relevant owner/occupier. Within the Haven, approval on navigational and safety criteria is required from MHPA. CEFAS implement legislation targeting disease control.

Issue Rationale:
Effects would include local modification of substrate, elevated levels of nutrients and possible contaminants (e.g. leaching of pesticides/antibiotics/hormones), localised oxygen depletion, and possible introduction of alien species. Such effects often lead to loss/modification of original species and habitats and wider ecosystem effects. If non-native species were cultivated, there could be concerns about their escape into natural populations. Escape of farmed species native to an area can affect the genetic structure of local wild populations. Other related issues include feed stock source and seed stock source.

Aquaculture is currently considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats

Directive, or F7 where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed:
See Sections 6.4 H+I, 6.9 B+I, 6.10 B (For vessel users see also 6.9 A. For seed stock see 6.4 J. For discharges see 6.5 C)

3.3.11 Salt-marsh grazing

Description:
Salt-marsh grazing occurs at several locations within the SAC including Minwear, Coedcanlas, the upper reaches of the Cleddau Rivers and Pembroke River. Grazing is mainly by sheep but cattle and horses are also grazed. There are no figures easily available for the numbers of farm stock grazing these areas. Many of these (farmed) areas receive appreciable amounts of agri-chemicals. A fair proportion of the land is also used for winter fodder conservation.

Current management:
Conventional farming is supported by livestock support mechanisms. The Tir Gofal agri-environment schemes operate in the area and many of the farms bordering the SAC are participating in these schemes. It is likely that more will join in the future. For example, where saltmarsh habitats are considered to be of botanical significance, i.e. are not improved grassland, farmers participating in these schemes have to follow management prescriptions which involve suitable (often reduced) stocking levels and a cessation of fertilizer input and other management, in return for payments. Land notified as SSSI under section 28 of the Wildlife and Countryside Act 1981 may also involve payments for the appropriate management of farmed land in management agreements made under section 15 of the Countryside Act 1968.

Issue Rationale:
Potential effects include physical disturbance, removal of 'target' species and organic enrichment. Grazing and associated activities may affect the estuaries of the SAC in a number of ways: overgrazing leading to soil erosion; under grazing and lack of maintenance leading to drainage impedance; land improvements. These activities may cause changes in sediment and nutrient or agri-chemical (e.g. organophosphate or synthetic pyrethroids) loading within the estuaries or open sea areas of the SAC.

Salt marsh grazing is currently considered to fall under the broad management response options F1 if the activity is new or changed and therefore constitutes a 'plan or project' as defined in the Habitats Directive, or F4 or F7 (see Section 5.3 for further detail) depending on activity location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed:
See Sections 6.4 L, 6.9 I, 6.10 C

3.4 Water Quality, Pollution & Waste Disposal

3.4.1 Introduction

Pembrokeshire, with its high levels of agricultural and seasonal tourism activity, its industrial and shipping activity particularly centred on the Milford Haven Waterway and its westerly facing aspect washed by the Gulf Stream make it prone to many polluting inputs from both the land and the sea. Some polluting substances affecting the local area may even have an origin remote from where the effect is experienced; the final destination of pollutants carried by both air and freshwater is ultimately the sea, and the sea is a wide disperser.

Although, in general, the use of the sea has increased during the last 50 years, the regulatory control of discharges into it has tightened considerably. There is now a plethora of international and European legislation. Numerous EC Directives on water quality and pollution exist. Generally, these adopt one of two basic approaches:

- Emission standards, mainly used for reducing concentrations of dangerous substances (e.g. Dangerous Substances in Water Directive 76/464/EEC and Nitrates Directive 91/676/EEC); and
- Water quality objectives, set according to the use that is to be made of the waters (e.g. bathing Waters Directive 76/160/EEC and the Shellfish Waters Directive 79/923/EEC)

Water (and sediment) quality, pollution and waste disposal issues still however occur; although there is much regulation, the situation can always be improved. Issues that are of most potential current concern in terms of the SAC features, and therefore considered to require the highest priority actions include:

- Persistent toxic pollutants - the history of local industrial use, particularly within the Haven, has given rise to pollution hotspots where accumulations of persistent toxic pollutants, such as hydro-carbons, organochlorines and heavy metals, have slowly accumulated over time within sediment 'sinks'. If released from such sinks, these substances may present a risk to marine species.
- Point source discharges – There are a large number of industrial and sewage discharges within the site that can have potential significant local effects on SAC features. Individual land-based discharges are now subject to control via permits/consents, which should adequately protect the environment from new releases. However, little is known about cumulative and possible combination effects.
- Diffuse pollution – With better control of point source discharges, there is increasing awareness of the contribution of diffuse sources, such as agricultural run-off and pollution from urban development, to reduction in water and sediment quality. A reduction in water and sediment quality can have implications for all marine life, but particularly susceptible areas include *lagoons*, *estuaries*, and semi-enclosed *large shallow inlets and bays* where pollutant build-up is more likely.
- Maritime pollution (chemical, inert and oil) – the release of hydrocarbons in particular to the marine environment (through operational practices/spills and accidental spills) is an inherent risk that can contaminate water and sediment and affect marine species. Areas requiring particular management are operational spills and bilge water discharge.
- Refuse and litter – litter can be found on just about every beach within the SAC at any time. Locally, fishing industry related debris and general beach/recreational user rubbish tends to form the majority of the litter found. SAC features, both on the shore and underwater, can be adversely effected by litter (seals are particularly vulnerable).
- Dredge spoil dumping – the dumping at sea of dredge spoil can have severe localised effects as well as far-field effects. Current designated disposal sites are most likely to affect the SAC *reef* and *large shallow inlets and bays* features. A strategy would improve management of spoil dumping (see dredging in Section 3.2).
- Changes in salinity and temperature – salinity and temperature variation, incorporating both global climate change and localised changes induced by industrial activity, can have far-reaching effects on the ecology of the SAC.

Other major activities of concern, with the potential to pollute and affect water quality, include the discharge from vessels of ballast water (see Section 3.2), inadequate port waste management practices and reception facilities (see Section 3.2), and littering and hydrocarbon pollution associated with recreational activity (see Section 3.4).

The activities which follow below (in no order of priority) are considered to be those upon which management efforts should be most directed. Section 6 details all the actions currently considered necessary to meet or maintain the favourable conservation status of the SAC features.

3.4.2 Diffuse pollution

Description:
Diffuse pollution is non-point source pollution, including agricultural run-off and pollution from urban development. The Milford Haven Waterway has the greatest potential to be affected by agricultural run-off due to its large catchment area. Pollution (including hydrocarbon pollution) from urban development is also most likely here given the area's high coastal population.

Current management:
Some non-point sources of pollution cannot be readily controlled by discharge consents and legal mechanisms. Diffuse pollution is specifically mentioned in the Water Framework Directive, which requires the application of "basic" and, where necessary "supplementary" measures to control it. The EA does not at present have sufficient powers to control diffuse pollution, acknowledging that an incentive approach, in addition to direct legislation, is necessary to deliver environmental improvement[22]. The Tir Gofal voluntary scheme and pollution prevention visits to farm properties by the Environment Agency currently help to address agricultural run-off issues.

Issue Rationale:
Potential effects include increased nutrient enrichment (leading to algal blooms and knock-on effects including available light and oxygen reduction), increased suspended particulates which can reduce light penetration and smother sessile organisms, and increased chemical pollution (with largely unknown effects). If it wasn't for its high turbidity and flushing, the Milford Haven waterway (which is hypernutrified) would be classified as eutrophic. Agricultural runoff was the joint 3rd priority issue for the SAC, based on feedback on the SAC *Issues document* (2002).

Diffuse pollution is currently considered to fall under the broad management response options F4 and F7 (see Section 5.3 for further detail) depending on activity location. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.5 A+B+C, 6.9 D, 6.10 E

3.4.3 Air pollution

Description:
Historically, the major cause of air pollution has been high levels of smoke and sulphur dioxide arising from the burning of coal for domestic and industrial purposes. In most cases, industrial and domestic sources of pollution and their impact on air quality, tend to remain steady or improve over time. Traffic pollution problems are, however, worsening world-wide. The refineries within the Haven are publicly perceived to be the largest pollution contributors locally. In recent years commercial shipping has also received attention over air emissions.

Current management:
The Environment Agency plays a major role by regulating the release of pollutants into air from over 2000 of the larger or more complex industrial sources under the Pollution Prevention and Control (PPC) regime which covers many of the same processes but also includes a number of new processes not previously regulated in this manner, for example the food and drink sector. PPC authorisations have been reviewed under the Habitats Directive Review of Consents programme developed by the Agency to meet its legal requirements under the Habitats Regulations 1994.

[22] EA (2004). *Diffuse Pollution and the Water Framework Directive*. Briefing note. Environment Agency, Bristol, February 2004.

Local Authorities control air pollution from the 20,000 or so smaller industrial processes.
Emissions from some other major sources of air pollution, such as transport, are tackled through a combination of measures at European, national and local level. The Environment Agency does not have a remit to deal with traffic related air pollution directly, however they are using their influencing powers through pollution control working with Local Authorities, the Highways Agency and other organisations to deliver the Government's Air Quality Strategy in England and Wales.

Issue Rationale:
Nutrient enrichment effects can occur through aquatic discharges or from nitrogen deposition. Other effects include acidification and toxic contamination.

Air pollution is currently considered to fall under the broad management response options F4 (see Section 5.3 for further detail). F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed: See Sections 6.5 D, 6.10 E

3.4.4 Maritime pollution (oil, chemical, and inert) and response

Description:
Maritime pollution incidents can include chemical pollution, inert pollution (e.g. cargo losses), and oil pollution. Most hydrocarbon pollution incidents involve discharges or small operational spills. Ship-to-shore cargo transfers, tank washing and contaminated bilge water all contribute to hydrocarbon pollution, especially in a busy port area. Large accidental spills are rare, but extensive in their effects should they happen. Small operational spills are more common.

Current management:
National Contingency Plan: The Maritime and Coastguard Agency (MCA) has the statutory responsibility for the preparation and implementation of the National Contingency Plan for Marine Pollution from Shipping and Offshore Installations (NCP) for marine pollution from shipping and offshore installations. This provides the framework for the co-ordination of responses to incidents involving oil, chemical or inert pollution originating at sea, which require national or specialist resources. The legal basis for the National Contingency Plan is section 293 of the Merchant Shipping Act 1995, as amended by the Merchant Shipping and Maritime Security Act 1997 (the "1995 Act") and the Marine Safety Act 2003 and the Pollution Prevention Control Act 1999. Section 293 of the 1995 Act gives the Secretary of State for Transport the function of taking, or co-ordinating, measures to prevent, reduce and minimise the effects of marine pollution. Marine Pollution refers to pollution by oil or other hazardous substances, as prescribed under section 138A of the 1995 Act or liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

The NCP covers all incidents in UK waters and is implemented by the MCA. It is normally only activated for a major incident outside the capacity of a region or local authority to deal with, and requiring the deployment of national resources. This is defined as a tier 3 incident. In harbour areas, the statutory response (under OPRC) to Tier 1 (small operational spills <20T) and Tier 2 spills (medium sized spills requiring regional assistance <200T) rests with the Harbour or Port Authority. Local Authorities have accepted the non-statutory responsibility for shoreline pollution clean up. Arrangements for major spills (Tier 3) are more complex and it is important to define who takes the lead in these incidents and their main roles and responsibilities[22]

[22] EA (2001) Operating Agreement Between the Environment Agency, and the Maritime and Coastguard Agency for Dealing with Pollution Incidents in Estuarine and Marine Waters in England and Wales, Operating Agreement 106_01,The Environment Agency Dec 01.

Under the NCP the West Wales Public Health and Environment Group (WWPH&EG) has been formed. In the event of a maritime pollution incident, the primary roles of this group are to:

- Provide environmental and public health advice to any/all response units set up to deal with incidents,
- To co-ordinate initial impact assessment of a pollution incident (where appropriate).

Local Contingency Plans: The MCA, as an executive agency of the Department for Transport (DfT), is the competent UK authority that responds to pollution from shipping and offshore installations in accordance with the International Convention on Oil Pollution Preparedness, Response and Co-operation 1990 (OPRC). MCA provides advice and assistance to local authorities and to port and harbour authorities in dealing with smaller spills, and provides guidance and training to local authority personnel on contingency planning and response. The leads on maritime pollution are:

- Incidents from ships: At sea response - Maritime and Coastguard Agency (MCA)
- Incidents from ships: Shoreline response – local authority (PCC)
- Incidents from offshore installations - Department for Business, Enterprise and Regulatory Reform (BERR)
- Incidents in harbours/ports - harbour/port authorities (within their operating limits)

Issue Rationale:
Potential effects include toxic contamination, physical disturbance, loss/ modification of habitats and species, and smothering. Medium to large accidental hydrocarbon spills were the joint 4th priority issue for the SAC, based on feedback on the SAC *Issues document* (2002).

Maritime pollution is currently considered to fall under the broad management response options F1 or F7 (see Section 5.3 for further detail) depending on the source. For any spills resulting from any future oil exploration, the option would be F1 where the activity constitutes a 'plan or project' as defined in the Habitats Directive. Most spills however fall under F7 where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.5 E+F, 6.9 D, 6.10 E

3.4.5 Pollution incidents arising from terrestrial sources

Description:
These include oil, chemical and other pollution arising from incidents to landward of the SAC boundary such as oil spillages and leaks, release of chemicals into water courses and other contamination of ground and surface waters.

Current management:
The Environment Agency has a duty under the Environment Act 1995 to investigate and remediate pollution incidents and whenever possible to carry out appropriate enforcement action. Within the SAC, Environment Agency jurisdiction ends at 3nm. For pollution incidents arising from terrestrial sources, the EA would normally take the lead, in terms of responding or providing technical advice to responders. Where there may be public health issues arising from incidents on the land, Public Protection Department of Pembrokeshire County Council will take the lead. Other regulatory bodies contribute to specific contingency plans.

Issue Rationale:
Potential effects include toxic contamination, physical disturbance, and loss/ modification of habitats and species.

Pollution response is currently considered to fall under the broad management response option F7 (see Section 5.3 for further detail). F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.5 A+F, 6.9 I, 6.10 E

3.4.6 Refuse and litter

Description:
Marine and coastal litter is an increasing global problem and the visible elements which are deposited on the shoreline are only a small percentage of the total volume. Not only is it unsightly but it is long lasting and can pose harm to marine wildlife. Levels in Pembrokeshire (and Wales generally) tend to be high as not only does litter come from land-based sources, but it is also being brought ashore by prevailing winds and currents. Welsh beaches recorded the highest overall litter density (2,524.8 items/km) of all UK regions in the Beachwatch 2006 litter survey and clean up organised by the Marine Conservation Society (a massive 44% increase compared to levels recorded for Wales in Beachwatch 2005). Beach visitors litter was the main source of litter on Welsh beaches with a density of 739 items/km; this was also the highest density of beach visitor's litter for any country. Fishing debris was the second most common source of litter with a density of 322.7 items/km; much higher than the UK average (223.2/km). Sewage related debris was the third biggest source of litter in Wales (131.4/km), and shipping litter was the fourth source, with a density of 41.5/km.

Current management:
There is a range of legislation in place to reduce marine litter at source, both on land and at sea. This includes the Merchant Shipping (Prevention of Pollution by Garbage) Regulations, the Bathing Water Directive, the Urban Waste Water Treatment Directive and the Environmental Protection Act. Local byelaws to control littering exist. There have also been several initiatives and campaigns aimed at increasing awareness. The RSPB's 'lethal litter' campaign explained the impacts of marine litter on wildlife, and the national 'Bag it & Bin it' aimed to raise awareness of the impacts of disposing of items down the toilet. PCC carry out beach clean-ups of some beaches (regular cleans of blue flag beaches, occasional cleans of green coast award beaches), and Keep Wales Tidy Coastcare groups clean adopted beaches. In 2007 there were 33 such groups operating in Pembrokeshire cleaning 36 beaches. One - Neptune's Army of Rubbish Cleaners (NARC) - is made up of divers and they do underwater clean-ups.

Issue Rationale:
Potential effects include species entanglement and smothering, both on the shoreline and on or below the water, and accumulation of toxic substances in body tissues through ingestion of plastics. Inorganic refuse and litter was perceived to be the 1st priority issue for the SAC, based on feedback on the SAC *Issues document* (2002).

Marine and coastal refuse and litter is currently considered to fall under the broad management response options F4 and F7 (see Section 5.3 for further detail) depending on refuse type. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.5 G, 6.9 D, 6.10 E (see also 6.9 B)

3.4.7 Spoil dumping

Description:
Dumping of inert material occurs both on the shore and subtidally. The products of capital and maintenance dredgings from harbours and ports are most commonly taken out to sea and dumped offshore to dissipate naturally with current and tides to the deep sea bed.

Current management:
Operations involving the disposal of any material at sea or under the sea bed (below mean high water springs MHWS) normally require a Food and Environment Protection Act (FEPA) licence. Dredge spoil from port operations within the Haven is currently dumped in designated offshore dumping areas (one is just south of the Smalls). Extensive research has been conducted into the suitability of these areas and any potential effects on the SAC. Fisheries activities are currently excluded from FEPA licensing. Above MHWS, a waste management license is required from the Environment Agency.

Issue Rationale:
Potential effects include elevation of suspended particulates/turbidity, smothering, and re-mobilisation of toxic and non-toxic contaminants. Fine sediments can be carried a long way due to natural processes, and so it is not only the dump site itself which can be affected by spoil but also sites much further away.

Spoil dumping is currently considered to fall under the broad management response options F1, F4 and F7 (see Section 5.3 for further detail). F1 is where the activity constitutes a 'plan or project' as defined in the Habitats Directive. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.5 H, 6.9 I, 6.10 F

3.4.8 Sewage discharge

Description:
Point source disposal of domestic waste includes, but is not limited to, human organic waste products. There are a number of domestic sewage discharge points within the SAC (19 in 2006), the majority of which discharge into the Haven. Almost half of these undergo tertiary treatment; this is not true of Dŵr Cymru Welsh Water's discharges - most have secondary treatment (Dale has changed from UV to membrane filter disinfection, Newgale has UV disinfection).

Current management:
Sewage discharge has improved in recent years due to European legislation including the Bathing Water Directive, Urban Wastewater Treatment Directive, Shellfish Water Directive and Shellfish Hygiene Directive. The Green Sea partnership has also played a significant role in driving and coordinating improvements to bathing waters within the SAC.
Any sewage discharge must hold a consent to discharge and the effluent must undergo an acceptable level of treatment. Authorised discharge of raw sewage may only be made by stringent conditions and only under extreme storm conditions via identified Combined Sewage Overflows (CSO). These systems act as a safety valve to prevent overloading of the foul system and treatment works and to prevent the flooding of domestic and industrial properties. Dilution via massive volumes of storm water prevents impact on the receiving media. Discharge at times other than those prescribed in the CSO consent will be treated as an unauthorised action and may result in enforcement action. Reports of other unauthorised discharges are treated as pollution incidents and investigated as appropriate.
The determination of a consent to discharge will determine whether a sufficient treatment of the effluent will result in no detrimental impact to the receiving environment. A consent to discharge will only be

granted if this is sufficiently demonstrated and the consent permit will stipulate conditions which are monitored by the Environment Agency. Contravention of these conditions will result in appropriate enforcement action being taken. A review of existing consents has been undertaken by the Environment Agency for the purposes of the Habitats Directive. This identifies historic consents that may have been enabled under less stringent regulatory control and assesses whether further conditions are required to ensure that there is no potential for a significant impact on the SAC. The assessment process for new discharge consents now encompasses the requirements of the Habitats Directive. The main sewage undertaker is DCWW who have an agreed asset management plan (AMP) for the continual improvement of its waste water treatment works and intermittent discharges. Further to this a notification process for accidental and mechanical breakdowns of plant is agreed with the Environment Agency to enable an immediate response to any potential pollution incident.

Issue Rationale:
Potential effects include nutrient enrichment, toxic and non-toxic contamination and smothering. Sewage effluent disposal was the joint 4th priority issue for the SAC, based on feedback on the SAC *Issues document* (2002).

Sewage discharge and disposal is currently considered to fall under the broad management response options F4 and F7 (see Section 5.3 for further detail) depending on location. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.5 I, 6.9 D, 6.10 E

3.4.9 Industrial discharges

Description:
Industrial processes can involve the handling, treatment, and disposal of various substances, for example organochlorines and heavy metals in low concentrations. If released, these may persist and slowly accumulate within the marine environment. Pollutants distant from the site may also be present (e.g. elevated levels of Caesium137 originating from the nuclear industry). Little is known about the cumulative and possible combination effects of discharges. The contaminated nature of the sediment within the Milford Haven Waterway in particular reflects the history of local industrial use. Discharges with differing temperature or salinity levels to the receiving water can have localised effects on marine habitats and species.
The majority of the more significant discharges of trade effluent to the SAC are associated with the oil, gas and related power industries located in the Milford Haven Waterway.

Current management:
It is an offence to discharge trade (or sewage) effluent to Controlled Waters unless under and in accordance with a consent from the Environment Agency. The Water Resources Act 1991 (as amended by the Environment Act 1995) is the major piece of primary law. This, and secondary legislation, (Regulations), places duties on the Environment Agency and provides powers for their implementation. Discharges can be consented as long as they are within the legal limits set for each substance and must comply with environmental quality standards (EQS). Further statutory criteria would also be set by EC Directives including the Habitats Directive and the Dangerous Substances Directive, also the Pollution Prevention and Control Regulations.
Many existing consents have been set under earlier legislation; these need to be brought up to date and are in the process of being reviewed. There are several European Directive "drivers" for reviews, each with their own timescales and deadlines, e.g. Directives on Urban Waste Water Treatment, Bathing Waters, and Habitats Directive. Certain discharges to controlled waters from ‘scheduled installations’

have been transferred to the Integrated Pollution Prevention Control (IPPC) regime under the Pollution Prevention and Control (England and Wales) Regulations 2000 (as amended).
Implementing the Water Framework Directive will impose an increasing review and modification workload from 2007 to 2012. Delivery of the Modern Water Quality Regulation Programme must harmonise and support delivery of the River Basin Management Plans and subsequent programmes of measures, as well as contributing to water industry investment planning.

Issue Rationale:
Potential effects vary widely depending on the process and discharge type but can include nutrient enrichment, toxic and non-toxic contamination, thermal or salinity effects, and smothering.
Industrial effluent disposal was the 2nd priority issue for the SAC, based on feedback on the SAC *Issues document* (2002).

Industrial point source discharges are currently considered to fall under the broad management response options F4 and F7 (see Section 5.3 for further detail) depending on location. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.5 C+F, 6.9 I, 6.10 E

3.5 Recreation

3.5.1 Introduction

Recreation and activity tourism are becoming increasingly popular within Pembrokeshire and provide an important source of revenue. Most recreational activities in the county are based on the natural amenities of the coastal areas. Although many visitors and residents simply enjoy the scenery, some activities relate directly to the wildlife and the area's natural characteristics; for example seal (and cetacean and bird) watching and water sports. These natural features are a valuable resource for both local residents and visitors.

In general, since the opportunity for coastal recreation is largely determined by the physical nature of the resource base, the majority of management approaches have been taken at the local level. Such approaches include zoning, speed controls, access restrictions and codes of conduct. Where voluntary action or self-regulation is not practicable, or has proved ineffective at site level, byelaws have been widely applied to manage recreational impacts on the coast. Byelaw-making powers are available to local authorities under the Public Health Acts and the Countryside Act 1968.

There is no single relevant authority with statutory responsibility for controlling sea-based forms of recreation. Some organisations, for example, the Royal Yachting Association, British Canoe Union and others are recognised by government as representatives for certain activities. There is little, if any, guiding primary legislation, other than that which applies to the protection of public health and access to the countryside. Merchant Shipping Regulations relate to the safety of vessels used commercially for sport or pleasure.

The preparation of the management scheme has identified several issues relating to recreational use of the site. Those recreational activities of most potential current concern to the SAC features and therefore requiring the most priority actions include:

- Recreational sea angling – sea angling is a popular leisure activity within the site. Of most concern are indirect impacts of lost/discarded gear and litter upon the SAC features.

- Power craft use – the use of power craft is of concern particularly in the vicinity of sensitive species (e.g. seals and otters) and sheltered shores (e.g. *Atlantic salt meadow*, intertidal wave-sheltered muds) where physical disturbance can have detrimental effects. Of particular concern are wildlife boat trips which have been increasing in number over the last 3 years, with no regulation apart from on health and safety grounds, and use of a voluntary code of conduct.
- Recreational bait collection – current management of frequent but small-scale collection of bait for recreational angling is currently lacking. Physical disturbance to the *intertidal mud and sandflats* feature is a particular issue at collection 'hotspots'. (See Section 3.3 for commercial bait collection).

Other major issues of concern, linked to recreational activity include littering and water quality (see Section 3.4).

Many other recreational activities occur within the SAC, but are not considered, based on current information, to be an issue for the conservation interest of the site due to the benign nature of the activity (towards the SAC features), and/or the very low occurrence of the activity, and/or successful current management. Information on coastal recreation is generally inconsistent and in many cases lacking, with much reliance on anecdotal information which is often predominantly subjective. These were the findings of a recreation audit of the Pembrokeshire coast (see Appendix 3), commissioned by the Pembrokeshire Coastal Forum. Gathering information on the occurrence and impacts of recreational activities therefore features highly within the SAC Action Plan (see Section 6.10 D), as does awareness raising with recreational users of the SAC and their potential impacts upon it (see Section 6.9 E). With activities such as sailing, kayaking and casual shore use, one of the few ways in which participants may possibly impact SAC features is by physical disturbance of seals. By raising awareness with these users of the SAC features and of ways to minimise their impacts upon them, such physical disturbance can be hopefully prevented.

The recreational activities which follow below (in no order of priority) are considered to be those upon which management efforts should be most directed. Section 6 details all the actions currently considered necessary to meet or maintain the favourable conservation status of the SAC features.

3.5.2 Recreational rod and handline fishing

Description:
Sea angling is widespread and common throughout the site, both from the shore and boat. Angling boat charters visit inshore waters (for a variety of fish, best and most popularly in the summer, but with winter catches too especially within the Haven), and when the conditions are right the offshore reefs, wrecks and banks. Shore angling is always popular, but especially in the summer. Hotspots include the north Marloes peninsula, and bass fishing from beaches such as Newgale.

Current management:
The public has a general right to fish in tidal waters. The public right to fish may be regulated by byelaw, but not extinguished. An exception is a Several Order (see Section 3.3 living resources). The Welsh Assembly Government apply national measures, restricting size of catches, and local SWSFC byelaws protect designated nursery areas (e.g. byelaw 29 for bass). EAW licence and have byelaws for salmonids (and freshwater fish). Codes of practice exist by PCNPA, CCW, EAW and SWSFC. Keep Wales Tidy promote a 'Tidy Tackle' campaign, and the Pembrokeshire Rivers Trust work locally to improve access and habitats for angling.

Issue Rationale:
Potential effects include depletion of target species and knock-on ecological effects, by-catch, and indirect impacts from lost/discarded gear. Also physical disturbance particularly to sensitive species such as seals and otters.

Sea angling is currently considered to fall under the broad management response options F4 and F7 (see Section 5.3 for further detail) depending on location. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections, 6.6 A+B, 6.9 E, 6.10 D (see also 6.5 G)

3.5.3 Recreational bait collection

Description:
Bait collection for recreational use is dominated by manual digging for rag and lug worm. This is widespread and common within the site, with particular hotspots at the Gann near Dale, and at West Angle. Other forms of recreational bait collection do occur, for example boulder turning for peelers (crab) and winkles. (Note: Commercial bait collection is dealt with separately under Section 3.3 Living Resources).

Current management:
The public right to collect bait worms is generally interpreted to be ancillary to the public right to fish, but is limited to personal use only. This activity is not directly regulated by present legislation, although it may be regulated indirectly by a variety of local authority, public health, nature conservation, fisheries and harbour authority byelaws. There are no other general public rights over the foreshore; the owner/occupiers permission must first be gained. Nevertheless, the public may pass across it if there is a lawfully established right of way over the foreshore. The foreshore itself is generally owned by The Crown Estate and leased to PCC and PCNPA (in some areas within their jurisdictions).

Size restrictions apply for sea fish (including shellfish) as per national (WAG) measures and local (SWSFC) byelaws. Many of the sea angling codes of conduct also cover the collection of bait.

Issue Rationale:
Potential effects include depletion of target species and knock-on ecological effects, and physical disturbance (compounded by not back-filling dug holes or replacing over-turned boulders).

To conduct an activity that would damage a special feature of an SSSI, a permission should first generally be sought (ultimately some authorisation is usually required from CCW). This is a little more complicated where a public right like collection of bait for personal use is being exercised, however the public right should be 'reasonable'. For this reason, recreational bait collection could currently be considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive. In practice, however to date the broad management response options F4, F5 and F7 (see Section 5.3 for further detail) have been applied depending on activity location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F5 is where there is a known mechanism for the activity to have an effect, but evidence shows that it is not having a significant effect at present. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.6 A+C, 6.9 C+E, 6.10 D

3.5.4 Coasteering

Description:
Coasteering is a growing sport, with particular hotspots around St David's Head, and in the Castlemartin/Stackpole/Barafundle area. There is over-crowding on some popular routes, including Abereiddy and in the Stackpole/Barafundle area. Most coasteering occurs in groups via outdoor activity providers, but independent users (unquantified) also use the SAC.

Current management:
The voluntary Pembrokeshire Outdoor Charter ensures that outdoor activity providers and (as far as possible) any organised group are aware of any site specific sensitivities and are trained in how to maximise enjoyment of the environment without detrimental impacts.

Issue Rationale:
Potential effects include physical disturbance of intertidal rocky habitats and of seals. A desk-based research study on the potential impacts of coasteering, commissioned by CCW (see Appendix 3), concluded that whilst trampling of the rocky shore could lead to detrimental effects for some communities (as biotopes), further research was needed within steep rocky, wave exposed shores to determine whether coasteering itself has any impacts.

Coasteering is currently considered to fall under the broad management response option F4 (see Section 5.3 for further detail). F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed: See Sections 6.6 A+D, 6.9 E, 6.10 D

3.5.5 Diving (and snorkelling)

Description:
The coast of Pembrokeshire is popular with divers due to the variety of dive sites, the high quality marine life, and interesting wreck dives. The Skomer Marine Nature Reserve is a particular hotspot, as are dive sites in and around Milford Haven especially during rougher weather, and sites further offshore including The Smalls during calm weather. Faster boats and greater use of charter boats is increasing the use of dive sites further offshore. Popular shore diving and snorkelling sites are St Brides Haven, Martin's Haven near Skomer and Stackpole Quay. These are also popular launch/pick up points for boat dives.

Current management:
National codes of conduct which cover nature conservation guidelines exist for users including the British Sub Aqua Club (BSAC) Code of Conduct. Local codes of conduct to encourage best practice include the Pembrokeshire Marine Code, PCNPA code of conduct, and the Skomer MNR code of conduct. Taking of commercial species is restricted by SWSFC Byelaw 41 (boat catches), and 28 (scallops).

Issue Rationale: Potential effects include physical disturbance to fragile sublittoral species and habitats, disturbance and harassment of seals.

Diving is currently considered to fall under the broad management response options F4 (see Section 5.3 for further detail). F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed: See Sections 6.6 A+E, 6.9 E, 6.10 D (see also 6.6 F)

3.5.6 Power craft

[Including jet skis (PWC), hovercraft, wildlife boat trips and water skiers/wake boarders]

Description: In general, power craft usage within the site is widespread and common, particularly so in the summer.
Personal Water Craft (PWC): Lydstep (just east of the SAC boundary) and Freshwater East have become hotspots with increased capacity of vessels allowing substantial trips along the coast. The Milford Haven Waterway has seen increased use in recent years, although numbers are still not high.

Wildlife trips: There are currently 20 wildlife boat operators, with the highest concentration based around Ramsey Island. Of the current 6 dive operators, 4 incorporate wildlife watching as a part of their operations.

Waterskiers: Hotspots include Dale, the Daugleddau, and Freshwater East.

Current management:
Under Common Law, a public right to navigation exists on all tidal waters (although not necessarily a right to land or launch a boat). This includes a right to pass and re-pass for any reasonable purpose including recreation, and the owner of the foreshore must not interfere with this right. The public also has ancillary rights, such as anchoring, that are necessary for navigation. The Milford Haven Waterway Recreation Plan, supported by MHPA byelaws, details user zones within the waterway. No-planing zones backed by PCC byelaw also exist. A no-planing byelaw applies within areas of the Skomer MNR.

Personal Water Craft (PWC): The slipway at Lydstep is controlled by Bourne Leisure. Those who use it must be RYA assessed, give evidence of insurance and adhere to a code of conduct.

Wildlife trips: The Pembrokeshire Marine Code highlights sensitive areas and appropriate behaviour for all recreation providers, and also has a general code for use by the public when in the vicinity of marine life.

Issue Rationale: Potential effects include physical disturbance (primarily through noise and boat wash) to sensitive features - particularly seals, otters and wave-sheltered intertidal habitats. Other associated effects can include hydrocarbon pollution and littering. Power boat usage was the joint 3rd priority issue for the SAC based on feedback on the SAC *Issues document* (2002).

Power craft are currently considered to fall under the broad management response options F4 or F7 (see Section 5.3 for further detail) depending on location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.6 A+F+G, 6.9 E, 6.10 D (see also 6.3 D, 6.5 E+G+I)

3.5.7 Anchoring/mooring of recreational craft

Description:
Anchoring and mooring of recreational craft is widespread in nearshore areas. The number of available recreational moorings within the waterway in 2007 was around 1150. Moorings along the open coast, with the exception of Solva, are scattered and low in number.

Current management:
Ancillary to the public right of navigation is the right to anchor or other navigational necessity. An anchoring free zone, managed by the Skomer MNR, exists to protect the eelgrass bed in North Haven, Skomer. Moorings within the waterway are controlled as per the Milford Haven Waterway Recreation Plan. Outside MHPA jurisdiction, moorings are managed, where applicable, by PCC, CEC and boat owners associations.

Issue Rationale:
Potential effects include local physical disturbance (including crushing, abrasion and displacement) and, in the case of a semi-permanent structure such as a mooring, local alteration to sediment transport processes. Other associated effects can include localised hydrocarbon pollution and littering.

Anchoring and mooring of recreation craft is currently considered to fall under the broad management response options F4 or F7 (see Section 5.3 for further detail) depending on location and intensity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect. F7 is where there is evidence to suggest that an activity is having an adverse effect and the mechanism is known.

Actions needed: See Sections 6.6 G, 6.9 A, 6.10 D

3.6 Miscellaneous Activities

3.6.1 Introduction

Issues that are of most potential current concern in terms of the SAC features, and therefore considered to require the highest priority actions include:

- Coastal development – the constant development of the coast (including for example marinas and industrial sites) leads to loss of habitat and associated effects. The cumulative effects of development upon the SAC can be significant.

The activities which follow below (in no order of priority) are considered to be those upon which management efforts should be most directed. Section 6 details all the actions currently considered necessary to meet or maintain the favourable conservation status of the SAC features.

3.6.2 Coastal development

Description:
Coastal development can range from the building of a single residential dwelling through to the erection of a power station or offshore wind turbine. Civil engineering works such as slip construction, sea defence and underwater cables and pipelines are included here. It is important to note that maintenance and decommissioning also be addressed when considering a coastal development.

Most coastal development within the SAC occurs within the lower and mid Milford Haven waterway. Activity has been particularly intense in the last couple of years with the building of two LNG terminals. Development is set to rise, with potential near future projects including the Martello Quays development off Pembroke Dock, extension of Milford marina, Pembroke power station, and the Blackbridge biodiesel plant. Proposals for alternative energy projects – wave and tidal power – are also being investigated for off the coast near West Dale and St Justinian's respectively.

Current management:
There are management differences depending on whether the civil engineering activity takes place within or outside local planning jurisdiction (which in the case of PCC and PCNPA generally extends only to

mean low water mark). Any subtidal designs would need the consent of WAG/DfT, and then a license from the CEC for a permanent structure on the seabed. PCC/PCNPA (local planning authorities) would need to be contacted and included in the process where applicable. The MCA are responsible for the safety of vessels at sea – for example a wave energy device or an artificial reef might constitute a navigational hazard. Other developments as outlined above would need to follow the DfT/BERR/ WAG/M&FA consent process, and gain a FEPA licence, CEC license and be advised by the EAW and CCW. The MHPA would need to be consulted for developments within the Haven.

Issue Rationale:
Potential effects vary depending on the development in question; effects should be dealt with on a case-by-case basis. Potential effects might include modification to the hydrodynamic regime; loss/modification to species and habitats; physical disturbance during the development phase; water quality issues; increased boat activity, with consequential problems such as pollution and user conflict. There is also concern over the cumulative effects of development on the SAC features.

Coastal development is currently considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive.

Actions needed: See Sections 6.7 A, 6.9 H+I, 6.10 I

3.6.5 Military activity

Description:
Dumping/Dumps: This is the disposal of used ammunitions in designated areas on the seabed. Disused explosives dumping grounds are found 15km west of Freshwater West, and off Castlemartin range. Such dumps within the site are no longer used as such and contain only historic material.
Ordnance ranges: Deliberate/ accidental release of missiles to the sea in the course of armed forces training. Missiles themselves, and the remains of any shot-down targets can end up in the sea. MoD sea danger areas exist off both the Castlemartin and Manorbier ranges to protect other users.

Current management:
The MoD no longer has Crown immunity, and must now comply fully with the Habitats Directive like any other competent authority. FEPA licences are required for the deposition of ordnance or shot-down targets into the sea.
The existing Integrated Land Management Plan (ILMP) has reference to marine and intertidal habitats and species. The South Pembrokeshire Range Recording and Advisory Group (SPRRAG) inputs to this plan.

Issue Rationale:
Potential effects of ordnance include physical disturbance; potential contamination (e.g. of heavy metals such as cadmium, lead and other more exotic compunds); loss/modification to species and habitats.

Military activity is currently considered to fall under the broad management response options F1 or F4 (see Section 5.3 for further detail). F1 is where the activity constitutes a 'plan or project' as defined in the Habitats Directive – this is the case for any new military activity. F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect (this largely refers to past or ongoing military activity).

Actions needed: See Sections 6.7 B, 6.9 H+I, 6.10 H

3.6.4 Water abstraction

Description:
Water can be abstracted from surface waters, such as rivers and reservoirs, and from underground aquifers. Abstractions of more than $20m^3$ per day usually need an abstraction licence. The majority of licensed abstractions in the SAC are for agricultural purposes such as spray irrigation. However, the largest volumes of water abstracted from rivers are used for public water supply, almost all of which is taken from the Eastern and Western Cleddau's. Water is also abstracted for a number of other purposes in the area including fish farming, industry and quarrying. Purposes such as fish farming are non-consumptive while others, such as irrigation, are consumptive. Non-consumptive abstractions are those that return almost all the water abstracted back to the river, close to the point of abstraction.
The majority of the area is currently exempt from licensing requirements for groundwater abstractions and therefore very limited information is available on the use of this resource.

Current management:
Water resources in Wales are managed through Catchment Abstraction Management Strategies (CAMS). CAMS allow for greater public involvement in managing the water resources of a catchment. The Cleddau and Pembrokeshire Coastal Rivers CAMS has been completed and is available on the Environment Agency web site. It sets out the licensing strategy for the catchment and will be reviewed each year. There are also River Basin Management Plans. These have been developed under the Water Framework Directive and will also help identify where any changes are needed and how much water is abstracted, so that a healthy aquatic ecosystem can be maintained. Many existing consents have been set under earlier legislation; these need to be brought up to date and are gradually being reviewed for example under the Habitats Directive. The assessment process for new consents now encompasses the requirements of the Habitats Directive.

Issue Rationale:
Potential effects include the reduction of fresh water input to the estuary leading to potential loss/modification to estuarine habitats and species, and potential effects to otters, shads, and lampreys.

Water abstraction is currently considered to fall under the broad management response option F1 (see Section 5.3 for further detail). F1 is where the activity constitutes a 'plan or project' as defined in the Habitats Directive.

Actions needed: See Sections 6.7 C, 6.9 I, 6.10 I

3.6.5 Education and scientific studies

Description:
Although certain locations within the SAC are used quite regularly for scientific and educational studies, most of the site is visited only infrequently by groups undertaking scientific and educational studies. The organisations that commonly visit the site include:
Dale Fort Field Study Centre (run by the Field Studies Council) which specialises in marine ecology – Jetty Beach and Castle Beach adjacent to Dale Fort are used for rocky shore studies, The Gann is used for saltmarsh and sediment shore studies. Other sites are less frequently used for specialist courses.
Orielton Field Studies Centre (run by the Field Studies Council) – Angle Bay and West Angle Bay are used occasionally for shore studies.
Higher education establishments (including Pembrokeshire College, Swansea University, Aberystwth University, Cardiff University) occasionally use the site for field trips and research. Most subtidal scientific research in the SAC is undertaken within the Skomer Marine Nature Reserve with the support of CCW staff.
The Darwin Initiative and PCNPA include rocky shore rambles in their educational programmes.

It should be noted that marine biological monitoring and surveillance studies take place occasionally within the SAC, associated mainly with development proposals. These are generally advised upon by CCW, who also have their own ongoing scientific programmes which seek to build upon the existing knowledge base of information on the marine environment. Within the waterway, the Milford Haven Waterway Environmental Surveillance Group gathers data to the benefit of its partners.

Current management:
There is no specific legislation regulating the undertaking of educational and scientific studies as such. In order to carry out these activities, though, it may be necessary, depending on the location and nature of the study, to seek access permission from a landowner/occupier and/or request the necessary permits or licences from the appropriate organisations. Permits for scientific collection are required within the Skomer MNR from CCW.

Issue Rationale: Potential effects can arise from repeated trampling and destructive sampling.

Education and scientific studies are currently considered to fall under the broad management response option F4 (see Section 5.3 for further detail). F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed: See Section 6.7 D, 6.9 +H, 6.10 G

3.6.6 Marine archaeology and salvage

Description:
Archaeology sites vary from sunken ships to the remains of ancient structures and cultures. Such ancient structures can date from well before the huge sea level change that occurred during the Bronze Age (2500BC to 500BC). Within the SAC there is one protected site at The Smalls (SM 4644 0876) where an important Viking sword guard of 11th century date was found on the trade route between Viking Dublin and Denmark. The protected area is 100m radius, centre 51 43.18'N 05 40.13'W.

Current management:
Most historically valuable archaeological excavation is carried out under the 1973 Protection of Wreck Act. All artifacts, when removed from any site, become the responsibility of the official Receiver of Wreck who has the legal responsibility to dispose of all materials either to there rightful owner or their descendants if they can be traced. If this is not possible, artifacts can be sold off with proceeds going to the finder or the salvers in possession, with a small percentage going to the Crown. Historic sites that are not protected under the 1973 Act but are within the twelve mile limit are subject to the Merchant Shipping Act 1895, amended 1995. Persons finding a structure can claim reward from such sites by becoming Salvers in Possession. This ensures that, by taking possession the finder has the first claim after the crown and their claim is protected in British Law.

The 1973 act will exclude all operations within a designated area around a historic site, which can be judged to damage the area unless the licensing authority has granted permission. All invasive activity within the exclusion zone is prohibited; this includes fishing of all types both sport and commercial. No diving can take place unless a license has been granted by one of the five heritage bodies in the UK; in Wales this is CADW, which acts for the National Assembly for Wales. The site license has to be held by a suitably qualified person who can then nominate divers to be placed on a diving list as part of the archaeological team. The area designated is only imposed on the seabed, not on the surface, other sports activities on the surface can continue without being in contravention of the law, but anchoring within the designated area does contravene the 1973 Act. Within the scope of the 1973 Act, protection can be granted up to the high water spring tide level.

Issue Rationale: Potential effects include physical disturbance.

Archaeological excavations are currently considered to fall under the broad management response option F1 (see Section 5.3 for further detail) where the activity constitutes a 'plan or project' as defined in the Habitats Directive.

Actions needed: See Sections 6.7 E, 6.9 H+I, 6.10 I

3.6.7 Wild animal welfare

Description:
The welfare of animals, particularly wild animals such as seals, is an emotive subject, and one to which many people are devoted. Wild animals are taken in, cared for, and then released back into their own environment. Reasons for intervention may include sickness, injury and disablement. Causes can be natural or due to human activity (e.g. oil pollution, marine litter or interactions with fisheries such as entanglement in nets). There is the threat to UK seals of disease; the phocine distemper virus, PDV, has affected seals in the past although mainly on the east coast of England.

Current management:
The International Fund for Animal Welfare (IFAW) campaign internationally to reduce commercial exploitation and trade, save animals in distress, and preserve habitat for animals. The Partnership for Action Against Wildlife Crime (PAW) brings together the Police, HM Customs and Excise, and representatives of Government Departments and voluntary bodies, with an interest in wildlife law enforcement. It supports the networks of Police Wildlife Liaison Officers and Customs Wildlife and Endangered Species Officers and raises awareness of wildlife crime and the need for tough enforcement action. The RSPCA and locally the Welsh Marine Life Rescue Centre take in injured animals and respond to public reports. PCC only license establishments that are classed as 'zoos'.
Discussions have occurred in the past between nature conservation bodies and local animal welfare establishments over a memorandum of understanding relating to seal conservation and welfare intervention.

Issue Rationale:
Potential effects include physical disturbance of healthy animals; displacement and removal of species; introduction of disease to wild populations; habituation of wild animals to humans.

Wild animal welfare is currently considered to fall under the broad management response option F4 (see Section 5.3 for further detail). F4 is where there is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant effect.

Actions needed: See Sections 6.7 F, 6.9 G+H, 6.10 I

3.7 Plans and projects

The Habitats Directive and Regulations distinguish between 'activities', and developments which require some sort of specific statutory consent, authorisation, licence or permission from a competent authority (who might also be a relevant authority to the site) before they are allowed to proceed. Such developments are known as ***plans or projects*****.**

Whilst this scheme is mainly concerned with management of ongoing current and likely future activity taking place within or adjacent to the SAC, and although the mechanisms for authorisation of plans and projects differ, the management of authorisation of plans and projects is nevertheless important and

relevant to securing the SAC features at Favourable Conservation Status (see Section 4). This section is intended to serve as:

- an acknowledgement by and a reminder for relevant and competent authorities of the assessment requirements for plans and projects prior to authorisation;
- a brief explanation for users of the site and for the general public of the distinction of plans and projects from activity management, and the requirement for their assessment.

Appropriate assessments are dealt with in Section 5.6. Guidance and a 'decision tree' on the process required prior to authorisation of a plan or project are given in Appendix 7.

4. CONSERVATION OBJECTIVES AND ADVICE ON POTENTIALLY DAMAGING OPERATIONS

4.1 Introduction

Regulation 33 of the Habitats Regulations requires the Countryside Council for Wales (CCW) to advise the relevant authorities for European Marine Sites as to "(a) the conservation objectives for that site, and (b) any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, for which the site has been designated."

Further detail is contained in CCW's draft Regulation 33 advice document "Pembrokeshire Marine European Marine Site: Advice provided by the Countryside Council for Wales in fulfilment of Regulation 33 of the Conservation (Natural Habitats, &c.) Regulations 1994 (April 2005)."

This section is based on the DRAFT regulation 33 advice made available in April 2005. This draft advice is currently being further developed, and may therefore be subject to some change. The final version is currently timetabled to be available in 2008.

4.2 Conservation Objectives - summary

The conservation objectives represent the aims of the Habitats Directive in relation to the site. The Directive requires that measures be designed to maintain or restore habitats and species of European Community importance at "favourable conservation status" (FCS) (see Box 4).

Box 4: Favourable conservation status as defined in Article 1 of the Habitats Directive

Conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long term natural distribution, structure and functions as well as the long term survival of its typical species within the territory referred to in Article 2.
The conservative [sic] status of a natural habitat will be taken as 'favourable' when:

- its natural range and the areas it covers within that range are stable or increasing, and
- the specific structure and functions which are necessary for its long term maintenance exist and are likely to continue to exist for the foreseeable future, and
- conservation status of typical species is favourable as defined in [Article] 1(i).

Conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term natural distribution and abundance of its populations within the territory referred to in Article 2;
The conservation status will be taken as 'favourable' when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis

The conservation objectives for a site set the standards which must be met if the habitats and species features are to be at FCS. They form the basis for:

- proactive determination of the management needs of the site in order to conserve the features;
- consideration of proposed developments, or "plans or projects", which are likely to significantly affect the features of the site (see Section 3.7);
- the standard against which the conservation status of the features are reported to UK government (government will, in turn, use this information to contribute to their reporting to the EC on the implementation and effectiveness of the Habitats Directive);
- the standard against which the appropriateness of management can be judged, in retrospect.

These draft conservation objectives recognise and acknowledge:

- the inherent range of variation as a result of:
  - most habitat features comprising large physiographic landscape units (encompassing multiple habitats),
  - natural biological changes in time and space,
  - random or chance biological and non-biological events (e.g. larval survival and storms);
- the substantial, inherent variation in biological and non-biological structure and function in marine ecosystems in general, and in the diverse and highly dynamic environment within the site in particular;
- the general tendency for biodiversity to be greatest in ecosystems subject to moderately high levels of natural stress;
- that species have evolved largely in the absence of human influence. They are best adapted to cope with natural perturbations and typically show an inability to cope successfully with anthropogenic modification of the environment;
- the degree of past and present anthropogenic influence on:
  - habitats,
  - species,
  - biological and non-biological structure and function.

Consequently, in order to meet the requirements of the Habitats Directive and ensure the site makes its appropriate contribution to conservation of biodiversity, the conservation objectives seek, *inter alia*, to:

- encompass inherent dynamism rather than to work against it,
- safeguard features and natural processes from those impacts of human activity that cause damage to the features through the degradation of their range, extent, structure, function or typical species.

The outcomes of human actions may be beneficial (a change resulting from a decrease in anthropogenic influence; e.g. an improvement in water quality), benign (no outcome) or detrimental (a change resulting from an increase in anthropogenic influence, i.e. a new anthropogenic impact or an increase in an existing anthropogenic impact; e.g. a deterioration in water quality). The term degrade is used to encompass damage or impairment resulting only from such human action as has a detrimental outcome for the feature.

The significance of any degradation is dependent on the longevity and scale of the impact and the conservation value of the receptor. This is influenced by:

- the type of human action, its nature, location, timing, duration and intensity,
- the receptor, and its intolerance and recoverability.

Outcomes arising from human action that are likely to be considered detrimental include such effects as, *inter alia*:

- permanent change of distribution or reduction in extent of a feature or feature component, or temporary modification or reduction sufficiently significant to negatively impact on biota or ecological processes;
- reduction in ecological function caused by loss, reduction or modification of habitat structural integrity;

- interference in or restriction of the range, variety or dynamism of structural, functional or ecological processes, e.g.: alteration of habitat structure, obstruction of tidal streams, chronic or acute thermal, salinity or suspended sediment elevations or reductions;
- hypertrophication or eutrophication;
- contamination by biologically deleterious substances;
- reduction in structure, function and abundance of species populations;
- change in reproductive capacity, success or recruitment of species populations;
- reduction in feeding opportunities of species populations
- reduction of health to a sub-optimal level, or injury, rendering the population less fit for, *inter alia*, breeding, foraging, social behaviour, or more susceptible to disease;
- increase in abundance and range of opportunist species through the unnatural generation of preferential conditions (eg organic enrichment), at the expense of existing species and communities.

Illustrative examples of specific changes and whether they would constitute degradation of the feature are provided as follows:

Degradation	**Not Degradation**
Reduction in grey seal reproductive potential as a result of sub optimal physiological health caused by high tissue burdens of anthropogenically derived contaminants.	Reduction in grey seal reproductive potential as a result of sub optimal physiological health caused by density dependent incidence of endemic disease.
Modification of a seabed community by organically rich effluent from a new sewage outfall.	Modification of a seabed community as a result of a reduction in organic material entering the sea from a sewage outfall.
Change in seabed community composition as a result of coastal engineering that has altered local wave exposure.	Change in seabed community composition as a result of a cliff fall, the debris from which has altered local wave exposure.
Change to the species composition of a seabed community as a result of an increase in scallop dredging intensity.	Change to the composition of a seabed community as a result of a reduction in scallop dredging intensity.
Permanent reduction of extent of sand and mud-flat as a result of new coastal development.	Permanent reduction of extent of sand and mud-flat as a result of long-term natural changes in sediment transport.
Changes in sediment granulometry as a result of beach recharge operations.	Changes in sediment granulometry as a result of natural cliff fall and erosion.

These conservation objectives recognise and acknowledge that human action has already modified and continues to modify habitats and species populations in various ways, to varying degrees and at varying spatial scales, either acutely or chronically. Nevertheless, many of the key ecological processes in the Pembrokeshire Marine SAC are relatively little modified by human action. These conservation objectives do not seek to achieve an undefinable, abstract, natural or pristine state, but the prevention of further negative modification (i.e. damage or degradation) of the extent, structure and function of natural habitats and species populations by human activity following the date of submission of the site to the European Commission as a candidate SAC.
Unless otherwise qualified, the reference point for degradation in the following conservation objectives is the date of submission of the site as a candidate SAC. In circumstances where degradation was already identifiably unacceptably high, the conservation objectives seek to restore the feature to a reduced, acceptable, level of degradation.

Although much modification by human action is generally anticipated to be directly or indirectly detrimental or an impediment to one or more components of a feature, some human actions may, depending on the action's and feature's scale, location or mechanism, be benign, have no long-term effect on a feature or reduce or reverse detrimental human influence.

Whilst the full extent of the important components which comprise the features are encompassed within the conservation objectives, the various components are differently sensitive and susceptible (vulnerable) to degradation by different human actions. Protection is provided by management, and management should be based on levels of risk. As the various components of conservation status are differently sensitive and susceptible to change by different human actions, and are of different conservation importance, the degree of management and hence protection will vary both in space and time, and from one constituent of the feature to another. It is therefore important that these conservation objectives are understood as requiring a risk-based approach to the prioritisation and implementation of management action.

Duplication between objectives for each feature is inevitable, since there is significant spatial overlap between the features and each feature is dependent on many of the same fundamental functional processes.

Draft conservation objectives for each of the SAC habitat features (see Section 2) are as follows:

The conservation objective for each habitat feature is to maintain at favourable conservation status its natural range and area covered, the structures and functions necessary for its long-term maintenance, and the conservation status of its typical species on a long-term basis.

Draft conservation objectives for each of the SAC species features (see Section 2) are as follows:

The conservation objective for each species feature is to maintain at favourable conservation status its long-term population viability, natural range and the structure and function of its habitat within the site.

4.3 Advice on operations which may cause deterioration or disturbance

Advice on operations that are potentially damaging needs to be considered in the context of the Habitats Directive, which requires that for an SAC:

- the necessary conservation measures are established which correspond to the ecological requirements of the habitats and species on the site;
- appropriate steps are taken to avoid deterioration of habitats and significant disturbance of species;
- any plan or project which is likely to have a significant effect on a site is subject to an appropriate assessment in view of the site's conservation objectives.

The operations advice, in combination with the conservation objectives, is therefore intended to assist relevant authorities and other decision-makers in complying with these provisions. The term "operations" is taken to cover all types of human activity, which manifest themselves directly or indirectly through one or more influences or processes.

The advice comprises a list of operations which CCW considers may cause deterioration or disturbance to the features of the site, with accompanying information on the factors through which the operation may

affect the feature and which aspects of the feature may be affected. It makes an important contribution to the identification of:

- management measures necessary to secure features at FCS;
- plans or projects that would be likely to have a significant effect and should be subject to appropriate assessment.

The advice is not a list of prohibited operations, or operations necessarily requiring consultation with CCW, or CCW's consent. The 23-page draft operations advice table can be viewed within the draft advice package available from CCW.

For current advice regarding the potential effects of an activity, relevant and competent authorities are advised to contact CCW (see Appendix 4).

Lobster (*Homarus gammarus*) in pot

5. SITE MANAGEMENT

5.1 Introduction

This section describes the management planning process; the process by which management actions have been drawn up. This process has been informed by information supplied by the relevant authorities, SAC Liaison Forum and other interests, and the Countryside Council for Wales' draft advice.

Note that the management scheme process and the subsequent development of management actions occurred prior to the provision of draft Regulation 33 Advice from the Countryside Council for Wales (see Section 4).

It must be stressed that tackling and over-riding issues such as the lack of legislative powers within the marine environment, and resource problems (staffing and funding for SAC management implementation) are fundamental to the overall management success of the site. Such impediments however did not stop management needs being addressed within the scheme. The scheme and its resulting actions are necessarily ambitious.

5.2 Identifying management requirements

5.2.1 Assessment of activities

The management actions necessary to secure the site's features at favourable conservation status have been identified following assessment of the directly or indirectly known effects of current, and likely imminent future activity on the site's features. Information availability - or unavailability - was a critical constraint on these assessments. In compiling this document and in determining management requirements, it was necessary to collate and synthesise a wide range of relevant information and to draw inferences from appropriate research findings to inform the process.

Activities occurring or likely to occur in the future, within the site were identified. Information on where the activities occurred and how they were currently managed was collected. Detailed activity information proved difficult to obtain. The variety of activities which take place within the SAC is wide, with many of these activities occurring largely 'out of sight'. Consequently, information on human activities within the site is hugely variable and much is not recorded or available in any formal manner. In most instances this information was incomplete and for many activities there was no information available at all. Ongoing activity information gathering remains an important part of the SAC management process (see Section 7.1.2).

The next step was to assess whether those activities had the potential to cause deterioration or significant disturbance to the SAC features. This information is included in draft Regulation 33 advice from the Countryside Council for Wales. Prior to the provision of this advice however, the Relevant Authorities Group, in an attempt to progress management of the site, agreed to make their own assessments. Such assessments were made following in depth discussion and agreement over what 'factors' had the ability to influence the SAC features[23]. The assessment of the potential of an activity to cause deterioration or significant disturbance to SAC features necessitates an understanding of the sensitivity and exposure of those features and sub-features to the different activities. Such information, again, is largely incomplete; information on causal relationships between human activity and wildlife, habitats and ecology is highly variable in detail and availability, and is mostly dispersed widely in the published scientific literature.

[23] Factors are processes or influences through which any activity or natural process affect species or their habitats; for further information see, for example, www.marlin.ac.uk

The marine environment is a complex one and modern survey and experimental techniques have only relatively recently begun to gradually provide the essential biological and ecological information on which to base informed management decisions. A considerable amount of information is available about the features, though it is spread amongst many documents which differ in style, detail, accessibility and age. Assessments were made based on best available knowledge only. It may be that in the light of further information, certain activities in certain locations may be assessed differently.

5.2.2 Issues consultation

During 2002 a consultation document on the potential management issues for the SAC was compiled. This document took the activities list (see Table 2, Section 5.3) and reduced it to those that were deemed to be potential 'issues' at that time for the SAC. Issues included those activities that had been assessed to have the potential to cause deterioration or significant disturbance to the SAC features. They were described as being past, current or potential problems/concerns that should be considered more closely for SAC management purposes. Liaison with wider stakeholders of the site (including the SAC Liaison Forum and members of the public via Marine and Coastal Surgeries) aided the production of the document by enabling input and identifying their own issues of concern relevant to the SAC features.

It was stressed that the list of issues within the document was neither exhaustive nor definitive; some issues may have been overlooked and additional issues may well arise in the future and need to be considered. It was also stressed that further information could show that some, or indeed many of the issues listed would not be likely to present significant risks to the features. The document provided information on current management and gave some suggested future management options. It made clear that some activities do not fall neatly into management measures already established by relevant authorities or other responsible managing organisations, and would need careful consideration for future management.

The document *Issues for the Pembrokeshire Marine Candidate Special Area of Conservation: draft for consultation* was published in October 2002. It was sent out for public consultation for four months. Seven hundred consultation documents were initially distributed – including five hundred sent directly to organisations and individuals on the SAC mailing list; sixty five responses were received.

Comments were mostly supportive of the SAC and advocated its positive management:

- public involvement was welcomed;
- there was impatience that progress was not faster and management not more robust;
- several respondents suggested that robustly improved management measures were necessary;
- the need for further improved information and understanding of the importance of the SAC was identified;
- positive suggestions for future priority management tasks were identified.

However, some feedback demonstrated:

- unrealistic understanding of the marine environment or the management of marine activities;
- the belief that where socio-economic and environmental requirements are in conflict, environmental protection should not impede economic development.

The issues consultation marked an important phase of the SAC management development process and provided a major contribution to the development of the action plan.

5.3 Categorising management

To assist in determining what type of actions needed to be taken in managing activities which may affect the SAC features, a series of broad management responses was drawn up. These used the experiences of other marine SACs in the UK, as agreed by the relevant authorities. Table 1 identifies these agreed types of response, appropriate to different circumstances, and gives the response a code.

Table 1: Broad management response options

Code	Judgement	Management response
F1	The activity constitutes a 'plan or project' as defined in the Habitats Directive.	· Apply Habitats Regulations 48-53 ('appropriate assessment'…).
F2	There is no known mechanism for the activity to affect the feature, no known causal relationship, and no evidence that it is having a significant adverse effect.	· Not considered further at present.
F3	There is no known mechanism for the activity to affect the feature, but there is evidence that there may be a causal relationship and/or it is having a significant adverse effect.	· Research · Activity surveillance · Experimental or trial management · Identify and implement operational limits.
F4	There is a known mechanism for the activity to have an effect, but there is insufficient evidence at present to determine whether or not it is having a significant adverse effect.	· Activity surveillance. · Precautionary management including use of operational limits. · Research to determine whether there is an effect or not and inform operational limit setting.
F5	There is a known mechanism for the activity to have an effect, but evidence shows that it is not having a significant adverse effect at present.	· Activity surveillance. · Identify and implement operational limits.
F6	There is evidence to suggest that an activity is having a significant effect on the feature, but it is outside management control (e.g. it is an indirect effect from large scale human activity - climate change), or there is no current mechanism for management.	· Activity/factor surveillance. · If necessary, seek appropriate management mechanism, then implement appropriate management.
F7	There is evidence to suggest that an activity is having a significant adverse effect and the mechanism is known.	· Identify and implement management measures. · Identify and implement operational limits.

Table 2 lists those activities, based on current available information, known to be currently occurring within the site and those that are likely to occur in the future. They are not listed in any priority order. Activities identified as *currently* having the *potential* to cause deterioration or significant disturbance to the SAC features are noted here as issues (these are constantly under review to reflect current use of the SAC). It is these that are considered further in this management scheme. Each activity was assigned a management response code by the Relevant Authorities Group based on the best available information. Further rationale for individual activity code allocations may be found within Section 3. This categorisation of management helped to steer the type of actions detailed within the Action Plan (Section 6). For example, where there was seen to be a lack of information about an existing activity and on its potential affects to SAC features, then some research into that activity and its possible impacts should be conducted.

Table 2: Activity list, issue identification and management categorisation

Activity	Currently in the SAC?	Future prospects in the SAC?	SAC Issue?	F List Code 2007
CULTIVATION OF LIVING RESOURCES				
Algae Farming	no	unlikely	no	-
Crustacean Farming	no	unlikely	no	-
Molluscan Farming	no	likely	yes	F1
Molluscan Ranching	no	likely	yes	F1
Non-salmonid Farming	no	likely	yes	F1
Salmonid Fish Farming	unknown	likely	yes	F1
Wild Stock Enhancement	no	possible	yes	F4/F5
EXPLOITATION OF LIVING RESOURCES				
Algae Collection (not maerl):				
Intertidal	yes	continuing	yes	F1/F4
Subtidal	no	unlikely	no	-
Drift-line gathering	yes	continuing	yes	F4
Bait Collection:				
Boulder turning	yes	continuing	yes	F1/F4/F7
Manual digging	yes	increasing	yes	F1/F4/F5/F7
Mechanical digging	unknown	unlikely	no	-
Lug worm pump	yes	possible	yes	F1/F5
Salting	yes	possible	yes	F1/F5
Other (e.g. crab tiles…)	yes	continuing	yes	F1/F5
Collection for Aquarium & Curio Trade	yes	continuing	yes	F1/F5
Vehicle Activity (for access)	yes	continuing	yes	F1/F4/F7
Dredging:				
Hydraulic dredging	no	likely	yes	F1
Intertidal mechanical dredge	no	unlikely	no	-
Mussel dredge	yes	likely	yes	F1
Oyster dredge	yes	increasing	yes	F1
Scallop dredge	unknown	unknown	yes	F1
Hand Gathering (for human consumption):				

Activity	Currently in the SAC?	Future prospects in the SAC?	SAC Issue?	F List Code 2007
Boulder turning & picking	yes	continuing	yes	F1/F4/F7
Digging	yes	continuing	yes	F1/F4
Diving/Snorkling	yes	continuing	yes	F1/F4
Raking	yes	continuing	yes	F1/F4/F5/F7
Spearfishing	yes	continuing	yes	F1/F4/F5
Higher Plants:				
Picking for human consumption	yes	continuing	yes	F1/F4
Saltmarsh grazing	yes	continuing	yes	F1/F4/F7
Line Fishing (commercial):				
Rod and Handline	yes	continuing	yes	F4/F7
Longline	unknown	possible	yes	F4
Netting:				
Beach seine	yes	continuing	yes	F4
Fyke	unknown	possible	yes	F4
Fixed, gill, tangle & trammel	yes	increasing	yes	F4
Salmon	yes	continuing	yes	F4
Potting:				
Inkwell	yes	continuing	yes	F4
Parlour	yes	continuing	yes	F4
Whelk	yes	possible	yes	F4
Trawling:				
Beam	yes	continuing	yes	F4
Otter	yes	possible	yes	F4
Pair	unknown	possible	yes	F4
EXPLOITATION OF NON_LIVING RESOURCES				
Aggregate Dredging:				
Biogenic gravel (maerl)	no	unlikely	no	-
Sand & gravel	no	possible	yes	F1
Metalliferous sediments	no	unlikely	no	-
Alternative Energy Production:				
Coastal wave & tidal current	no	likely	yes	F1
Tidal barrage	no	possible	yes	F1
Wind	no	possible	yes	F1
Coastal Quarries & Mines	no	unlikely	no	-
Oil & Gas Exploration/Production:				
Drilling operations	no	likely	yes	F1
Operational & accidental discharges	no	possible	yes	F1
Seismic surveys	unknown	possible	no	-
Oil Spill response:	no	possible	yes	F7
Water Resources & Storage:				
Desalination	no	unlikely	no	-
Estuarine reservoirs	no	unlikely	no	-
Freshwater abstraction	yes	increasing	yes	F1
Saltwater abstraction	yes	continuing	yes	F1

Activity	Currently in the SAC?	Future prospects in the SAC?	SAC Issue?	F List Code 2007
USE OF COASTAL LAND/WATER SPACE				
Animal Sanctuaries	yes	continuing	no	-
Artificial Reef Construction	no	likely	yes	F1
Civil Engineering	yes	continuing	yes	F1
Coast Protection/Defence:				
Beach replenishment	no	possible	yes	F1
Breakwater	no	unlikely	no	-
Drainage	no	unlikely	no	-
Groynes	no	unlikely	no	-
Infill	no	likely	yes	F1
Managed retreat	no	unlikely	no	-
Seawall	yes	continuing	yes	F1
Docks, Marinas & Shipping:				
Anchoring	yes	continuing	yes	F4/F7
Antifoulant use/vessel maintenance	yes	continuing	yes	F4/F7
Capital dredging	yes	possible	yes	F1/F4/F7
Cargo losses	yes	possible	yes	F4/F7
Discharge of ballast water	yes	continuing	yes	F4
Operational spills	yes	possible	yes	F7
Maintenance dredging	yes	continuing	yes	F1
Mooring	yes	continuing	yes	F4/F7
Refuse disposal	yes	continuing	yes	F4
Sewage disposal	yes	continuing	yes	F4
Shipping movements	yes	continuing	yes	F4/F5/F7
Estuarine Barrages:				
Amenity barrage	no	unlikely	no	-
Storm / tidal surge barrage	no	unlikely	no	-
Tidal barrage	no	unlikely	no	-
Marine Archaeology & Salvage	yes	possible	yes	F1?
Military Activities:				
Aircraft	yes	continuing	no	-
Dumping/Dumps	no	unlikely	yes	F1/F4
Exercise Area	yes	continuing	no	-
Ordnance ranges	yes	continuing	yes	F1/F4
Underwater acoustics	no	possible	yes	F4
Power Station:				
Fossil fuel	no	likely	yes	F1
Nuclear	no	possible	no	-
Recreation:				
Aircraft (incl. hand gliders)	yes	continuing	no	-
Angling	yes	continuing	yes	F4/F7
Casual shore recreation	yes	continuing	yes	F4
Coasteering	yes	continuing	yes	F4
High speed power craft	yes	continuing	yes	F4/F7

Activity	Currently in the SAC?	Future prospects in the SAC?	SAC Issue?	F List Code 2007
Hovercrafts	yes	possible	yes	F4
Low speed power craft	yes	continuing	yes	F4
Motorised biking	yes	possible	yes	F4
Non-mechanical power craft	yes	continuing	yes	F4/F7
Shooting	yes	continuing	yes	F4
Scuba diving/Snorkling	yes	continuing	yes	F4
Vehicles	yes	continuing	yes	F4/F5/F7
Underwater Cables & Pipelines	yes	increasing	yes	F1
WASTE DISPOSAL				
Agricultural run-off	yes	continuing	yes	F4/F7
Dredge spoil dumping	yes	continuing	yes	F1/F4/F7
Air pollution	yes	continuing	yes	F4
Effluent disposal (industrial)	yes	continuing	yes	F4/F7
Effluent disposal (sewage)	yes	continuing	yes	F4/F7
Inorganic refuse & litter	yes	continuing	yes	F4/F7
Sludge dumping	no	unlikely	no	-
Thermal discharge	no	likely	yes	F1/F4
Urban and industrial run-off	yes	continuing	yes	F4/F7
EDUCATION AND SCIENTIFIC STUDIES				
Repeated site visits	yes	continuing	yes	F4
Experimental manipulation	yes	continuing	yes	F4
Experimental observation	yes	continuing	yes	F4
Sample collection	yes	continuing	yes	F4
Animal welfare	yes	continuing	yes	F4
CLIMATIC CHANGE				
Current change	yes	increasing	yes	F6
Sea Level change	yes	increasing	yes	F6
Temperature change	yes	increasing	yes	F6
Weather patterns	yes	increasing	yes	F6

5.4 Prioritising management

In order to help systematically identify and prioritise management actions for the SAC, a 'risk assessment' of activities has been devised and tested. It is the intention of the Relevant Authorities Group to gradually work through this lengthy risk assessment as part of its ongoing long-term work programme. The number of individual assessments needed to complete the risk assessment for the site is currently undetermined, being dependent on the number of specific activities and sensitive components of features detailed, and differences in temporal and spatial elements. The risk assessment will benefit from the provision of more detailed activity and feature information and be continually revised as more research is conducted.

5.5 Management objectives

As a result of the considerations described above, a series of *management objectives* have been developed. Management objectives are specific, activity-related statements which describe a desired

outcome or goal intended to contribute to meeting the conservation objectives for the site (see Section 4), and thereby being instrumental in securing the features of the site at FCS. Management objectives are not intended to be prescriptive in themselves, but to be delivered through a series of specified *actions* by individual relevant authorities (see Section 6).

5.6 Appropriate assessment of plans and projects

Any plan or project (see Section 3.7) judged likely to have a significant effect upon the conservation features of the site, either individually or in combination with other plans or projects, is subject to *appropriate assessment* of its implications for the conservation features of the site, in addition to any other environmental impact assessment (see Box 5).

Box 5: Article 6 (3) of the Habitats Directive

"*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*"

New activities which require consent or permission from a competent authority before they can proceed or continue are dealt with under Regulations 3(3), 3(4) and 47 to 85 of the UK Habitats Regulations. The Regulations state that where these plans or projects have the potential to significantly affect the interest features of the site, full considerations must be given the requirements of the Habitats Directive.

European Union guidance [24] and UK government guidance [25] provide clear interpretation and direction of the requirements of Article 6(3). UK government commitment to these requirements was reconfirmed in April 2004 by the Secretary of State for Transport's decision on development at Dibden Bay, Southampton [26].

The initial determination of the requirement for appropriate assessment of a plan or project is whether it can be clearly identified as *not* likely to have a significant adverse effect on the integrity of the site. In the event that it *cannot* be clearly determined that it will *not* have such an effect, appropriate assessment is required. Where it is unclear whether or not a plan or project will have significant effect, it *cannot* have been determined as having no likely significant effect and must therefore be subject to appropriate assessment.

The meaning of "likely significant effect" in this context is any effect that may reasonably be predicted as a consequence of a plan or project that may affect the conservation objectives of the features for which the site was designated.

[24] European Commission (2000). Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/CEE DGXI, Brussels ISBN 92-828-9048-1 http://europa.eu.int/comm/environment/nature/nature_conservation/eu_nature_legislation/specific_articles/art6/index_en.htm

[25] DETR / Welsh Office, 1998. *op cit* (footnote 4)

[26] Secretary of State, Department for Transport decision and Inspector's Report refusing consent for the Port of Southampton (Dibden Terminal) Harbour Revision Order under the Harbours Act 1964 (www.dft.gov.uk)

Appropriate assessment of a plan or project should encompass the plan or project in its entirety, alone and in combination with any other relevant plans and projects, and should include everything contained in their application(s) for consent, permission or other authorisation.

In addition to proposed plans or projects within the site, any plan or project adjacent to or near the site that may have an adverse effect within the site is subject to the same requirement for assessment prior to authorisation.

The statutory test for determining whether a plan or project can be allowed to proceed is whether it will adversely affect the "integrity of the site" [27]. In order for a plan or project to proceed, it must be ascertained that it will *not* adversely affect the integrity of a site.
In determining adverse effect, short-term impacts must be considered in terms of the long-term integrity of the site, and proposed mitigation but not compensatory measures may be taken into account [28].

The Habitats Directive makes provision, where an appropriate assessment has concluded adverse effect on the integrity of the site, for a plan or project to proceed under certain circumstances "for imperative reasons of overriding public interest". Decisions on overriding public interest are the responsibility of the appropriate Secretary of State. Projects allowed to proceed on this basis are required to take all compensatory measures necessary to ensure the coherence of the *Natura 2000* network is maintained.

A Dutch fishery ruling in the Wadden Sea has had far-reaching implications for the fishing sector due to its interpretation of the Habitats Directive (see Box 6).

Box 6: Wadden Sea Ruling, 2004.

In September 2004, the European Court of Justice (ECJ) provided important legal interpretation on the issue of 'plans and projects' and 'appropriate assessment' in relation to fishing activities in the Wadden Sea.
The Court ruled that an activity, such as mechanical cockle fishing, can fulfil the concept of a project. It also ruled that the fact that an activity has been carried out periodically for several years on a given site does not preclude it being considered as a distinct plan or project within the meaning of the Habitats Directive. ECJ rulings are binding, with consequences for all Member States.

The ruling's implications for the fishing sector have not been disputed and reach further than the Wadden Sea. Following the ruling, DEFRA stated that any doubt that annual licensing of an established fishery could amount to a plan or project was removed by the ECJ ruling, and that 'it is the view of the Department that the term 'plan or project' in terms of Article 6(3) of the Directive generally covers any activity involving an intervention in the natural environment that is undertaken, authorised or permitted by a competent authority'. Moreover, DEFRA concluded that if such 'an authorisation [or activity] is not directly connected to, or necessary for the management of a European site, and is likely to have a significant effect thereon, an appropriate assessment is required'.
The Court's ruling also clarified what constituted a significant effect, and reinforced the view that the decision whether an appropriate assessment is required should be made on a precautionary basis.

[27] "Integrity of the site" is not defined in the legislation, but has been defined by the UK government as "the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified [i.e. designated]". This definition is similar in intent to FCS.

[28] *Managing Natura 2000* draws a clear distinction between mitigation and compensation (para 5.4.1: mitigation aims to "minimise or even cancel the negative impacts on the site".

Guidance and a 'decision tree' on the process required prior to authorisation of a plan or project are given in Appendix 7.

5.7 Natural factors

This management scheme addresses human activities taking place within the Pembrokeshire Marine SAC. However it is acknowledged that the SAC features are also subject to broadscale and local natural influences such as climate variation, competition amongst and between species and chance random events. The significance of these "natural" effects and how they interrelate with human activities in the SAC is highly complex and poorly understood. It should be noted that natural influences, particularly climatic factors, fall outside SAC management control.

5.8 Global influences

All human activity, natural variation and management are subject to global influences, whether natural or human induced. Global climatic change may be manifested by increased storminess and changed sea level as well as any change in temperature. Clearly such influences must be acknowledged and accommodated by the management scheme. Although control of adverse global influences caused by human action is far beyond the scope of local management schemes, attention is drawn to the importance of local contributions in addressing global problems.

5.9 Wider site management

During the *Issues Document* consultation (see Section 5.2.2), and frequently at other times, issues were often raised which lie outside the purpose of this management scheme, in that they do not represent a potential significant threat to the SAC features. Examples may include dog fouling of popular beaches, or disturbance to breeding cliff-nesting sea birds. Close working with the Pembrokeshire Coastal Forum has enabled such issues to be forwarded and dealt with appropriately. A local coastal partnership to address concerns which may not be relevant to the SAC is beneficial, not only to the public who are able to see that their concerns are dealt with, but also to Integrated Coastal Zone Management (ICZM) in a wider sense. The statutory management organisations within Pembrokeshire as a whole are committed to the principles of ICZM and this ultimately benefits the future management of the Pembrokeshire Marine SAC as well as its neighbouring marine protected areas.

6. ACTION PLAN

6.1 Introduction

This section outlines the actions which have been identified as needing to be taken by the individual relevant authorities, competent authorities and other interests, either working alone or in partnership, to manage the Pembrokeshire Marine Special Area of Conservation (SAC) to secure the features at favourable conservation status. Attempts have been made to ensure that actions are, wherever possible, specific, measurable, attainable, realistic and have a timescale. The key principles agreed by the Relevant Authorities Group (see Section 1.3) form the common framework from which all actions are built.

As far as possible the actions have been linked to existing strategies, plans and initiatives (detailed in Appendix 6). This has been done to avoid duplication and to highlight the extent and relevance of current management measures and the strong links that already exist between the relevant authorities and other groups and initiatives. It should be particularly noted that specific actions within the SAC action plan feed into the Pembrokeshire Biodiversity Partnership Local Biodiversity Action Plan (LBAP). The LBAP contains specific plans for species and habitats of national and local importance, outlining the threats, current action and planned action needed to conserve the biodiversity of Pembrokeshire. The relevant authorities are involved in the consultation of draft marine Species Action Plans (SAPs) and Habitat Action Plans (HAPs) to ensure the plans complement each other and avoid duplication of effort.

The Action Plan is recognition that many ongoing established management practices contribute directly or indirectly to protecting SAC features from damage. This said, it is important to note that those actions listed will not necessarily need to stand alone, but may require modification of existing practice or integration of additional management measures. The process of determining the contents of the Action Plan is described in more detail in Section 5.

It is also important to note that identification of required actions does not necessarily imply there are adequate resources available, appropriate legislation in place, or a mandate for taking action. For this reason a constraints column has been included within the Action Plan in which constraints on delivery of actions are identified.

Relevant authorities will also be provided with authority-specific action plans of their own on which to record further information pertaining to successful action implementation.

This draft plan should be read in conjunction with the draft Regulation 33 advice (April 2005) from the Countryside Council for Wales.

For ease of reference, actions within the Action Plan have been subdivided into sections as follows:

- Ports, Harbours & Shipping
- Living Resources
- Water Quality, Pollution & Waste Disposal
- Recreation
- Miscellaneous activities
- Resources
- Awareness
- Information and Data Collation (including Research) and Collection
- Monitoring, Review and Reporting

It is important to note that the topic areas and their subsequent actions are *not in any priority order*. It is also essential that *cross-referencing between sections is applied*. No one section stands alone; for example information and data gathering actions are all grouped under the section of that title and not separated into their individual activity sections.

6.2 Action Plan Structure

The table structure has been kept as simple as possible. Explanations for each of the columns are as follows:

MANAGEMENT OBJECTIVE – specific outcome necessary to contribute to securing the SAC features at favourable conservation status.

ACTIONS – general and specific actions which have been identified as necessary to contribute to the achievement of the management objectives. The identified actions are described in broad terms and make no attempt to predetermine or dictate the precise procedures to be taken by any relevant authority in order to achieve them. Actions are not restricted to only those which can be delivered easily or within currently available resources (financial, personnel, legal), but attempt to be those that are actually necessary to make a genuine contribution to meeting the site's contribution to the goals of Natura 2000.

WHO – lists those who *should* undertake the specified action, who *could* do it, and who *might* take the lead. Those who should do it are the authorities under whose jurisdiction/responsibility the action lies. This is not always clear, in which case those listed are those who *could* do it. To ensure actions are delivered, one authority (in some cases two) has been identified as the lead for a particular action. It is the lead's role to act as 'champion' for that particular action.

Relevant authorities are in shown in **bold**.

Leads are shown in *italics*.

Many actions will require the relevant authorities and others such as competent authorities and interest groups to work together in partnership. Many formal partnerships already exist in Pembrokeshire and these have been identified wherever appropriate. Where partnerships are identified, one relevant authority within the partnership has been identified as the most appropriate lead authority to ensure the partnership implements the action. Appendix 2 details all abbreviations and lists partnership members.

PRIORITY & TIMESCALE – gives an indication of when the action is to be completed. This shows the urgency of the action and therefore reflects priorities. The activities marked as on-going are those where actions are already in place or are those which will always require an action. A general timetable for the review of the management scheme and action plan is also given in Section 7.

In this document, timescales are simply:

high priority (next year or two)
medium priority (within next 5yrs)
low priority (preferably within next 5yrs depending on resources/other commitments).

CONSTRAINTS – lists the constraints against each action where relevant and necessary to include. This column highlights the problems associated with action implementation.

P = policy related

L = legal

R = resources (funding, staff etc…)

O = other (this could be lack of information for example)

6.3 PORTS, HARBOURS & SHIPPING* Actions

(* shipping = commercial motorised vessels including fishing vessels. Recreational vessels are considered under RECREATION)

NB: For a complete set of actions for each topic area/activity, cross referring to other sections of the action plan is required (refer to Section 3.2)

ACTIONS Section 6.3 PORTS, HARBOURS & SHIPPING	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***A) Management objective*: Manage shipping movements to safeguard SAC features** *- see also inputs/losses (6.3 F)*			
1. Continue to manage shipping within the agreed Safety Management System and in line with the Port Marine Safety Code	**MHPA**, MCA	Ongoing	
2. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of shipping movements			
2.1 Maintain, keep under review and where necessary improve shipping management within Port Authority jurisdiction	**MHPA**, MCA	Ongoing	
2.2 Review and improve where necessary shipping management within the SAC but outside Port Authority jurisdiction	*MCA*	Medium	
2.3 Make use of monitoring systems as management tools, in particular;			
2.3.1 A radar system on the Smalls if established (see INFORMATION & DATA)	**MHPA**, MCA	Low	
2.3.2 Keep abreast of developments within the Automated Identification System so as to take advantage of any opportunities to the SAC	MCA, **MHPA**	Medium	
***B) Management objective*: Manage anchoring and mooring to safeguard SAC features** *- for anchoring and mooring of recreational vessels see RECREATION (6.6 G)*			
3. Promote and enforce existing management relevant to safeguarding SAC features from any unfavourable effects of shipping anchoring and mooring	*MCA*, Dft/BERR, **MHPA,** CEC, **PCC**	Ongoing	
4. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of shipping anchoring and mooring			
4.1 Review existing management and identify more effective options for safeguarding areas and species known to be sensitive to anchoring and mooring	***CCW***	High	
4.2 Introduce and implement no-anchoring zones in areas of *Zostera* spp. (eelgrass) and *Maerl* spp. (chalky seaweed) beds	***MHPA*** *(within Haven)*	High	O (after LNG construction)
4.3 Ensure moorings are not established in areas of *Zostera* spp. (eelgrass) and *Maerl* spp. (chalky seaweed) beds	***MHPA*** *(within Haven)*	High	O (after LNG construction)

ACTIONS Section 6.3 PORTS, HARBOURS & SHIPPING	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
4.4 Improve programming and communications between terminals and tankers bound for Milford Haven to assist in adjusting arrival times and avoiding the need to anchor at all	***MHPA***	High	O (practicalities)
***C) Management objective*: Manage capital and maintenance dredging to safeguard SAC features** *– for Spoil Dumping see WATER QUALITY, POLLUTION & WASTE DISPOSAL (6.5 H)*			
5. Continue existing management relevant to safeguarding SAC features from any unfavourable effects of dredging, in particular;			
5.1 Ensure *appropriate assessments* are carried out for all permissions where there may be a 'likely significant effect' on SAC features (see Section 3.7)	*WAG*/*M&FA*/DfT, **CCW** (advisory), **MHPA,** other harbour authorities	On application	
5.2 Ensure that the potential presence – and consequent re-suspension – of persistent sediment contaminants does not effect SAC features	***CCW***	On application	
5.3 Maintain liaison with CCW prior to any dredging to ensure careful consideration of the potential effects to SAC features	***MHPA*,** other harbour authorities, CCW	On application	
6. Develop, implement and maintain under review an integrated dredging strategy to minimise requirement for and effect of dredging, identify most appropriate best practice and also address dredge spoil disposal.	***MHPA*,** other harbour authorities, M&FA	High	
7. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of dredging, in particular;			
7.1 Develop and implement appropriate technical, spatial, temporal or effort management measures where SAC features are at high risk from dredging	***MHPA,*** other harbour authorities, WAG/ M&FA, DfT, **CCW**	Medium	
7.2 Ensure that currently unregulated dredging methods (e.g. agitation dredging, sea bed levelling) do not lead to the damage, disturbance or destruction of SAC features	***MHPA,*** other harbour authorities	Medium	
8. Minimise the amounts of material dredged within the SAC where possible			
8.1 Implement dredging strategy	***MHPA***	High	
8.2 Continue to undertake regular hydrographic surveys in order to identify areas within the Haven where dredging is essential and where it can be reduced (or not undertaken at all)	***MHPA***	Ongoing	
***D) Management objective*: Manage vessel maintenance operations to safeguard SAC features (includes toxic antifoulant use)** *– see also urban and industrial runoff and maritime pollution in WATER QUALITY, POLLUTION & WASTE DISPOSAL (6.5 C+E)*			
9. Encourage compliance with bans on use of TBT	DfT/BERR, IMO, MCA,	Ongoing	R

ACTIONS Section 6.3 PORTS, HARBOURS & SHIPPING	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
	MHPA		
10. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of toxic antifoulant use			
10.1 Manage maintenance activities so as to minimise the entry of toxic antifoulants into the marine environment and ensure disposal to adequate facilities	***MHPA,*** MCA	Medium	
10.2 Investigate the provision of a free waste collection/disposal operation for organo-metallic wastes	***PCC*, MHPA**	Medium	
11. Minimise usage of toxic paints and consequent possible unfavourable effects to SAC features at source by investigating and encouraging the use of non-toxic alternatives, bearing in mind their effectiveness and operational efficiency	***MHPA*, All RAs**, MCA	Medium	
***E) Management objective*: Manage provision and maintenance of port and harbour facilities to safeguard SAC features** *- see also vessel maintenance (6.3 D) and 6.5 C+E+G+I in WATER QUALITY, POLLUTION & WASTE DISPOSAL*			
12. Improve land-based facilities for vessels in order to encourage best practice for maintenance activities and improve waste management			
12.1 Ensure provision of adequate waste reception facilities (including recycling) at all ports, harbours and marinas, including bins and skips for non-hazardous sweepings and debris, and special points for the disposal of hazardous substances, such as concentrated cleaning chemicals, oils, antifouling paints and contaminated scrapings	*MCA,* **MHPA, PCC/ PCNPA** (planning)	Medium	R
12.2 Promote and enforce use of port waste reception facilities	*MCA,* **MHPA**	Medium	
***F) Management objective*: Manage inputs / losses to the SAC marine environment from shipping to safeguard SAC features. (includes introduction of alien species, discharge of ballast water, non-hydrocarbon cargo losses)** **-** *see also 6.5 E+G+I in WATER QUALITY, POLLUTION & WASTE DISPOSAL (which includes refuse and litter, sewage disposal from vessels, and hydrocarbon pollution).*			
13. Fully and effectively implement existing management relevant to safeguarding SAC features from any unfavourable effects of inputs / losses to the SAC marine environment from shipping, in particular;			
13.1 Enforce compliance with existing guidance/requirements for ballast water exchange to minimise the introduction of alien species	DfT/BERR, IMO, *MCA*, **MHPA**	Ongoing	
13.2 Enforce compliance with the relevant international convention and IMO guidance relating to ballast water discharge	DfT/BERR, IMO, *MCA*, **MHPA**	Ongoing	
13.3 Continue to ensure safe navigation and best practice in order to help prevent non-hydrocarbon cargo losses from occurring	*MCA*, **MHPA**	Ongoing	

ACTIONS Section 6.3 PORTS, HARBOURS & SHIPPING	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
13.4 Ensure contingency plans address salvage and response operations relevant to safeguarding SAC features from any unfavourable effects of cargo losses	*MCA*, **MHPA**	High	
14. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of inputs / losses to the SAC marine environment from shipping, in particular;			
14.1 Review discharge of ballast water within the Haven and introduce additional management measures as appropriate (look at the ballast water regime adopted by Scapa Flow)	***MHPA***	Low	
14.2 Encourage the exchange of ballast water at sea, where it is safe to do so	*MCA*, **MHPA**	High	
14.3 Promote and maintain adequate port waste facilities for oil contaminated ballast	***MHPA***, MCA	Ongoing	
14.4 Continue to petition for the stationing of an Emergency Towing Vessel (ETV) in the southern Irish Sea	***MHPA***, MCA, **All RAs**/CAs where applicable	Ongoing	

6.4 LIVING RESOURCES Actions

Fisheries management and enforcement is currently under review at UK level. A recent European judgement decision identifies fishery management as a plan / project requiring '*appropriate assessment*'. However, how this relates to the UK public right of fishery, and by whom and how the assessments will be undertaken is still under review. Fisheries management actions within the SAC will be affected by any resulting conclusions.
All fisheries management actions such as zoning or reducing pressure will be planned mindful of possible displacement effects.

NB: For a complete set of actions for each topic area/activity, cross referring to other sections of the action plan is required (refer to Section 3.3)

ACTIONS Section 6.4 LIVING RESOURCES	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
FISHING			
***A) Management objective*: Ensure fisheries management infrastructure is fit for the purpose of safeguarding SAC features** *- see also RESOURCES (section 6.8)*			
1. Improve fisheries management capability within the SAC **1.1** Ensure that fishery management authorities have adequate powers and resources at their disposal and scientific knowledge to undertake the fisheries management and environmental protection functions expected of them	***RAG*, All RAs** where applicable, WAG	High	LR
1.2 In keeping with the recommendations arising from the 2002 CFP Review and 2004 Cabinet Strategy Review, to support and promote regional management with the greatest participation of all stakeholders, especially the fishing industry itself	***RAG*, All RAs** where applicable, WAG	High	LR
1.3 Ensure adequate mechanisms are in place to manage 0-12nm to some consistency and so create a more rational basis for inshore fisheries management	***RAG*, All RAs** where applicable, WAG	High	O (EU 6-12)
***B) Management objective*: Manage all fisheries consents to safeguard SAC features**			
2. Implement existing relevant management measures to safeguard SAC features from any unfavourable effects of fishing activities **2.1** Promote awareness of relevant existing management measures, especially with the fishing industry	***SWSFC*, *WAG*, EAW**	Ongoing	
2.2 Enforce fisheries legislation (e.g. relevant size limits, byelaws, statutory instruments, licensing and authorisation conditions)	***SWSFC*, *WAG*, EAW**	Ongoing	R

ACTIONS Section 6.4 LIVING RESOURCES	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
2.3 Require WAG to provide guidelines on the application of the Habitats Regulations to fishing, including the implementation of Appropriate Assessment to fishing permissions and the need to review consents	*WAG*	Medium	
2.4 Ensure Appropriate Assessments are carried out for all permissions where there may be a 'likely significant effect' on SAC features (see 'Plans and Projects')	*WAG*, **SWSFC**, **CCW**, others where applicable	On application	R
***C) Management objective*: Secure management of fisheries resource exploitation to contribute to safeguarding SAC features** *- see also MONITORING (6.11 C5), vessel maintenance (6.3 D), and 6.5 E+G+I in WATER QUALITY, POLLUTION & WASTE DISPOSAL*			
3. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of fishing			
3.1. Develop and implement appropriate additional technical, spatial, temporal or effort management measures where SAC features are at risk of damage or deterioration (as measured against the conservation objectives' baseline of when then site achieved candidate status in 1997) as a result of fishing activity	***SWSFC*,** WAG, **EAW**, S&WWFC, owner/occupiers	High	P, L, R, O
3.1.1 Consider the establishment of Zones free from fishing where scientific studies can take place	***CCW*,** Skomer Marine Nature Reserve Advisory Committee, ***SWSFC*,** S&WWFC	Ongoing	
3.1.2 Include the potential impacts of associated activities (e.g. vehicle use for foreshore access) in any consideration of the impacts of resource exploitation	***SWSFC*,** WAG**,** S&WWFC, owner/occupiers	High	
4. Promote the use of environmentally-friendly fishing methods, particularly through technical conservation measures, while taking account of the need to find a balance between environmental and economic objectives. In particular;			
4.1 Ensure that fishing operations are as selective as possible, by retaining target specimens of the right species and size whilst reducing by-catch	***SWSFC*,** WAG, S&WWFC	High	
5. Seek to ensure that exploitation of fisheries resources within the SAC takes place within sustainable limits.			
5.1 Work to establish sustainable limits for each species/stock and a range of appropriate management measures to maintain catches within those limits (see Section 6.10 INFORMATION)	***SWSFC*,** WAG, S&WWFC	High	P, L, R
5.2 Encourage management methods and best practice that seek to maintain that stocks are exploited within sustainable limits (e.g. lobster V-notching, return of 'crippled' shellfish…)	***SWSFC*,** WAG, S&WWFC	Ongoing	P, L, R, O

ACTIONS Section 6.4 LIVING RESOURCES	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
5.3 Implement actions from CCW's Sea Fisheries Policy 2003 as appropriate	***CCW***, WAG	Ongoing?	O
***D) Management objective*: Manage fisheries trawling and dredging activities to safeguard SAC features** *- see also fisheries resource exploitation (6.4 C)*			
6. Develop and implement where appropriate specific management measures to protect habitats and species of SAC features sensitive to the effects of mobile fishing gear			
6.1 Following the consideration of relevant information and where appropriate, to introduce well defined 'no towed-gear zones' to safeguard *Zostera* spp (eelgrass) and Maerl spp beds within Milford Haven from all dredge fisheries	***SWSFC,*** *WAG*	High	R
6.2 Following the consideration of relevant information, review the use of toothed and bladed dredging within the Milford Haven Waterway (containing the SAC features *Estuaries* and *Large shallow inlets & bays*) in order to protect benthic habitats and communities, especially seaward of the Cleddau Bridge	***SWSFC,*** *WAG*	Medium	
6.3 Consider the best means to enhance populations of native oyster (*Ostrea edulis*) throughout the Milford Haven Waterway	***SWSFC,*** **CCW**, WAG, S&WWFC	Medium	
6.4 Consider the need to restrict dredge fishing effort within St Bride's Bay (part of the SAC *Large shallow inlets & bays* feature*)* and the SAC feature *Sandbanks* to at or below the conservation objectives' baseline (the level of effort in 1997) in order to prevent damage and deterioration of these features	***SWSFC,*** WAG	Medium	
6.5 Following the consideration of relevant information and where appropriate, consider the need to introduce well defined 'no towed-gear zones' to safeguard sensitive components of the SAC feature *Reefs* from damage or deterioration (as measured against the conservation objectives' baseline of when then site achieved candidate status in 1997) as a result of demersal towed gear	***SWSFC,*** WAG, **MHPA**	Medium	
6.6 Following the consideration of relevant information and where appropriate, consider the need to introduce management measures to limit trawling effort within the SAC features *Large shallow inlets & bays, Estuaries* and *Sandbanks* to at or below the conservation objectives' baseline (the level of effort in 1997) in order to prevent damage and deterioration of these features (SWSFC Byelaw 26 already excludes trawling within part of the Haven)	***SWSFC,*** WAG	Medium	P, L, R, O (>6nm = Fr/Bel)

ACTIONS Section 6.4 LIVING RESOURCES	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***E) Management objective*: Manage netting and potting/trapping fishing gear activity to safeguard SAC features** *- see also fisheries resource exploitation (6.4 C)*			
7. Following the consideration of relevant information and where appropriate, develop and implement specific management measures to protect habitats and species of SAC features sensitive to the effects of nets (both drift & static set). E.g. In the vicinity of key sites to safeguard grey seals from incidental capture.	***SWSFC,*** WAG	Medium	
8. Following the consideration of relevant information and where appropriate, develop and implement specific management measures to protect habitats and species of SAC features sensitive to the effects of potting. E.g. To safeguard sensitive *Reef* features.	***SWSFC,*** WAG	Medium	
9. Minimise effects to SAC features by lost gear (e.g. by 'ghost fishing')			
9.1 Introduce the mandatory use of biodegradable latches on pots within 3 years	***SWSFC,*** *WAG*, ***CCW,*** S&WWFC	High	
9.2 Investigate the potential for, and incentives to support, the use of more 'environmentally friendly' gear	***SWSFC,*** *WAG*, ***CCW,*** S&WWFC	Medium	
9.3 Educate other users into the implications to the SAC features of deliberately damaging gear.	***SWSFC,*** **CCW,** WAG	Medium	
***F) Management objective*: Manage commercial rod & handline fishing to safeguard SAC features** *– actions are as for recreational rod and handline fishing in RECREATION (6.6 B)*			
***G) Management objective*: Manage commercial bait collection to safeguard SAC features** *– actions are also as for recreational (non-commercial) bait collection in RECREATION (6.6 C5)*			
10. Develop and implement specific management measures to protect habitats and species of SAC features sensitive to commercial bait collection			
10.1 Develop, promote, and enforce restrictions such as zoning or seasonal limitations to release pressure on current activity 'hotspots'	***CCW, PCNPA***, **PCC, SWSFC,** WAG	High	L, R
10.1.1 Review existing byelaws	***PCNPA***	Medium	
10.2 Petition to improve current legislation for the management of commercial collection of worms within the SAC	**All RAs**/CAs where applicable	High	
AQUACULTURE			
***H) Management objective*: Manage molluscan farming and ranching to safeguard SAC features** *– for collection of seed stock see hand gathering (6.4 J)*			
11. Implement existing relevant management measures to safeguard SAC features from any unfavourable effects of molluscan farming and ranching			
11.1 Promote awareness of relevant existing management measures	***SWSFC,*** WAG	Ongoing	

ACTIONS Section 6.4 LIVING RESOURCES	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
11.2 Enforce relevant size limits, byelaws and authorisation conditions	***SWSFC*, WAG**	Ongoing	
11.3 Ensure *appropriate assessments* are carried out for all permissions where there may be a 'likely significant effect' on SAC features (see section 3.7)	*WAG*, **SWSFC**, **CCW** (advisory), Crown Estate/others where applicable	On application	
11.4 Ensure deliberate species introductions are licensed and carefully monitored, and seek to minimise risk of any associated non-native species introductions	*WAG*, CEFAS	Ongoing	
***I) Management objective*: Manage fish farming (land and caged/sea based) to safeguard SAC features** *– see also industrial discharge in WATER QUALITY, POLLUTION & WASTE DISPOSAL (6.5 C)*			
12. Implement existing relevant management measures to safeguard SAC features from any unfavourable effects of fish farming whether at sea or on land			
12.1 Ensure *appropriate assessments* are carried out for all permissions where there may be a 'likely significant effect' on SAC features	*WAG*, CEFAS, **EAW** (discharges), **PCC/PCNPA** (planning), **CCW** (advisory), **MHPA** (within Haven), Crown Estate/others where applicable	On application	
12.2 Employ best practice for caged/sea based farms to:			
12.2.1 Minimise risk of escapees	*Operator,* Crown Estate	Ongoing	
12.2.2 Avoid any unfavourable effects of nutrient enrichment (from feed and faeces) and biocide use	*Operator,* **EAW**, CEFAS	Ongoing	
12.2.3 Control the effects of predators	*Operator*, **CCW**	Ongoing	
12.2.4 Implement and review existing management of discharges	**EAW**	Ongoing	
12.2.5 Ensure deliberate species introductions are licensed and carefully monitored, and seek to minimise risk of any associated non-native species introductions	*WAG*, CEFAS	Ongoing	
USE OF OTHER LIVING RESOURCES			
***J) Management objective*: Manage hand gathering (by hand and using hand-held tools) to safeguard SAC features** *–for hand collection by diving see RECREATION (6.6 E)*			

ACTIONS Section 6.4 LIVING RESOURCES	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
13. Implement existing relevant management measures to safeguard SAC features from any unfavourable effects of hand gathering			
13.1 Ensure *appropriate assessments* are carried out for all permissions where there may be a 'likely significant effect' on SAC features (see 'Plans and Projects')	*WAG*, **SWSFC**, **CCW** (advisory), others where applicable	On application	P, L, R, O
13.2 Secure compliance, so far as is reasonably practical, with fishery management measures applying to seafish (includes shellfish and molluscs)	***SWSFC***	Ongoing	
13.3 Encourage government to remedy any omissions in powers or responsibilities (e.g. worms) and to provide the necessary resources to deliver	***RAG,* All RAs**/CAs where applicable	High	
13.4 Promote awareness of and enforce existing management and byelaws, including the need to gain permission from the landowner/occupier before undertaking any commercial collection	***CCW*, *PCNPA*, PCC**, NT	High	
13.5 Promote awareness of statutory provisions and any codes of conduct (e.g. SWSFC)	***SWSFC***	Ongoing	
***K) Management objective*: Manage collection for the aquarium & curio trade to safeguard SAC features** *–for collection by diving see RECREATION (6.6 E)*			
14. Encourage collectors to liaise before collection in order to ensure that any collection does not lead to the damage or deterioration of SAC features	**CCW**, SWSFC (seafish)	Medium	
***L) Management objective*: Manage saltmarsh grazing to safeguard SAC features**			
15. Implement existing relevant management measures to safeguard SAC features from any unfavourable effects of saltmarsh grazing			
15.1 Ensure *appropriate assessments* are carried out for all permissions where there may be a 'likely significant effect' on SAC features (see 'Plans and Projects')	*Owner/occupier,* **CCW** (advisory), others where applicable	On application	

6.5 WATER QUALITY, POLLUTION & WASTE DISPOSAL Actions

NB: Actions relevant to this Section are also contained in other Action Plan sections. Cross referencing is necessary.

ACTIONS Section 6.5 WATER QUALITY/POLLUTION/ WASTE DISPOSAL	**WHO**	**PRIORITY & TIMESCALE**	**CONSTRAINTS**
***A) Management objective*: Manage general water quality and pollution to safeguard SAC features**			
1. Ensure effective monitoring/reporting systems are in place to detect pollution or other deterioration in water quality within the SAC			
1.1 Keep under review existing routine chemical and biological monitoring to meet EU Directives	***EAW*, PCC**	Ongoing	
1.2 All RAs to be informed annually of non-compliance with relevant EC Directives and with water quality targets	***EAW*, PCC**	Medium	R
1.3 Continue the water quality sampling programme on non-identified bathing beaches by the Green Seas project	**PCC, EAW?**	Ongoing	
1.4 Seek to expand water quality monitoring/reporting programmes to routinely include currently unsampled open coast areas	***EAW*, PCC**	Low	R, P (driven by statutory obligations)
1.5 Continue to raise public awareness of the importance of reporting pollutions at sea to the MCA	MCA	Ongoing	
1.6 Assist in the reporting of all pollution incidents	**All RAs**/CAs where applicable	Ongoing	
***B) Management objective*: Manage agricultural run-off to safeguard SAC features**			
2. Ensure no significant pollution risk and consequent possible unfavourable effects to SAC			
2.1 Continue to raise awareness of pollution potential and encourage best practice through Agri-Environment Schemes, pollution prevention visits and farm management plans. Ensure that best practice adequately addresses marine issues.	***CCW, EAW***, PRT, WAG?, Farmers Unions	Ongoing	
2.2 Investigate measures including the creation of buffer strips alongside water courses to reduce run-off at source	***EAW*, CCW**, PRT, NT, WAG?	Ongoing	
2.3 Link to Cleddau Rivers SAC management	***All RAs**/CAs where applicable*	High	

ACTIONS Section 6.5 WATER QUALITY/POLLUTION/ WASTE DISPOSAL	**WHO**	**PRIORITY & TIMESCALE**	**CONSTRAINTS**
***C) Management objective*: Manage urban and industrial discharge & run-off to safeguard SAC features** *- see also vessel maintenance and port waste management in PORTS, HARBOURS & SHIPPING (6.3 D+E)*			
3. Ensure that existing management is sufficient to safeguard SAC features from any unfavourable effects of pollutant discharges			
3.1 Continue to review all permissions, including discharge and abstraction licences, under the requirements of the Habitats Directive (the Review of Consents programme)	***EAW***, All CAs	Ongoing (by 2010)	
3.2 Identify, as necessary, more stringent operational limits for discharges	***EAW*, DCWW,** WAG?	Ongoing	
4. Ensure no significant pollution risk and consequent possible unfavourable effects to the SAC features			
4.1 Maintain an ongoing programme of risk-based regulation of industrial premises to ensure that pollution risks are minimised and that owner/occupiers are aware of risks and implement best practice	***EAW***	Medium	R
4.2 Ensure ongoing facilities are available and promoted for safe disposal, and where appropriate recycling, of potentially polluting substances	***PCC*, MHPA**	Medium	
***D) Management objective*: Manage air pollution to safeguard SAC features**			
5. Safeguard SAC features from any unfavourable effects of air pollution			
5.1 Promote and enforce existing regulations for land based emissions, as per PPC Regulations, Part B and A2 processes	***EAW, PCC***	Ongoing	
5.2 Promote and enforce existing regulations for vessel emissions and support the promotion of the EU Clean Marine Award for low-emission shipping	DfT/BERR, IMO, MCA	Ongoing	
***E) Management objective*: Manage maritime pollution (operational and accidental spills) to safeguard SAC features** *– see also actions for pollution response (6.5 F)*			
6. Ensure proactive management is in place to help prevent spills from occurring			
6.1 Maintain, including review and revision, best safe navigation within the Port of Milford Haven including the use of pilots and escorting	***MHPA***, MCA	Ongoing	
6.2 Continue to petition for the stationing of an Emergency Towing Vessel (ETV) in the southern Irish Sea	***MHPA***, MCA	Ongoing	
6.3 Promote and enforce existing pollution regulations, byelaws and agreements	Dft/BERR, IMO, MCA, **MHPA, EAW**	Ongoing	

ACTIONS Section 6.5 WATER QUALITY/POLLUTION/ WASTE DISPOSAL	**WHO**	**PRIORITY & TIMESCALE**	**CONSTRAINTS**
6.4 Continue to promote and develop best practice at jetty heads, including maintenance and handling operations	***MHPA***	Ongoing	
6.5 Promote, improve where necessary, and maintain adequate port waste facilities for oily wastes (*see PORTS, HARBOURS & SHIPPING*), in particular;	*MCA*, ***MHPA***	Ongoing	
6.5.1 Maintain adequate port waste facilities for oil-contaminated bilge water and enforce use by vessels	*MCA*, **MHPA**	Medium	
***F) Management objective*: Manage pollution response to safeguard SAC features (includes oil spill response)** *– see also Maritime pollution (6.5 E) and urban & industrial discharges (6.5 C)*			
7. Develop, complete and circulate relevant plans, including the local authority shoreline pollution response plans for West Wales, WWPH&EG Plan and COMAH off site plans**.** In particular;	***PCC***, WWPH&EG	High	
7.1 Ensure that the needs of the SAC features are built into contingency plans	***CCW***	High	
8. Ensure adequate preparedness of contingency plans in order to facilitate successful implementation if and when required, in particular;			
8.1 Regularly test contingency plans, and ensure that adequate oil/chemical spill clean-up equipment is readily available, regularly tested and maintained, and that personnel are trained in their use	*MCA,* **MHPA, PCC, EAW**, HSE	Ongoing	
8.2 Ensure that the best available and up to date local information and safeguards, including information on the requirements / sensitivities of the SAC features, is available to the West Wales Public Heath & Environment Group	***CCW***, MCA, WWPH&EG	Ongoing	
8.3 Ensure that advice to all response centres, Ports and Harbour Authorities or Oil Spill Coordination Centres takes full account of the environmental sensitivities of the SAC features	*WWPH&EG*, EAW, CCW, M&FA/WAG	Ongoing	
8.4 Complete and maintain environmental sensitivities and response database(s) for Pembrokeshire	*WWPH&EG,* **PCC, CCW, EAW**, MCA	High	
9. Ensure prompt and timely response to any operational or small accidental spills			
9.1 Continue to prosecute pollution offenders within the Haven where necessary and ensure swift clean-up	***MHPA*, EAW**	Ongoing	
9.2 Continue to prosecute pollution offenders outside the Haven, within the SAC, where necessary and ensure swift clean-up	*MCA*, **EAW**	High	

ACTIONS Section 6.5 WATER QUALITY/POLLUTION/ WASTE DISPOSAL	**WHO**	**PRIORITY & TIMESCALE**	**CONSTRAINTS**
***G) Management objective*: Manage refuse and litter (marine and land sources) to safeguard SAC features**			
10. Fully and effectively implement existing management relevant to safeguarding SAC features from any unfavourable effects of refuse and litter, in particular;			
10.1 Enforce the Environmental Protection Act (1990) on the foreshore and prosecute offenders, particularly with regard to fly-tipping	***EAW, PCC,*** WAG	Ongoing	
10.2 Ensure that all commercial and recreational vessel users within the SAC comply with all relevant legislation, and prosecute pollution offenders where necessary	*MCA*, **MHPA,** WAG/M&FA	Ongoing	
10.3 Continue to enforce littering byelaws within the Haven and prosecute offenders	***MHPA***	Ongoing	
11. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of refuse and litter			
11.1 Consider the inclusion of fishing vessels within current port waste management regulations in line with other commercial users	*MCA?*	Low	
11.2 Continue to incorporate beaches into local authority waste management plans	***PCC***	Medium	
11.3 Ensure that all sewage discharges are screened to an appropriate standard. Upgrade as environmental legislation requires.	***DCWW***, WAG	Ongoing	
12. Minimise potential unfavourable effects of refuse and litter on SAC features			
12.1 Further encourage public clean-ups to help reduce the quantities of marine litter within the SAC	**All RAs**/CAs where applicable, KWT, MCS	Ongoing	
12.2 Promote and support community based volunteer CoastCare Projects (part of Keep Wales Tidy's Clean Coasts programme) and Adopt-a-beach schemes	**All RAs**/CAs where applicable, KWT, MCS	Ongoing	
12.3 Continue to sensitively and manually clean amenity beaches of litter during the tourist season	***PCC***	Ongoing	
12.4 Investigate extending cleaning of amenity beaches through the winter	***PCC***	Medium	
12.5 Encourage and investigate providing incentives to fishermen to bring back any litter generated or found at sea for correct disposal, particularly debris likely to cause a hazard to navigation and safety, as well as potentially impacting on SAC features	*WAG*, **SWSFC**, MCA	Medium	

ACTIONS Section 6.5 WATER QUALITY/POLLUTION/ WASTE DISPOSAL	**WHO**	**PRIORITY & TIMESCALE**	**CONSTRAINTS**
12.6 Promote and support recycling of angling line and tackle	***CCW***, **All RAs**/CAs where applicable	Ongoing	
12.7 Encourage early reporting of fly-tipping, both from the public and field staff	**All RAs**/CAs where applicable	High	
***H) Management objective*: Manage spoil dumping to safeguard SAC features** *– for capital and maintenance dredging see PORTS, HARBOURS & SHIPPING (6.3 C)*			
13. Fully and effectively implement existing relevant management measures to safeguard SAC features from any unfavourable effects of spoil dumping			
13.1 Ensure Appropriate Assessments are carried out for all permissions where there may be a 'likely significant effect' on SAC features (see 'Plans and Projects'), in particular;	*WAG,* M&FA, CCW + CEFAS (advisory)	On application	
13.1.1 Appropriate Assessments may need to be undertaken for FEPA licensing of dumping of dredge spoil at sea	*CEFAS*, **PCC,** M&FA/ WAG, CCW + **EAW** (advisory)	On application	
13.1.2 Appropriate assessments may need to be undertaken for waste management licenses involving the deposit of waste above high water (springs)	***EAW*, PCC,** WAG, CCW + CEFAS? (advisory)	On application	
14. Develop and introduce new management measures, as required, to safeguard SAC features from any unfavourable effects of spoil dumping			
14.1 Seek change to FEPA licensing to cover currently excluded fisheries activities (the dumping of fisheries waste is currently unlicensed)	*WAG*?	Low	
15. Minimise the need to dump dredge spoil at sea			
15.1 Investigate ways to utilise dredge spoil (e.g. construction)	**All RAs** where applicable, WAG/M&FA	Medium	
***I) Management objective*: Manage sewage discharge to safeguard SAC features**			
16. Maintain and develop additional management, as required, to safeguard SAC features from any unfavourable effects of land-based sewage discharge and disposal			
16.1 Seek to improve the quality of sewage disposal into the SAC, in particular;			
16.1.1 Continue to maintain and improve waste water treatment works and their outfalls through the Asset Management Plan Programme (e.g. upgrades in Haverfordwest)	***DCWW***, WAG, **EAW**?	Ongoing	
16.1.2 Undertake improvements to all intermittent discharges including combined sewer overflow, storm overflows and emergency overflows through Asset Management Programme	***DCWW***, EAW, WAG	Ongoing	

ACTIONS Section 6.5 WATER QUALITY/POLLUTION/ WASTE DISPOSAL	**WHO**	**PRIORITY & TIMESCALE**	**CONSTRAINTS**
17. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of sewage effluent discharge and disposal from vessels			
17.1 Ensure that all commercial and recreational vessels within the SAC comply with the plethora of relevant legislation, and prosecute pollution offenders where necessary	*MCA*, **MHPA, EAW,** WAG	Ongoing	
18. Maintain and develop additional management, as required, to safeguard SAC features from any unfavourable effects of sewage discharge and disposal from vessels			
18.1 Provide adequate onshore reception facilities (holding tanks and pump-out facilities) for both commercial and recreational users in ports, harbours and marinas for pumping-out sewage wastes	*MCA*, **MHPA,** other harbour authorities	Medium	
18.2 Encourage use of shore-side toilet facilities, holding tanks where fitted, and disposal at pump-out facilities where available	*MCA*, **MHPA,** other harbour authorities	Medium	

6.6 Actions for RECREATION

NB: Actions relevant to Recreation are also contained in other Action Plan sections. Cross referencing is necessary.

ACTIONS Section 6.6 RECREATION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***A) Management objective*: Ensure recreation management infrastructure is fit for the purpose of safeguarding SAC features**			
1. Improve the management powers of relevant and competent authorities, as required, to safeguard the SAC features **1.1** Investigate the potential for new regulatory measures	***CCW***, WAG	Medium	
2. Ensure that all current and future recreational activity within the SAC is carried out at sustainable levels **2.1** Assess existing management measures, identify any shortfalls, and seek additional tools as appropriate to ensure recreational activity does not exceed 'carrying capacity' where known (see Information Section)	***All RAs*** *where applicable,* PCF, Visit Wales	Medium	
2.2 Ensure promotion of the local area for tourism recreation takes account of potential impacts on the SAC **2.2.1** Assess information provided by interpretation centres, Tourist Information Centres and others to ensure it does not encourage activities that would damage or disturb SAC features	***PCC*, PCNPA, CCW,** Visit Wales	High	
2.2.2 Ensure beach awards do not encourage management and other activities that are incompatible with the requirements of the SAC interest features	***PCC*, *PCNPA*, CCW, EAW, DCWW**, Visit Wales	High	
2.3 Promote membership of the Pembrokeshire Outdoor Charter Group and the Pembrokeshire Marine Code Group to appropriate bodies	***All RAs*** *where applicable*, Visit Wales	High	
2.4 Encourage the development of an integrated recreational strategy for the coast that incorporates the interests of the SAC features	***All RAs*** *where applicable (via PCMN)*, Visit Wales	Medium	
***B) Management objective*: Manage rod & handline fishing (recreational) to safeguard SAC features** *- these actions also apply to commercial rod & handline fishing in LIVING RESOURCES (6.4 F)* *- see also refuse and litter in WATER QUALITY, POLLUTION & WASTE DISPOSAL (6.5 G) and 6.11 C5 in MONITORING*			
3. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of angling			
3.1 Promote awareness of existing relevant size limits and byelaws	***SWSFC*, EAW**, WAG, NT, WFSA	Ongoing	
3.2 Enforce size limits and byelaws	***SWSFC*, EAW**, WAG, NT	Ongoing	

ACTIONS Section 6.6 RECREATION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
3.3 Promote and encourage use of existing codes of conduct, in particular;			
3.3.1 the national Tidy Tackle pack which includes the national 'Conservation Code for Sea Anglers' and the Environment Agency leaflet 'Angling & Wildlife'	***CCW*, EAW, PCNPA**, KWT, PRT	Ongoing	
3.3.2 the code of practice within Sea Fisheries byelaws	***SWSFC,*** *WFSA*	Ongoing	
3.3.3 the Welsh Federation of Sea Angler's shore anglers code of conduct	*WFSA*	Ongoing	
3.4 Ensure local distribution of codes	***CCW*, EAW, PCNPA, PCC**, KWT, PRT, POCG, PMCG	Ongoing	
3.5 Include additional material within the Tidy Tackle pack as appropriate	***CCW*, EAW, PCNPA**, WAG, KWT, PRT	Medium	
4. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of angling			
4.1 Review requirement for additional measures to manage angling, and develop and introduce as necessary, management measures (such as well defined zoning, closed seasons, access restrictions) to safeguard SAC habitats and species. In particular;	***SWSFC,*** owner/occupiers WAG	Medium	
4.1.1 Consider the establishment of zones free from fishing where scientific studies can take place	***CCW,*** Skomer MNR Advisory Committee, ***SWSFC***	Ongoing	
***C) Management objective*: Manage bait collection (recreational) to safeguard SAC features** *- for commercial bait collection see LIVING RESOURCES*			
5. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of bait collection			
5.1 Promote awareness of and enforce owner/occupier rights and existing management and byelaws	***CCW*, PCNPA, PCC, SWSFC**, owner/ occupier	High	R
5.2 Promote and encourage use of existing codes of conduct			
5.2.1 the national 'Conservation Code for Sea Anglers'	***CCW***	Ongoing	
5.2.2 Highlight code of practice within Sea Fisheries byelaws	***SWSFC***	Ongoing	
5.3 Ensure local distribution of codes	***CCW*, EAW, PCNPA, PCC**, KWT, PRT	Ongoing	

ACTIONS Section 6.6 RECREATION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
6. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of recreational bait collection			
6.1 Clarify legal responsibility for recreational bait collection management and address any shortfalls	***CCW,*** owner/occupiers	High	
6.2 Develop and introduce well defined management measures (such as zoning, closed seasons, access restrictions) to safeguard habitats and species sensitive to recreational bait collection, in particular;			
6.2.1 Take action(s) to protect habitats and species in The Gann from worm digging	***CCW,*** **PCNPA**	High	R
6.2.2 Take action(s) to protect habitats and species in Angle Bay from worm digging	***CCW,*** **PCNPA**	High	R
***D) Management objective*: Where appropriate, manage coasteering, rock climbing and other pedestrian-based group activities on the foreshore to safeguard SAC features**			
7. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of organised group foreshore use			
7.1 Develop and introduce well defined management measures (such as zoning, closed seasons, access restrictions) for safeguarding habitats and species sensitive to organised group foreshore use and / or trampling pressure, in particular:			
7.1.1 Seasonal foreshore access restrictions to safeguard breeding grey seals	***PCNPA***, ***CCW***, **PCC**, POCG	Ongoing	
7.1.2 Prior assessment and appropriate management of coasteering and climbing routes to safeguard SAC features from damage and/or disturbance	***PCNPA***, ***CCW***, **PCC**, POCG	Ongoing	
8. Ensure that organised outdoor activities within the SAC acknowledge the value of the wildlife resource and are supported both in acting sustainably and helping to raise awareness of the SAC with clients			
8.1 Continue to encourage all activity operators to be members of the Pembrokeshire Outdoor Charter Group and to help develop and support the work of the Group	*PCF*, POCG, Visit Wales	Ongoing	
8.2 Help to promote accredited operators through preferential marketing opportunities	***PCC, PCNPA***, POCG, Visit Wales	Ongoing	
8.3 Limit grants to Outdoor Charter accredited activity operators only	***PCC***, Visit Wales	Medium	
8.4 Help to provide accredited activity operators with accurate and interesting information to pass on to their clients	***CCW***, POCG	Ongoing	

ACTIONS Section 6.6 RECREATION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
8.5 Help to provide accredited activity operator staff with regular training where appropriate (on legislation, SAC feature identification and behaviour, SAC management)	***CCW***, POCG	Ongoing	
***E) Management objective*: Manage Diving/snorkelling (recreation and recreation providers) to safeguard SAC features** *– see also actions for Power craft (6.6 F)*			
9. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of diving			
9.1 Promote and implement existing best practice, in particular;			
9.1.1 the Pembrokeshire Marine Code	***CCW*, PMCG**	Ongoing	
9.1.2 the PCNPA code of conduct	***PCNPA***, PMCG	Ongoing	
9.1.3 the Skomer MNR code of conduct	***CCW***	Ongoing	
***F) Management objective*: Manage power craft (recreation and recreation providers including wildlife 'eco-tourism' boat trips) to safeguard SAC features** *– see also Anchoring for recreational vessels (6.6 G), vessel maintenance in PORTS, HARBOURS & SHIPPING (6.3 D), and 6.5 E+G+I in WATER QUALITY, POLLUTION & WASTE DISPOSAL*			
10. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of power craft			
10.1 Promote and implement existing byelaws and codes of conduct on the water, in particular;			
10.1.1 PCC byelaws and MCA codes where relevant to safeguarding SAC features	***PCC,*** *MCA*	Ongoing	
10.1.2 The Pembrokeshire Marine Code	***CCW*, PCNPA, PCC**, PMCG	Ongoing	
10.1.3 Skomer MNR byelaws	***CCW***	Ongoing	
10.1.4 Milford Haven Port Authority byelaws	***MHPA***, MHWRG	Ongoing	
10.2 Maintain and implement the Milford Haven Waterway Recreation Plan, and withdraw mooring rights from persistent offenders	***MHPA***, MHWRG	Ongoing	
10.3 Promote awareness of the relevant legislation in relation to protection of marine species (e.g. grey seals, otters)	***CCW***, PMCG	Ongoing	
10.3.1 Prosecute offenders	*Dyfed Powys Police*	Ongoing	
11. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of power craft			
11.1 Develop, and introduce as necessary, management measures (such as well defined zoning, closed seasons, access restrictions) to safeguard SAC habitats and species sensitive to impacts from power craft	***CCW*, PCC, PCNPA,** owner/occupiers, MHWRG, PMCG	High	

ACTIONS Section 6.6 RECREATION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
11.1.1 Work with the Milford Haven Waterway Recreation Group and the Pembrokeshire Marine Code Group in identifying and providing zoning for sensitive areas	***CCW***, ***PCC***	High	
11.2 Advocate change in regulatory control to allow improved measures for management of power craft outside Port Authority jurisdiction (e.g. mandatory licensing)	***PCC***, MCA	Medium	
11.3 Ensure that all licensed passenger boats follow the Pembrokeshire Marine Code as a licensing condition	***PCC***, MCA	High	
11.4 Limit the number of passenger boat licences	***PCC***, MCA	High	
11.5 Negotiate agreements with both existing and new marinas for clients to follow the Pembrokeshire Marine Code as a condition of use	***PCC***, **PCNPA, MHPA**	High	
12. Ensure that wildlife trips within the SAC acknowledge the value of the wildlife resource and are supported both in acting sustainably and helping to raise awareness of the SAC with passengers			
12.1 Continue to encourage all operators to be members of the Pembrokeshire Marine Code Group and to help develop and support the work of the Group	*PCF*, PMCG, Visit Wales	Ongoing	
12.2 Help to promote accredited boat operators through preferential marketing opportunities	***PCC, PCNPA***, PMCG, Visit Wales	Ongoing	
12.3 Limit grants to Marine Code accredited operators only	***PCC***, Visit Wales	Medium	
12.4 Help to provide accredited boat operators with accurate and interesting information to pass on to their clients	***CCW***, PMCG	Ongoing	
12.5 Help to provide accredited boat skippers with regular training (on legislation, SAC feature identification and behaviour, SAC management)	***CCW***, PMCG	Ongoing	
***G) Management objective*: Manage anchoring & moorings for recreational vessels (recreation and recreation providers) to safeguard SAC features** *– for anchoring & mooring of commercial vessels see 6.3 B in PORTS, HARBOURS & SHIPPING*			
13. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of recreational anchoring & moorings			

ACTIONS Section 6.6 RECREATION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
13.1 Promote and enforce existing regulations, byelaws and agreements, in particular;	**MHPA**, **PCNPA, PCC**, CE, boat owners associations	Ongoing	
13.1.1 Continue to maintain an anchoring free zone around the *Zostera* spp. (eelgrass) bed in North Haven, Skomer	***CCW (Skomer MNR)***	Ongoing	
13.1.2 Continue to discourage vessel activity within seasonal 'quiet' zoning areas	PMCG	Ongoing	
13.1.3 Continue to use and develop the role of Moorings Officers to maintain and maximise Voluntary Control Areas (VCAs) within the Haven	***MHPA***	Ongoing	
14. Develop and introduce new management measures, as required, to safeguard the SAC features from any unfavourable effects of recreational anchoring & moorings			
14.1 Identify, as necessary, additional further management options for safeguarding areas and species known to be sensitive to anchoring & moorings, in particular;	***CCW***	Medium	
14.1.1 Exclude all anchoring and new moorings in areas of *Zostera* spp. (eelgrass) and *Maerl* spp. (chalky seaweed) beds within the Haven	***MHPA***	High	
14.1.2 Refer to the Waterway Recreation Plan and the conservation requirements of the SAC features when assessing applications for new moorings within the Haven	***MHPA***	Ongoing	

6.7 MISCELLANEOUS ACTIVITY Actions

NB: Actions relevant to this section are also contained in other Action Plan sections, in particular INFORMATION, AWARENESS and MONITORING.

ACTIONS Section 6.7 MISCELLANEOUS ACTIVITY	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***A) Management objective*: Manage development to safeguard SAC features**			
1. Continue existing management relevant to safeguarding SAC features from any unfavourable effects of civil engineering works			
1.1 Review existing consents/permissions/licences	***All RAs/****CAs where applicable*	Ongoing	
1.2 Undertake Appropriate Assessments where there may be a 'likely significant effect' on SAC features (see Section 3.9), in particular for; **1.2.1** Coast protection/defence **1.2.2** Artificial reef construction **1.2.3** Aggregate dredging (sand and gravel) **1.2.4** Fossil fuel power stations **1.2.5** Nuclear energy production **1.2.6** Alternative energy production (coastal wave & tidal current, offshore wind) **1.2.7** Oil & Gas exploration/production – *see also Oil spill response and Maritime hydrocarbon pollution (WATER QUALITY, POLLUTION & WASTE DISPOSAL)*	Dependent on project – *WAG*, M&FA/BERR/DfT, CEC, MCA, **CCW** (advisory), **PCC/ PCNPA**, **EAW**	On application	
1.3 Ensure that no plan or project is authorised (other than "for imperative reasons of overriding public interest") that will consequently result in an adverse effect on site integrity	***All RAs/****CAs where applicable*	On application	
2. Ensure that any maintenance procedures take into account and minimise any unfavourable effects on SAC features			
2.1 Use environmentally sensitive alternatives to harmful chemical agents when cleaning shoreline surfaces (steps, slipways etc.), such as pressure washing with sea water (where this method is effective enough to ensure public safety). Where cleaning agents are necessary, consider only using non-chlorinated products without phosphate. Consider, where appropriate, introducing new surfaces which require less cleaning	***PCC, PCNPA, MHPA*, CCW** (advisory)	High	
2.2 Implement appropriate management to prevent deposition or loss of wastes or potentially harmful chemicals (e.g. cement) onto the shore or into the water column during engineering and other maintenance operations	***All RAs/****CAs where applicable*	High	

ACTIONS Section 6.7 MISCELLANEOUS ACTIVITY	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***B) Management objective*: Manage military training activity to safeguard SAC features**			
3. Continue to ensure that any activities take into account and minimise any unfavourable effects to SAC features			
3.1 Ensure the Integrated Land Management Plan (ILMP) review takes account of SAC features	*MoD*, **CCW**	Ongoing	
3.1.1 Continue regular liaison and input of management advice through the South Pembrokeshire Ranges Recording & Advisory Group (SPRRAG) and the Management Implementation Team (MIT)	***PCNPA*, CCW**	Ongoing	
***C) Management objective*: Manage water resources & storage (freshwater abstraction) to safeguard SAC features**			
4. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of freshwater abstractions			
4.1 Review all existing abstractions to ensure that they do not adversely impact upon SAC features. Consider the cumulative impacts on SAC features of all abstractions and review if necessary	***EAW*, CCW, DCWW**	Ongoing	
4.2 Ensure that all new abstractions are suitably approved/licensed and assessed to ensure that they do not impact upon SAC features	***EAW*, CCW, DCWW**	Ongoing	
4.3 Link to the Cleddau Rivers SAC management scheme	***EAW*, CCW, DCWW**	High	
5. Reduce the amount of water needed at source			
5.1 Continue to promote efficient water usage	***EAW*, DCWW**	Ongoing	
***D) Management objective*: Manage education and scientific studies to safeguard SAC features**			
6. Implement existing management relevant to safeguarding SAC features from any unfavourable effects of education and scientific studies			
6.1 Encourage regularly visiting educational establishments to join the Pembrokeshire Outdoor Charter Group	***CCW***, Pembrokeshire Outdoor Charter Group	Ongoing	
6.2 Promote and implement collection permits within the Skomer MNR	***CCW***	Ongoing	
7 Develop and introduce new management measures, as required, to safeguard SAC features from any unfavourable effects of education and scientific studies			
7.1 Develop and implement appropriate technical, spatial, temporal or effort management measures where SAC features are at high risk from education and scientific studies	***CCW*, WAG**	Medium	

ACTIONS Section 6.7 MISCELLANEOUS ACTIVITY	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
7.2 Ensure proactive liaison and agreement occur before any sample collection or observation takes place which may lead to the damage, disturbance or destruction of SAC features	***CCW***	Medium	
***E) Management objective*: Manage marine archaeology and salvage to safeguard SAC features**			
8. Ensure that CCW are kept informed of any salvage operations and that advice on how to prevent or minimise effects to SAC features is implemented	*MCA*, CADW/Cambria Archaeology (where appropriate), **CCW**	Medium	
***F) Management objective*: Manage wild animal welfare to safeguard SAC features**			
9. Continue to ensure that any wild animal welfare activity takes into account the needs of and minimises any unfavourable effects upon grey seals and otters **9.1** Ensure best practice within animal welfare establishments, particularly in order to minimise human habituation and the potential transfer of disease during rehabilitation	*RSPCA, Welsh Marine Life Rescue*	Ongoing	
9.2 Ensure good communication and local partnerships with nature conservation bodies through a memorandum of understanding relating to seal conservation and welfare intervention	***CCW**, PCF,* RSPCA, Welsh Marine Life Rescue	Medium	

6.8 RESOURCES Actions

ACTIONS Section 6.8 RESOURCES	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***A) Management objective*: Ensure the legislative framework is fit for the purpose of safeguarding SAC features**			
1. Petition to improve legislative powers within the SAC **1.1** Clarify powers and identify gaps	***All RAs****/CAs where applicable*	High	
1.2 Raise awareness of the importance of adequate suitable legislation for conservation management of the marine environment, and of the shortcomings of the current legislative framework, locally, regionally and especially nationally	***RAG*, All RAs**/CAs where applicable	High	
1.3 Petition for relevant legislative change where appropriate	***RAG*, All RAs**/CAs where applicable	Medium	
***B) Management objective*: Secure the resources necessary to implement the SAC management scheme**			
2. Continue to identify and seek funding from internal and external sources in order to: - implement any joint or outlying management actions - maintain and further develop the information base - resource further essential research - maintain a dedicated officer in post to lead the coordination of SAC management, liaison with stakeholders and raising awareness of the SAC	**All RAs**/CAs where applicable	Ongoing	
3. Ensure long-term funding support for implementation of SAC management, in particular; **3.1** Continue to regularly raise awareness of funding inadequacies with the National Assembly for Wales	***RAG*, All RAs**/CAs where applicable, WAG	Ongoing	
***C) Management objective*: Utilise and build upon existing resources which contribute to implementing the SAC management scheme**			
4. Maximise the effectiveness of existing management powers through the development and maintenance of joint voluntary management schemes and codes of conduct as appropriate, in particular; **4.1** Maintain and improve integration between voluntary partnerships in order to make best use of resources and prevent duplication	*PCF*, **All RAs**/CAs where applicable, NGOs, industry	High	
4.2 Ensure effective balance of input, on both a managerial and officer level as appropriate, in order to both better empower and inform partnership work	***All RAs****/CAs where applicable*, NGOs, industry, PCF	High	

6.9 RAISING AWARENESS (Provision of Information to Stakeholders and the Public) Actions

NB: Actions relevant to this section are also contained in other Action Plan sections

ACTIONS Section 6.9 RAISING AWARENESS	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***A) Management objective*: Raise level of awareness of all vessel users regarding the impact they might cause to the SAC features and what actions they can take to reduce impacts**			
1. Raise awareness of the SAC and its features to all vessel users **1.1** Consider the incorporation of brief material on the SAC within information given to visiting vessels	***CCW***, **MHPA**, PMCG, MHWRG	Medium	
1.2 Seek amendments to local pilots and charts to include details of the SAC	***CCW*, *MCA*, MHPA**	Medium	
1.3 Ensure that PCC/PCNPA's Boat Users Guide mentions the SAC and complements the Marine Code	***PCC*, *PCNPA***, PMCG	High	
1.4 Promote understanding, to both commercial and recreational users, of the potential environmental impacts of speeding and wash, including noise and visual disturbance, particularly in the upper reaches of estuaries	***MHPA***, MCA, MHWRG	Ongoing	
1.5 Provide site specific interpretation/signs at popular access points (marinas and slipways)	MHWRG, PMCG	Medium	
1.6 Promote and encourage best practice and good seamanship including the importance of local knowledge and awareness of legislative requirements	*MCA*	Ongoing	
1.7 Encourage all vessel users to report pollution incidents	*MCA*, **EAW**	Medium	
***B) Management objective*: Raise level of awareness of fishermen and the fishing industry regarding the impact they might cause to the SAC features and what actions they can take to reduce impacts**			
2. Ensure effective communication with the fishing industry **2.1** Ensure regular liaison with fishermen using the SAC in order to share and discuss information on fisheries management and conservation issues	***CCW*, SWSFC**, *WAG*, S&WWFC	Ongoing	
2.2 Establish and/or maintain effective liaison options with the fishing industry	***CCW*, SWSFC**, *WAG, S&WWFC*	High	

ACTIONS Section 6.9 RAISING AWARENESS	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
2.3 Encourage proactive liaison to ensure predator (grey seal) deterrent and control methods are appropriate	***CCW*, SWSFC**, *WAG*, S&WWFC	High	
3. Raise awareness of the benefits of proactive management to safeguard SAC features **3.1** Encourage development of environmentally benign materials and gear design	***CCW,*** WAG, S&WWFC	High	
3.2 Promote use of environmentally benign materials and techniques which minimise by-catch, incidental damage and gear loss	***CCW*, SWSFC**, S&WWFC, WAG	High	
***C) Management objective*: Raise level of awareness of commercial bait collectors and hand gatherers regarding the impact they might cause to the SAC features and what actions they can take to reduce impacts** *- see also raising awareness of recreational bait collectors (6.9 E)*			
4. Raise awareness of the SAC and its relevance to bait collectors and hand gatherers **4.1** Provide interpretation/signs at sensitive sites	***CCW*, *PCNPA*, PCC**	Medium	
***D) Management objective*: Raise awareness of the potential impacts of waste disposal (including refuse and litter) upon the SAC features and what actions can be taken to minimise impacts**			
5. Promote schemes to reduce potential marine litter at source **5.1** Raise awareness to 'reduce, reuse, recycle'	***All RAs/****CAs where applicable*	Ongoing	
5.2 Raise awareness of the 'Bag it and bin it' initiative, aimed at reducing levels of sewage related debris, and provide adequate facilities to help implement the initiative at all public conveniences	***EAW, PCC*, DCWW,** WAG	Medium	
5.3 Raise awareness of the national Tidy Tackle pack which includes the national 'Conservation Code for Sea Anglers' and the Environment Agency leaflet 'Angling & Wildlife'	***CCW*, EAW, PCNPA**, *Keep Wales Tidy*, PRT	Ongoing	
6. Target specific users to reduce potential marine litter at source **6.1** Review signage at popular beaches to ensure the problems and penalties of littering, and encouragement of users to take litter away with them, are adequately addressed	***PCC*, PCNPA**	Medium	
6.2 Ensure adequate refuse reception facilities (including recycling) are available at all ports, harbours and marinas and promote their use	*MCA,* **MHPA, PCC,** other harbour authorities	Medium	
6.3 Raise awareness of SWSFC code of conduct to fishing vessels which refers to littering	***SWSFC***	Ongoing	

ACTIONS Section 6.9 RAISING AWARENESS	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
6.4 Encourage the use of biodegradable materials in the manufacture of nets, long lines, lobster and crab pots and other gear to reduce the potential impacts of ghost fishing and littering	***CCW***	Medium	
6.5 Encourage anglers to take litter and old tackle to suitable disposal points, and to use line recycling facilities where they exist	***CCW*, PCNPA, NT**	Ongoing	
7. Promote improved general waste management at sea			
7.1 Raise awareness of the Clean Seas initiative and good shipping practice	*Keep Wales Tidy*	Ongoing	
7.2 Raise awareness of the 'Navigate with Nature' scheme, particularly with regard to recreational users	*MCA*, **MHPA,** PMCG	Ongoing	
7.3 Raise awareness with all users (tankers, fishing vessels, recreational craft) of the problems of dirty bilge discharge and of the actions necessary to avoid potential pollution	MCA**, MHPA, SWSFC,** MHWRG, PMCG	Medium	
7.4 Raise awareness with fishing vessels and recreational users of the relevant legislation for waste (including sewage) disposal from vessels and penalties for non-compliance	MCA**, SWSFC, MHPA,** MHWRG, PMCG	Medium	
***E) Management objective*: Raise level of awareness of recreational users of the site regarding the impact they might cause to SAC features and what actions they can take to reduce impacts**			
8. Raise awareness of the SAC and its relevance to recreational users generally			
8.1 Support PCNPA's marine themed 'walks and talks' events and supplement/support where required	***All RAs/****CAs where applicable*	Ongoing	
8.2 Link to and ensure that the SAC is appropriately mentioned in all relevant recreation and tourism publications (e.g. outputs from PCC's tourism department)	***PCC*, PCNPA**, WAG, Visit Wales, Sports Council for Wales	Medium	
9. Raise awareness of the SAC and its specific relevance to anglers			
9.1 Provide interpretative material (leaflets and/or signs at popular access points)	***CCW*, EAW, PCNPA,** NT**,** PRT	Medium	
9.2 Help to make relevant information readily available to users	***CCW*, EAW, PCNPA, PCC,** NT**,** PRT	Medium	

ACTIONS Section 6.9 RAISING AWARENESS	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
9.3 Liaise with angling representatives/clubs	***CCW*, EAW, PCNPA,** NT, PRT	High	
9.4 Coordinate any media activity with other sites/organisations as appropriate	***CCW***	Medium	
9.5 Encourage use of 'green' gear (lead free weights, biodegradable line) and assist its promotion by local tackle shops	***CCW*, SWSFC**, WAG, **EAW**, PRT, KWT	High	
9.6 Promote the adoption of 'catch and release', particularly as the basis for sea angling competitions within the SAC, rather than bag sizes	***CCW*, SWSFC**, WAG	High	
10. Raise awareness of the SAC and its specific relevance to recreational bait collectors			
10.1 Liaise with angling representatives/clubs	***CCW*, EAW, PCNPA,** NT, **SWSFC**, PRT	High	
10.2 Provide interpretative material (leaflets and/or signs at popular access points)	***CCW*, EAW, PCNPA,** NT, **SWSFC**, PRT	High	
10.3 Encourage the wider use of lures for some species to minimise the use of bait, and where bait is needed, encourage where possible the use of farmed bait from sustainable and environmentally benign farms	***CCW*, EAW, PCNPA,** NT, **SWSFC**, PRT	High	
11. Raise awareness of the SAC and its specific relevance to organised groups of shore users			
11.1 Ensure best practice from organised parties operating through members of the Pembrokeshire Outdoor Charter Group	***PCNPA***, **CCW**, **PCC**, POCG	Ongoing	
12. Raise awareness of the SAC and its specific relevance to divers/snorkellers			
12.1 Provide information on the SAC and its wildlife to users through dive shops, clubs and associations	***CCW***, PMCG	High	
12.2 Ensure that local diving publications/guides mention the SAC	***CCW***, **PCNPA**, PMCG	High	
12.3 Discourage users from actively and deliberately harassing seals into swimming with them	***CCW***, PMCG	High	
***F) Management objective*: Raise level of awareness of those engaged in education and scientific studies regarding the impact they might cause to the SAC features and what actions they can take to reduce impacts**			
14. Raise awareness of the SAC with visiting educational establishments and researchers	***CCW***, Pembrokeshire Outdoor Charter Group	Ongoing	

ACTIONS Section 6.9 RAISING AWARENESS	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***G) Management objective*: Raise level of awareness of those engaged in marine animal welfare regarding the impact they might cause to the SAC features and what actions they can take to reduce impacts**			
15. Raise awareness of wild animal needs and practical welfare potential	*RSPCA*, Welsh Marine Life Rescue**, CCW**	Medium	
***H) Management objective*: Raise level of awareness of general stakeholders and the public to enable understanding of the SAC and its management scheme**			
16. Raise awareness of local marine wildlife within the SAC, and SAC management needs and implications			
16.1 Widely distribute the underwater video to actively promote and encourage interest in and appreciation for the marine life of the SAC	***RAG***	Ongoing	
16.2 Continue to promote local and national initiatives to raise awareness of marine life and issues that support/contribute to the aims of the SAC. In particular, work closely with the Skomer Marine Nature Reserve, Pembrokeshire Biodiversity Partnership, Pembrokeshire Coastal Forum, Field Studies Centres, Sea Trust and the Marine Conservation Society	***RAG*, All RAs**/CAs where applicable	Ongoing	
16.3 Actively develop an awareness raising programme to include regular SAC presence at "coastal surgeries" and public events, SAC talks and presentations, and media coverage	***RAG***	Ongoing	
16.4 Actively strive to increase the priority of the importance of marine issues and education with local organisations	***RAG*, All RAs**/CAs where applicable, PCF	Ongoing	
16.5 Continue to make available SAC interpretation material (leaflets and posters)	***RAG***	Ongoing	
16.6 Distribute the management scheme widely, in particular to users of the SAC	***RAG***	High	
***I) Management objective*: Effective/comprehensive relevant and competent authority awareness and understanding of the SAC and its management scheme**			
17. Maintain and improve internal communications about the SAC within relevant and competent authority organisations			
17.1 Ensure all relevant departments within relevant authorities and competent authorities are aware of and act upon their SAC management responsibilities	**All RAs**/CAs where applicable	Ongoing	

ACTIONS Section 6.9 RAISING AWARENESS	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
18. Maintain and improve external communications about the SAC between relevant and competent authority organisations			
18.1 Encourage active participation in relevant partnerships/project initiatives where appropriate in order to best support the needs of the SAC	**All RAs/**CAs where applicable	Ongoing	

6.10 INFORMATION and DATA COLLECTION (including RESEARCH) & COLLATION Actions

NB: Actions relevant to this section are also contained in other Action Plan sections

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***A) Management objective*: to secure good quality relevant data on PORTS, HARBOURS and SHIPPING sufficient to adequately inform SAC management**			
1. Maintain and expand the knowledge base of the distribution and scale of shipping and shipping-related operations sufficient to inform SAC management			
1.1 Collate/collect and share existing information on the scale, location and seasonality of shipping and shipping-related operations, in particular;			
1.1.1 Shipping movements (e.g. MCA Traffic Survey data)	*MCA*, **MHPA**	Ongoing	
1.1.2 Anchoring and mooring	*MCA*, **MHPA, CCW (Skomer MNR), SWSFC, Trinity House,** MoD, other harbour authorities	Ongoing	
1.1.3 Dredging	*WAG/M&FA*, **MHPA**	Ongoing	
1.1.4 Toxic antifoulant use	***All RAs*** *where applicable*, MCA	Ongoing	
1.1.5 Alien species (including methods of introduction – fouling & ballast water)	***All RAs*** *where applicable*	Ongoing	
1.1.6 Ballast water discharge (e.g. www.Globallast.imo.org)	***All RAs*** *where applicable*, MCA	Ongoing	
2. Record and share additional data on the scale, location and seasonality of shipping and shipping-related operations through maintaining a watching brief			
2.1 Record and share additional data on the scale, location and seasonality of shipping and shipping-related operations through targeted survey, in particular;			
2.1.1 Investigate the potential of AIS (Automated Identification System) data	MCA, **MHPA**	Medium	
2.1.2 Investigate the possibility of placing radar on The Smalls to transmit and record passing vessel traffic and to monitor the effectiveness of current traffic separation schemes	***MHPA*****,** MCA, **PCNPA** (planning)	Medium	L P R
2.1.3 Investigate the possibility of placing radar on the Deer Park to transmit and record vessel movements between St Bride's Bay and Milford Haven	***MHPA*****, CCW (Skomer MNR),** MCA	Medium	L P

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
2.1.4 Continue to maintain records on shipping anchoring (via Port Control) within the Haven	***MHPA***	Ongoing	
2.1.5 Continue to maintain records on shipping anchoring in St Bride's Bay	***CCW (Skomer MNR)*, MHPA**	Ongoing	
2.1.6 Continue to maintain records on commercial moorings within the Haven	***MHPA***	Ongoing	
2.1.7 Undertake a census of all users (to include vessels and vessel related structures) within the Haven in order to provide baseline information on the usage, type, effectiveness, and methods of application and disposal of antifoulants. Determine need for repeat surveys and necessary frequency. Determine need for antifoulant use census in open coast areas, and undertake as necessary	***MHPA,*** Milford Harbour Users Association, MCA, boat owners associations	Medium	
2.1.8 Research historical contamination within the Haven by analysis of sediments	***EAW*** through MHWESG	Low	
2.1.9 Require ballast water exchange data from visiting vessels to the Haven. This will be aided by the recent requirement for ships to carry a Ballast Water Record Book	*MCA*, **MHPA**, MHWESG	Medium	P
3. Maintain and continue to expand the knowledge base of *effects* of shipping and shipping-related operations on the SAC features.			
3.1 Record and share data on unfavourable *effects* of shipping and shipping-related operations through			
3.1.1 maintaining a watching brief	**All RAs** where applicable	High	
3.1.2 targeted survey	***CCW*, RAs** & MHWESG where applicable	Medium	
3.2 Improve understanding of the interaction between shipping and shipping-related operations and the SAC features, in particular;			
3.2.1 Continue to research the possible interactions between maintenance dredging within the Haven and the SAC features	***MHPA*, CCW**	Ongoing	
3.2.2 Develop a surveillance programme to identify the presence of potential persistent sediment contaminants within the Haven and their scale and significance on the SAC features if re-suspended through dredging	***EAW*** through MHWESG	Low	
3.2.3 Develop and implement regular biological monitoring for any ongoing effects of toxic antifoulant substances	***CCW,*** MHWESG	Medium	
3.2.4 Improve understanding of the interaction between alien species from ballast water and hull fouling and the SAC features	***CCW***	Medium	

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***B) Management objective*: to secure good quality relevant data on LIVING RESOURCES (FISHERIES) sufficient to adequately inform SAC management**			
4. Maintain and continue to expand the knowledge base of the distribution and scale of fishing activities, sufficient to inform SAC management			
4.1 Collate/collect and share existing information on the location, scale and seasonality of fishing activities within and adjacent to SAC features	***SWSFC***, WAG, **EAW**, S&WWFC	Ongoing	
4.2 Record and share additional data on the location, scale and seasonality of fishing activities within and adjacent to SAC features through maintaining a watching brief and targeted survey, in particular;	***SWSFC***, WAG, **EAW**, **CCW**, S&WWFC	High	
4.2.1 Maintain records of fishing effort within the Skomer Marine Nature Reserve	CCW	Ongoing	
4.2.2 Establish practical 'current' baselines for effort and spatial distribution of fishing operations	***SWSFC***	High	
5. Maintain and continue to expand the knowledge base of *effects* of fishing activities on the SAC features			
5.1 Record and share data on *effects* of fishing activities in the SAC through maintaining a watching brief and targeted survey	***CCW*, SWSFC,** WAG	High	
5.2 Improve understanding of the interaction between fishing activities and the SAC features, in particular:	***CCW***	High	
5.2.1 Contribute to the establishment of unexploited scientific research 'control' sites	***SWSFC*, CCW,** WAG	Medium	
5.2.2 Develop and take forward proposals for further research into the interactions between hydraulic dredging techniques and the SAC features	***CCW*, SWSFC,** WAG	Medium	
5.2.3 Investigate the effects of netting on the SAC features *reef*, *grey seal*, *otter* and *shad* spp.	***CCW*, SWSFC,** WAG	Medium	
***C) Management objective*: to secure good quality relevant data on use of LIVING RESOURCES (NON FISHERIES) sufficient to adequately inform SAC management** *For bait collection see RECREATION (6.10 D)*			
6. Maintain and expand the knowledge base of the distribution and scale of use of living resources (non fisheries) sufficient to inform SAC management			
6.1 Collate/collect and share existing information on the scale, location and seasonality of use of living resources (non fisheries), in particular;			
6.1.1 Hand gathering of marine plants	***CCW*, PCNPA**, NT	Ongoing	

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
6.1.2 Aquarium/curio collection	***CCW*, PCNPA, SWSFC** (seafish), WAG	Medium	
6.1.3 Saltmarsh grazing	***CCW*, PCNPA**, NT	Medium	
6.2 Record and share additional data on the scale, location and seasonality of use of living resources (non fisheries) through maintaining a watching brief and targeted survey, in particular;			
6.2.1 Hand gathering of marine plants	***CCW*, PCNPA**, NT	Medium	
6.2.2 Aquarium/curio collection	***CCW*, PCNPA, SWSFC** (seafish), WAG	Medium	
6.2.3 Saltmarsh grazing	***CCW*, PCNPA**, NT	Medium	
7. Maintain and continue to expand the knowledge base of *effects* of use of living resources (non fisheries) on the SAC features			
7.1 Record and share data on *effects* of use of living resources (non fisheries) in the SAC through;			
7.1.1 maintaining a watching brief	***All RAs** where applicable*	High	
7.1.2 targeted survey	***CCW***	Medium	
7.2 Improve understanding of the interaction between use of living resources (non fisheries) and the SAC features, in particular for:			
7.2.1 Hand gathering of marine plants	***CCW***	Medium	
7.2.2 Aquarium/curio collection	***CCW***	Medium	
7.2.3 Saltmarsh grazing	***CCW***	Medium	
***D) Management objective*: to secure good quality relevant data on RECREATION sufficient to adequately inform SAC management**			
8. Maintain and expand the knowledge base of the distribution and scale of recreational activities, shore and water based, sufficient to inform SAC management			
8.1 Collate/collect and share existing information on the scale, location and seasonality of recreational activities, and where possible record and share additional data through maintaining a watching brief	***All RAs** where applicable through PCF*, NT, MCA, VISIT WALES	Ongoing	
8.1.1 Continue to maintain recreational records via the Water Ranger within the Haven	***MHPA*, PCNPA**	Medium	
8.1.2 Continue to maintain recreational records within the Skomer MNR	***CCW (Skomer MNR)***	Medium	

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
8.2 Record and share additional data on the scale, location and seasonality of recreational activities through targeted survey, in particular for;	***CCW*, EAW, PCNPA**, NT, **SWSFC**, **MHPA**, PRT	Medium	
8.2.1 Recreational angling			
8.2.2 Bait collection (including commercial collection)	***CCW*, EAW, PCNPA, PCC,** NT**, SWSFC**, **MHPA**, PRT	High	
8.2.3 Diving and snorkelling	***CCW***, **PCNPA, PCC,** NT**, MHPA** , MCA, PMCG	Medium	
8.2.4 Power craft (including wildlife boat operators)	***CCW***, **PCNPA, PCC,** NT**, MHPA** , MCA, PMCG	Medium	
8.2.5 Recreational anchoring & mooring	***CCW***, **PCNPA, PCC,** NT**,** MCA, PMCG	Medium	
8.3 Determine maximum acceptable levels for all current and future recreational activity within the SAC (recreational 'carrying capacity') to ensure the future protection of SAC features	***PCMN*** *via PCF,* SWWTP	Medium	
9. Maintain and continue to expand the knowledge base of *effects* of recreational activities on the SAC features.			
9.1 Record and share data on *effects* of recreational activities through maintaining a watching brief	***All RAs*** *where applicable*	Ongoing	
9.2 Record and share data on unfavourable effects of recreational activities through targeted survey. In particular, improve understanding of the interaction between the following recreational activities and the SAC features;			
9.2.1 Effects of gear loss & littering from recreational angling on the SAC features	***CCW***	Medium	
9.2.2 Impacts (if any) of recreational angling upon fish populations	***CCW***	Medium	
9.2.3 Bait collection	***CCW***	High	
9.2.4 Concentrated / frequent trampling pressure from coasteering	***PCNPA*, CCW**	Low	
9.2.5 Shooting/wildfowling	***CCW***	Low	
9.2.6 Physical disturbance to SAC features from diving	***CCW***	Low	
9.2.7 Power craft (including wildlife boat operators)	***CCW*,** PMCG	High	
9.2.8 Recreational anchoring & moorings	***CCW***	Medium	

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
10. Encourage anglers to contribute to the knowledge base of the distribution of fish species within the SAC			
10.1 Promote reporting of shad and lamprey sightings	***CCW*, EAW, SWSFC**, PRT	High	
10.2 Promote existing reporting schemes, particularly for 'unusual' catches	***CCW*, EAW, SWSFC**, PRT	Medium	
10.3 Establish effective local systems for reporting, maintaining local records, and contributing to national schemes	***CCW*, EAW, SWSFC**, PRT	Medium	
11. Encourage divers to contribute to the knowledge base of the distribution of the SAC features			
11.1 Promote the carrying out of marine wildlife surveys and reporting of survey findings and opportunistic sightings as appropriate	***CCW***, PMCG	Ongoing	
11.2 Continue to promote the SeaSearch scheme	***CCW***, PMCG	Ongoing	
11.3 Establish effective local systems for reporting, maintaining local records, and contributing to national schemes	***CCW***, PMCG	High	
12. Encourage boat crews to contribute to the knowledge base of the distribution of the SAC features			
12.1 Promote the carrying out of marine wildlife surveys and reporting of survey findings and opportunistic sightings as appropriate	***CCW***, PMCG	Ongoing	
12.2 Establish effective local systems for reporting, maintaining local records, and contributing to national schemes	***CCW***, PMCG	High	
***E) Management objective*: to secure good quality relevant data on POLLUTION sufficient to adequately inform SAC management**			
13. Maintain and continue to expand the knowledge base of the distribution and scale of pollution, sufficient to inform SAC management			
13.1 Collate/collect and share existing information on the location, scale and seasonality of pollution within and adjacent to the SAC, in particular;			
13.1.1 Diffuse pollution	***EAW,*** WAG, **All RAs/**CAs where applicable, MHWESG	Ongoing	R
13.1.2 Maritime hydrocarbon spills	***MHPA,* All RAs/**CAs where applicable, MHWESG	Ongoing	

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
13.1.3 Refuse and litter	**All RAs** where applicable, KWT, MCS	Ongoing	
13.2 Record and share additional data on the location, scale and seasonality of pollution within and adjacent to the SAC through maintaining a watching brief and targeted survey, in particular;	***EAW,*** WAG, **All RAs** where applicable	Ongoing	R
13.2.1 Continue to research the input budget of the waterway and share results as appropriate	***EAW*** through MHWESG	Ongoing	
13.2.2 Continue to record and investigate all hydrocarbon spills within the Haven	***MHPA***	Ongoing	
13.2.3 Continue to record and investigate reported pollution incidents	*MCA,* **All RAs** where applicable	Ongoing	
13.2.4 Encourage community based volunteer CoastCare Projects and Adopt-a-beach schemes to regularly record data on litter type and quantity, and to participate in the national Beachwatch survey	***All RAs*** *where applicable*, KWT, MCS	Ongoing	
14. Maintain and continue to expand the knowledge base of *effects* of pollution on the SAC features	***All RAs*** *where applicable*	Ongoing	
14.1 Record and share data on *effects* of pollution in the SAC through			
14.1.1 maintaining a watching brief	***CCW*, EAW**	Medium	
14.1.2 targeted survey	***CCW*, EAW**	Medium	
14.2 Improve understanding of the interaction between diffuse pollution and the SAC features, in particular;			
14.2.1 Investigate developing and conducting research into the possible long-term cumulative effects of known toxic substances on the SAC features	***EAW***, **CCW**, WAG/ M&FA,MHWESG	Medium	R
14.2.2 Investigate developing and conducting research into the possible combination effects of known toxic substances on the SAC features	***EAW***, **CCW**, WAG/ M&FA, MHWESG	Medium	R
14.2.3 Investigate developing and conducting research into the possible cumulative effects of bacterial and viral contamination and antibiotics on the SAC features	***EAW***, WAG/M&FA, CEFAS?	Low	R
***F) Management objective*: to secure good quality relevant data on spoil dumping sufficient to adequately inform SAC management**			
15. Maintain and continue to expand the knowledge base of *effects* of spoil dumping on the SAC features			
15.1 Record and share data on *effects* of spoil dumping in the SAC through			
15.1.1 maintaining a watching brief	***All RAs*** *where applicable*	Ongoing	
15.1.2 targeted survey	***MHPA*, CCW**	Ongoing	

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
15.2 Improve understanding of the interaction between spoil dumping and the SAC features, in particular to continue to research the possible interactions between dredge spoil dumping from the waterway and the SAC features	***MHPA*, CCW**	Ongoing	
***G) Management objective*: to secure good quality relevant data on education and scientific studies activity sufficient to adequately inform SAC management**			
16. Maintain and continue to expand the knowledge base of the distribution and scale of education and scientific studies, sufficient to inform SAC management			
16.1 Collate/collect and share existing information on the location, scale and seasonality of education and scientific studies within and adjacent to the SAC	***CCW*, PCNPA, PCC**, FSC, Pembrokeshire College	Ongoing	
16.2 Record and share additional data on the location, scale and seasonality of education and scientific studies within and adjacent to the SAC through maintaining a watching brief and targeted survey	***All RAs*** *where applicable*	Low	
17. Maintain and continue to expand the knowledge base of *effects* of education and scientific studies activity on the SAC features			
17.1 Record and share data on *effects* of education and scientific studies activity through maintaining a watching brief	**All RAs** where applicable	Ongoing	
17.2 Improve understanding of the interaction between education and scientific studies activity and the SAC features	***CCW***	Low	
18. Encourage those engaged in education and scientific studies to share any collected information of relevance to SAC features as appropriate			
18.1 Promote existing reporting schemes	***CCW***, Pembrokeshire Outdoor Charter Group	Medium	
18.2 Establish effective local systems for reporting, maintaining local records, and contributing to national schemes	***CCW***	Low	
***H) Management objective*: to secure good quality relevant data on military activity sufficient to adequately inform SAC management**			
19. Maintain and continue to expand the knowledge base of the distribution and scale of military activity, sufficient to inform SAC management			
19.1 Collate/collect and share existing information on the location, scale and seasonality of military activity within and adjacent to the SAC	*MoD*	Medium	

ACTIONS Section 6.10 INFORMATION & DATA COLLECTION	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
19.2 Record and share additional data on the location, scale and seasonality of military activity within and adjacent to the SAC through maintaining a watching brief and targeted survey, in particular to keep a record, where possible, of numbers and type (e.g. inert) of ordnance entering the sea (fired directly or otherwise) and make records available to relevant authorities as appropriate	*MoD*	Medium	
20. Investigate and monitor any *effects* of military activity on the SAC features **20.1** Record and share data on *effects* of military activity through maintaining a watching brief	*MoD*, ***CCW,*** **All RAs** where applicable	Medium	
20.2 Improve understanding of the interaction between military activity and the SAC features, in particular that of historical explosives dumping	***CCW***, MoD	Medium	
***I) Management objective*: to secure effective relevant data acquisition and usage sufficient to best inform SAC management**			
21. Actively seek relevant information as appropriate from stakeholders and ensure that information is passed to the appropriate authorities where best use can be made of it	***RAG***, **All RAs**/CAs where applicable	Ongoing	
22. Ensure up to date information sharing both within and between organisations in order to make best use of resources and to prevent duplication **22.1** Ensure any technical impediments to data and information sharing are minimised (e.g. software compatibility…)	**All RAs**/CAs where applicable	High	
22.2 Develop and maintain a central GIS-based data system to store baseline information relevant to SAC management and decision making	***RAG***, **All RAs**/CAs where applicable	High	
23. Ensure that adequate liaison mechanism(s) are maintained in order to allow open and informed two-way communication between stakeholders. In particular; **23.1** Build and improve relationships with all stakeholders in order to make best use of local knowledge and views	**All RAs**	Ongoing	
23.2 Hold public meetings, coastal surgeries and SAC liaison meetings as appropriate	**RAG**	Ongoing	

6.11 MONITORING, REVIEW and REPORTING Actions

NB: See Section 7 of the management scheme (Monitoring, Review and Reporting) for further detail

ACTIONS Section 6.11 MONITORING, REVIEW & REPORTING	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***A) Management objective*: Implementation of the SAC management scheme** *- see also RESOURCES (6.8)*			
1. Implement all actions from the action plan as far as resources and any other constraints allow, and where constraints do restrict implementation, act to resolve them if possible (using if necessary the management scheme as justification) **1.1** Link effectively to local Biodiversity Action Plans where applicable	**All RAs**/CAs where applicable **All RAs**/CAs where applicable	High High	
***B) Management objective*: Effective/comprehensive knowledge of the condition of the SAC features**			
2. Monitor the condition of the SAC features against the conservation objectives **2.1** Establish and implement a monitoring programme for the SAC features, building upon existing work where possible	***CCW***	High	
***C) Management objective*: Effective/comprehensive knowledge of the effects of human activity in and upon the SAC**			
3. Maintain an accurate information baseline, in order to help inform management, on the extent, location, intensity, and where applicable, the seasonality of all activities likely to effect the SAC features, in particular focusing on those actions identified within Section 6.10 (Information)	**All RAs**/CAs where applicable	Ongoing	
4. Maintain an accurate information baseline on the effects of activities on the SAC features, in particular focusing on those actions identified within Section 6.10	**All RAs**/CAs where applicable	Ongoing	
5. Pursue management measures to enable the setting up of adequate monitoring control sites where SAC features can be studied in areas segregated from all extractive/ potentially damaging activities	**All RAs**/CAs where applicable	High	
***D) Management objective*: Monitor SAC management scheme effectiveness to ensure compliance with the Habitats Directive**			
6. Monitor compliance with and effectiveness of management actions ("self review")	**All RAs**/CAs where applicable	Ongoing	
7. Agree monitoring responsibilities in those areas which fall outside or across jurisdictional boundaries	***RAG***	High	

ACTIONS Section 6.11 MONITORING, REVIEW & REPORTING	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
***E) Management objective*: Ensure SAC management remains fit for the purpose of safeguarding SAC features**			
8. Keep the SAC Management Scheme under constant review			
8.1 Relevant Authorities Group to meet regularly to discuss site management and consider recent relevant information at least 4 times a year	***RAG***	Ongoing	
8.2 SAC Action Plan to be reviewed annually	***RAG***	Ongoing	
8.3 SAC Management Scheme to be updated every 5 to 6 years, in line with the EU's 6 year *Natura 2000* reporting cycle	***RAG***	High	
9. Review the conservation objectives for the SAC and produce revised Regulation 33 advice as and when appropriate	***CCW***	High	
10. Ensure that the SAC is taken fully into account in the preparation and review of all statutory management policies, plans and initiatives which cover areas of the SAC (see Appendix 6 for a list)	**All RAs**/CAs where applicable	Ongoing	
11. Promote a more holistic and integrated management approach where appropriate, in particular;			
11.1 Ensure that the potential for activities outside the SAC to influence SAC features is recognised and that suitable actions are taken to safeguard SAC features	**All RAs**/CAs where applicable (via PCMN and WCMP)	High	
11.2 Ensure that the potential for activities within the SAC to influence adjacent and nearby European sites is recognised and that suitable actions are taken to safeguard their features	**RAG**	High	
11.3 Support national initiatives and proactive management that seek to alleviate pressures on the global marine environment (such as global warming and overexploitation of unsustainable resources)	**All RAs**/CAs where applicable (via PCMN and WCMP)	High	
***F) Management objective*: Keep all stakeholders informed about site condition and management**			
12. Regularly report upon site status, in particular;			
12.1 Update RAs/CAs and Liaison Forum annually on the results of any recent feature condition monitoring and surveillance work	***CCW***	High	

ACTIONS Section 6.11 MONITORING, REVIEW & REPORTING	WHO	PRIORITY & TIMESCALE	CONSTRAINTS
12.2 Report annually the results of all activity monitoring and surveillance within the SAC to the RAs/CAs and Liaison Forum	**All RAs**/CAs where applicable	High	R
12.3 Report annually the results of all compliance monitoring and surveillance within the SAC to the RAs/CAs and Liaison Forum, and by so doing highlight management effectiveness (or not)	**All RAs**/CAs where applicable	High	R

7. MONITORING, REVIEW AND REPORTING

7.1 Monitoring

In order to ensure that the relevant authorities fulfil their requirements under the Habitats Directive, it is important to monitor the site. Monitoring will address both the condition of the SAC features, and the implementation of the agreed management actions.

7.1.1 SAC feature monitoring

Biological and habitat monitoring is used to assess the SAC features against the conservation objectives for the site, to contribute to determining if they are at favourable conservation status. This monitoring measures the 'health' or 'quality' status of the SAC features; whether they are maintaining themselves, showing signs of increase or of damage or loss. By monitoring various aspects or 'attributes' of these features, it should be possible to build up a picture of what is happening to the site and whether or not there need to be changes made to the ways in which it is managed. The Countryside Council for Wales will take the lead in co-ordinating feature monitoring for the site. The scope of the monitoring must be sufficient that it covers all the conservation features and components of interest but wherever possible builds on existing monitoring work to reduce costs. The results of the monitoring programme will be presented to the Relevant Authorities Group as they become available. This input will help identify the need for new measures to maintain or restore favourable condition to the site's interest features.

Feature monitoring plans will be detailed by the Countryside Council for Wales as part of the Regulation 33 advice for the site.

7.1.2 Activity monitoring

The extent, location, intensity and, where applicable, seasonality of activities will require monitoring or being kept under surveillance in order to build up a baseline of information to help continually inform management decision making. Information on new activities provided by relevant authorities will be used to direct the condition monitoring programme to focus on features likely to be affected by these activities. This input will help identify the need for new measures to maintain or restore favourable condition to the site's interest features.

7.1.3 Compliance monitoring

Compliance monitoring determines whether the agreed management measures are in place, being implemented, being complied with, working as planned and are being effective. The monitoring of a particular activity or measure is the duty of the relevant authority responsible for that activity as part of their duties. For those activities and measures which occur outside the remit of the relevant authorities for this site, it will be necessary to agree who will take responsibility for monitoring. The SAC Officer, on behalf of the Relevant Authorities Group, will collate the information relating to compliance monitoring of the scheme from each of the lead bodies identified and include this information in an annual progress report.

7.2 Implementation and review

Management of the SAC is a dynamic working process which will need to be periodically reviewed and revised as conditions change, management measures are implemented, and new information from surveillance, monitoring and research becomes available. Consequently, the management scheme document will also require regular review and periodic amendment to accommodate such changes.

The relevant authorities, as the bodies with the statutory responsibility for preparing and implementing the scheme, share the responsibility for its review and revision. As with the preparation of the scheme, all significant reviews will take place in consultation with all interested stakeholders.

The SAC action plan will be reviewed annually. This review will focus on the implementation of the scheme's management actions and on what actions are currently required. The review of management actions required will be informed by determination of how well the conservation objectives are being achieved, and from other sources of information which suggest that the prescribed management actions should be changed. The SAC Officer will have a major role in ongoing management implementation (see Section 1.7.5).

The management scheme will be fully reviewed every five to six years, in line with the European Union's six year *Natura 2000* reporting cycle. The full review will require all those involved in site management to assess the overall effectiveness of the scheme in adequately addressing the issues and activities which impact on the favourable conservation status of the SAC features. This review will accommodate changes to:

- Countryside Council for Wales' Regulation 33 advice to take into account information on changes in activities and patterns of usage of the site, and also improvements in scientific knowledge on the sensitivity of interest features,
- The extent, location and nature of activities taking place across the site and their effects, if any, on the SAC features,
- Legal obligations by relevant authorities and any changes in legislative powers.

Updated editions of this management scheme will be important so as to ensure the management scheme provides an accurate resource for the development of other management measures across the site over time (see Section 6.11).

7.3 Reporting

To ensure relevant authorities are meeting their requirements under the Habitats Directive, regular reporting on progress will be needed. To do this an annual report will be produced by the Relevant Authorities Group. The report will outline the implementation of the action plan and include information on monitoring of the condition of the SAC features and surveillance of activities. It will also provide a platform from which to present new issues to be addressed in the following year.

A meeting will be held annually in order to deliver the annual report to the wider stakeholders of the site to keep them up to date with developments and to discuss any issues of concern. Outstanding action points and new issues will be discussed at these meetings.

Under the Habitats Directive, the UK is required to report to the European Union every six years on the measures taken under the Directive and on the conservation status of the SAC features. This statutory requirement for reporting serves several important functions:

- It provides a means of evaluating the effectiveness of SACs in contributing to the aims of the Habitats Directive, namely the achievement of favourable conservation status of habitats and species of European importance;
- It enables the European Union to monitor progress on the implementation of the Directive across all member states, including through SACs and other measures;
- It provides a means for the relevant authorities for each UK marine SAC to be held accountable for their actions, against the requirements of the legislation and, most importantly, against the condition of the habitats and species for which the sites are selected. It should be noted that the National Assembly for Wales has powers to intervene in management schemes;

- Where factors are outside the control of the relevant authorities, it enables them to report that to the Government, which is ultimately responsible to the European Union for the implementation of the Habitats Directive in the UK.

CCW provide information to the Welsh Assembly Government, who then report to UK Government. A UK report is then compiled and sent to the European Union.
Reporting to the European Union occurred in 2007.

APPENDICES

APPENDIX 1: Glossary

Agricultural run-off	A mixture consisting of the water runoff from agricultural sites. Runoff from cropland may carry sediments, pesticides and nutrients. Runoff from barnyards and feedlots may be contaminated with nutrients, organic matter, ammonia, and microorganisms.
Annex I habitats	A natural habitat(s) listed in Annex I of the Habitats Directive for which Special Areas of Conservation can be selected.
Annex II species	A species listed in Annex II of the Habitats Directive for which Special Areas of Conservation can be selected.
Anthozoan	Any of a class (Anthozoa) of marine organisms, such as the corals and sea anemones, that have radial segments and grow singly or in colonies.
Anthropogenic	Relating to or resulting from the influence humans have on the natural world.
Antifouling	Poisonous paint used on the bottom of the boat or other submerged surface to prevent barnacles and other organisms from growing on the ship's bottom/surface.
Assemblage	A collection of, in this case, plants and/or animals characteristically associated with a particular environment.
Attribute	Characteristic of an interest feature/sub-feature which provides an indication of the condition of the feature or sub-feature to which it applies.
Ballast water	Water taken up or released by a ship to stabilize it, or to raise/lower it in the water column.
Benign	Neutral or harmless in its effect or influence.
Benthos	Animals attached to, or living on, in or near the sea bed, including that part which is exposed by the tide.
Bioaccumulation	The concentration of fat-soluble chemical substances in the tissues of animals. These can concentrate through the food-web, reaching particularly high levels in top predators.
Biodiversity	The total variety of life on earth. This includes diversity within species, between species and of ecosystems.
Biogeographical	The study of the geographic distribution of organisms.
Biota	All of the organisms, including animals, plants, fungi, and micro-organisms, found in a given area.
Biotope	The physical habitat and its biological community; a term which refers to the combination of the physical environment and its distinctive collection of species.
Bivalve	Class of molluscs, so called because the body is enclosed in a pair of shells or "valves". Examples of species are the common mussel and cockle.
Bryozoans	Small marine colonial animals which resemble seaweeds. Sometimes known as moss animals, the individuals are called zooids. An example species is hornwrack.
Byelaw	A law or rule made by a local authority or other body, rather than by the national government.

Characteristic	Special to or especially abundant in a particular situation or biotope. Characteristic species should be immediately conspicuous and easily identified.
Coasteering	Coasteering is an adventure sport that involves traversing cliff faces along a body of water. Coasteering involves climbing, trekking and swimming.
Common Law	The system of laws originated and developed in England and based on court decisions, on the doctrines implicit in those decisions, and on customs and usages rather than on codified written laws.
Community	A group of organisms occurring in a particular environment, presumably interacting with each other and with the environment, and identifiable by means of ecological survey from other groups.
Competent authority	Any Minister, government department, public or statutory undertaker, public body or person holding a public office that exercises legislative powers.
Compliance monitoring	Monitoring undertaken against accepted standards to ensure that agreed or required measures are being followed.
Condition monitoring	Monitoring undertaken against the conservation objectives to ensure that the site's interest features are attaining favourable condition. For those interest features of which there is little or no knowledge, it involves monitoring to establish a baseline against which future change in the condition of the features can be assessed.
Conservation objective	A statement of the nature conservation aims for a site, expressed in terms of the favourable condition that we wish to see the species and/or habitats for which the site has been selected to attain. Conservation objectives for European marine sites relate to the aims of the Habitats Directive.
Diadromous	Adjective describing organisms that migrate between fresh and salt water, such as eels and carp.
Dynamism	Energizing or dynamic action or power. The theory that phenomena or matter or mind are due to the action of forces.
Echinoderms	Any of numerous radially symmetrical marine invertebrates of the phylum Echinodermata, which includes the starfishes, sea urchins, and sea cucumbers, having an internal calcareous skeleton and often covered with spines.
Ecosystem	Dynamic assemblages of native plant and/or animal communities that 1) occur together on the landscape or in the water; and 2) are tied together by similar ecological processes (eg, fire, hydrology), underlying environmental features (eg, soils, geology) or environmental gradients (eg, elevation).
Epifauna	Animals living on the surface of the seabed.
European marine site	A European site (SAC or SPA) which consists of, or in so far as it consists of, marine areas.
Eutrophication	The process by which a body of water becomes rich in dissolved nutrients, thereby encouraging the growth and decomposition of oxygen-depleting plant life and resulting in harm to other organisms.
Exposure	Exposure is defined as a measure of the extent, seasonality and intensity of an activity across the whole site.

Favourable Conservation Status	A range of conditions for a natural habitat or species at which the sum of the influences acting upon that habitat or species are not adversely affecting its distribution, abundance, structure or function throughout the EU in the long term. The condition in which the habitat or species is capable of sustaining itself on a long-term basis.
Favourable condition	This is attained when the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site is met.
Flood defence	Measures to help prevent flooding from the sea and inland (fluvial) watercourses including 'main river' and 'ordinary' watercourses. The Environment Agency has responsibility for main rivers although its powers to do works are often permissive not mandatory. Internal drainage boards, local authorities and riparian owners have responsibility for other watercourses.
Foreshore	The area of a shore that lies between the average high tide mark and the average low tide mark.
Geomorphology	The study of the evolution and configuration of landforms.
Habitat	The place in which a plant or animal lives.
Habitats Directive	The abbreviated term for *Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora*. It is the aim of this Directive to promote the conservation of certain habitats and species within the European Union.
Haul-out	An area on the shore where marine mammals rest.
Holistic	Emphasizing the importance of the whole and the interdependence of its parts.
Hydrocarbons	Substances containing only hydrogen and carbon. Fossil fuels are made up of hydrocarbons. Some hydrocarbon compounds are major air pollutants.
Hydrographic regime	Relating to the characteristic features of bodies of water, such as depth and flow.
Hydroids	Colonial animals forming tuft-like growths on seaweeds etc. Also known as sea firs and includes species such as sea beard and whiteweed.
Indigenous	Originating and living or occurring naturally in an area or environment
Infauna	Benthic animals which live within the seabed.
Inorganic	Pertaining to material such as sand, salt, iron, calcium salts, and other mineral materials. Inorganic substances are of mineral origin, whereas organic substances are usually of animal or plant origin and contain carbon.
Inshore fisheries	Local, small-scale community based fisheries characterised by smaller vessels, shorter voyages and shorter distances covered. Some inshore fishermen might travel between locations but most are based at the same port full time.
Integrated Coastal Zone Management	A dynamic, multi-disciplinary and iterative framework for the promotion of sustainable use and management of the coastal zone, wherein stakeholders can participate and gain consensus on the decision-making process.
Interest feature	A natural or semi-natural feature for which a European marine site has been selected. This includes any Habitats Directive Annex I habitat, or any Annex II species for which a SAC has been designated under the Habitats Directive.

Intertidal	The zone between high and low tide.
Lee shore	A shore toward which the wind blows and toward which a ship is likely to be driven.
Littoral	Of or pertaining to the shore, especially of the sea; coastal.
Macrofauna	Animals large enough to be seen with the naked eye.
Maintain	The action required for an interest feature when it is considered to be in favourable condition.
Management Scheme	The framework established by the relevant authorities at a European marine site under which their functions are exercised to secure compliance with the requirements of the Habitats Directive.
Microhabitat	a small area with physical and ecological characteristics that distinguish it from its immediate surrounding area.
Micro niche	The place or function of a given organism within its ecosystem . Different organisms may compete for the same niche. Micro-niches are small-scale niches.
Microtopography	Measurement of the microscopic fluctuations on the surface of nominally smooth bodies.
Natura 2000	The European network of protected sites established under the Birds Directive and the Habitats Directive
Natural change	Changes to the condition of interest features from natural causes. All habitats are dynamic, some more than others, so some change in the components of a habitat may be expected over time. Sea level rise is outside the control of relevant authorities and is considered to be 'natural change'. However, sea level rise may affect the site where it is artificially constrained by sea walls which are the responsibility of some relevant authorities.
Operations which may cause deterioration or disturbance	Any activity or operation taking place within, adjacent to, or remote from a European marine site that has the potential to cause deterioration to the natural habitats for which the site was designated or disturbance to the species and its habitats for which the site was designated. The Habitats Directive requires only consideration of activities that could lead to the deterioration of the natural habitats and habitats of species or significant disturbance of the species in terms of meeting the site's objectives.
Organochlorines	Organic compounds, which contain at least one chlorine atom. Organochlorines are both man-made and natural. More than 2,000 have been found in nature.
Organometals	Any metal-containing organic compound, especially one in which the metal atom is linked directly to one of more carbon atoms.
Polychaetes	A group of marine worms including bristle worms (e.g. lugworm), tube worms (e.g. keelworm) and fan worms (e.g. peacock worm), with numerous bristles borne on projections of the body.
Pioneer salt marsh	The sparse growth of the first plants to establish themselves on intertidal mud, so leading to the gradual build up of a mature salt marsh over time.
Plan or project	Any proposed development that is within a relevant authority's function to control, or over which a competent authority has a statutory function to decide on applications for consents, authorisations, licenses or permissions.

Precautionary principle	Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
Relevant authority	The specific public authority which has powers or functions which have, or could have, an impact on the marine environment, within or adjacent to, a European marine site.
Restore	The action required for an interest feature when it is not considered to be in a favourable condition.
Ria	A narrow inlet running inland from the coastline, formed when a valley is permanently flooded as a result of a rise in sea-level.
Rocky Reefs	A strip or ridge of rocks, sand, or coral that rises to or near the surface of a body of water.
Sea defences	Measures to help prevent flooding from the sea.
Sensitivity	The tolerance of a habitat, community or individual species to damage from an external force.
Sites of Special Scientific Interest	SSSIs are notified under the W ildlife and Countryside Act 1981 as areas of land or water which, in the opinion of SNH, are of special interest by reason of their biological, geological or physiographical interest.
Stakeholders	Those groups and organizations having an interest or stake in a organization's EMS program (eg, regulators, shareholders, customers, suppliers, special interest groups, residents, competitors, investors, bankers, media, lawyers, geologists, insurance companies, trade groups, unions, ecosystems and cultural heritage).
Successional change	A directional change in an ecological community. Populations of animals and plants are in a dynamic state. Through the continual turnover of individuals, a population may expand or decline depending on the success of its members in survival and reproduction. As a consequence, the species composition of communities typically does not remain static with time.
Sub-feature	An ecologically important sub-division of an interest feature.
Sublittoral	Below low-tide level, marine.
Sustainability	The ability to provide for the needs of the world's current population without damaging the ability of future generations to provide for themselves. When a process is sustainable, it can be carried out over and over without negative environmental effects or impossibly high costs to anyone involved. Unless specified, use of this term within this document should be taken to mean environmental sustainability (with respect to the SAC features).
Terrestrial	Tellurian: of or relating to or inhabiting the land as opposed to the sea or air.
Turbidity	A cloudy condition in water due to suspended silt or organic matter.
Vulnerability	The exposure of a habitat, community or individual of a species to an external factor to which it is sensitive.

APPENDIX 2: Abbreviations and acronyms

ABP	Associated British Ports
AMP	Asset Management Plan
AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
BASC	British Association for Shooting and Conservation
BERR	Department for Business, Enterprise and Regulatory Reform (previously Department for Trade and Industry, DTI)
BSAC	British Sub Aqua Club
CA	Competent Authority
CADW	Government agency supporting the preservation, conservation, enhancement, interpretation and appreciation of historic buildings and monuments in Wales.
CCW	Countryside Council for Wales
CD-Rom	Compact Disc read Only Memory
CE	Crown Estates
CEC	Crown Estates Commission
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CFP	Certified Financial Planner
CRoW Act	Countryside and Rights of Way Act 2000
CSO	Combined Sewage Overflows
DCWW	Dŵr Cymru Welsh Water
DEFRA	Department for Environment, Food and Rural Affairs
DETR	Department of Environment, Transport and the Regions
DfT	Department for Transport
DVD	Digital Video Disc
EAW	Environment Agency Wales
EC	European Commission
ECJ	European Court of Justice
EEC	European Economic Community
EIA	Environmental Impact Assessment
EMS	European Marine Site
ETV	Emergency Towing Vessel
EU	European Union
IMO	International Maritime Organisation
FCS	Favourable Conservation Status
FEPA	Food and Environment Protection Act 1985
FSC	Field Studies Council
GIS	Geographical Information System
HAP	Habitat Action Plan
HMSO	Her Majesty's Stationery Office
HSE	Health and Safety Executive
ICZM	Integrated Coastal Zone Management
IPC	Integrated Pollution Control
JNCC	Joint Nature Conservation Committee
KWT	Keep Wales Tidy
LA	Local Authority
LBAP	Local Biodiversity Action Plan
LNG	Liquid Natural Gas
MCA	Maritime and Coastguard Agency
MCS	Marine Conservation Society
MEHRA	Marine Environmental High Risk Area

MHPA	Milford Haven Port Authority
MHRWG	Milford Haven Waterway Recreation Group
MHWESG	Milford Haven Waterway Environmental Surveillance Group (*members include: Milford Haven Port Authority, Countryside Council for Wales, Environment Agency Wales, Pembrokeshire Coast National Park Authority, Pembrokeshire County Council, Wildlife Trust of South & West Wales, Petroplus, ChevronTexaco Ltd, Total, South Wales Sea Fisheries Committee, Dŵr Cymru Welsh Water*)
MHWM	Mean High Water Mark
MHWRG	Milford Haven Waterway Recreation Group (*members include: Milford Haven Port Authority, Countryside Council for Wales, Environment Agency Wales, Pembrokeshire Coast National Park Authority, Pembrokeshire County Council, South Wales Sea Fisheries Committee, Milford Haven Users Association*, *Maritime Volunteer Service*)
MHUA	Milford Haven Users Association
MLWM	Mean Low Water Mark
MNR	Marine Nature Reserve
MoD	Ministry of Defence
NALG	National Aquatic Litter Group
NAW	National Assembly for Wales
NGO	Non-Governmental Organisation
NT	National Trust
OPRC	Oil Pollution Preparedness Response and Cooperation
PBG	Pembrokeshire Beaches Group
PBP	Pembrokeshire Biodiversity Partnership
PCC	Pembrokeshire County Council
PCF	Pembrokeshire Coastal Forum
PCMN	Pembrokeshire Coastal Maritime Network
PCNPA	Pembrokeshire Coast National Park Authority
PLANED	Pembrokeshire Local Action Network for Enterprise and Development
PMCG	Pembrokeshire Marine Code Group (*members include: wildlife boat operators, dive charter operators, Countryside Council for Wales, Pembrokeshire Coast National Park Authority, Pembrokeshire Marine SAC Officer, Pembrokeshire Coastal Forum, Pembrokeshire Biodiversity Implementation Officer, RSPB, Sea Trust – part of the Wildlife Trust for South & West Wales, National Trust, Dyfed Powys Police, Pembrokeshire College)*
POCG	Pembrokeshire Outdoor Charter Group (*members include: outdoor activity providers, Field Studies Council, Countryside Council for Wales, Pembrokeshire Coast National Park Authority, Pembrokeshire County Council, Pembrokeshire Coastal Forum, Wildlife Trust for South & West Wales, National Trust, MoD, YHAs, Pembrokeshire College, Keep Wales Tidy)*
PRA	Pembrokeshire Rivers Association
PRT	Pembrokeshire Rivers Trust (*key supporters and partners include: University of Wales, Aberystwyth, Environment Agency Wales, Countryside Council for Wales, the Association of River Trusts, World Wildlife Fund, Pembrokeshire College, the Pembrokeshire Anglers' Association and the Llandysul Angling Association. Key individual supporters are private fishery owners Ian Heaps and Peter Hunt).*
PSSA	Potentially Sensitive Sea Area
PWC	Personal Water Craft
RA	Relevant Authority
RAG	Relevant Authorities Group
RSPB	Royal Society for the Protection of Birds
RSPCA	Royal Society for the Prevention of Cruelty to Animals
RTP	Regional Tourism Partnership
RYA	Royal Yachting Association

SAC	Special Area of Conservation
SAP	Species Action Plan (Biodiversity)
SCW	Sport Council for Wales
SPA	Special Protection Area
Spp	Species
SPRRAG	South Pembrokeshire Range Recording & Advisory Group
SSSI	Site of Special Scientific Interest
SWSFC	South Wales Sea Fisheries Committee
S&WWFC	South and West Wales Fishing Communities Ltd
SWWTP	South West Wales Tourism Partnership
TBT	Tri-n-butyl tin
TGA	Tourism Growth Area
UK	United Kingdom
UWWTD	Urban Waste Water Treatment Directive
WAG	Welsh Assembly Government
WCMP	Wales Coastal and Maritime Partnership
WFSA	Welsh Federation of Sea Anglers
WMLR	Welsh Marine Life Rescue
WRG	Waterways Recreation Group
WTB	Wales Tourist Board
WWEG	West Wales Environment Group
WWOPAG	West Wales Oil Pollution Advisory Group
WWPH&EG	West Wales Public Health and Environment Group *(Countryside Council for Wales, Pembrokeshire County Council, Maritime and Coastguard Agency)*

APPENDIX 3: Further information

This appendix contains a bibliography as well as links to other relevant documents. For ease of use, these are arranged under relevant section headings.
For links to relevant useful websites see: www.pembrokeshiremarinesac.org.uk

General:

Policy, Legislation and Guidance

Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC

Boyes, S. et al (2003) *Deficiencies in the current legislation relevant to nature conservation in the marine environment in the United Kingdom.* Report to JNCC by the Institute of Estuarine and Coastal Studies, University of Hull

Brown, A.E., Burn, A.J., Hopkins, J.J & Way, S.F (1997) *The Habitats Direcitve: selection of Special Areas of Conservation in the UK*. JNCC Report No. 270

CCW. 1996. *A guide for the production of management plans for nature reserves and protected areas.* Countryside Council for Wales.

Commission of the European Commission (CEC)
(1979) Directive 79/409/EEC on the conservation of wild birds (Birds Directive)

(1992) Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)

Countryside Council for Wales (1996). *European Marine Sites – an introduction to management*. ISBN: 0 86169 005 3

Department of the Environment, Transport and Regions/Welsh Office
(2000) *The Countryside and Rights of Way Act*, HMSO, London

(1998) *European marine sites in England & Wales: A guide to the Conservation (Natural Habitats &c.) Regulations 1994 and to the preparation and application of Management Schemes*, SI 2716, HMSO, London

(1994) *The Conservation (Natural Habitats &c.) Regulations* (also known as the UK Habitats Regulations) SI 2716, HMSO, London

European Commission. 2000. *Managing Natura 2000 sites. The provisions of Article 6 of the "Habitats Directive" 92/43/EEC.*

English Nature *et al*., (1998) *Natura 2000 – European marine sites: Guidance relating to statutory conservation objectives and operations which may cause deterioration or disturbance*, English Nature, Peterborough

English Nature *et al*., (2001) *Natura 2000* - UK *Marine SAC Project: Partnership in Action. Proceedings of a conference held in Edinburgh 15-16 November 2000*

English Nature *et al*., (2001) *Natura 2000 - UK Marine SACs project. Indication of good practice for establishing management schemes on European marine sites – Learning from the UK Marine SACs project 1996-2001*

English Nature *et al*., (2001) *Natura 2000 - European Marine Sites – ecological sensitivity and management requirements*. (UK Marine SACs Project)

Managing Natura 2000 Sites. The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC

Royal Haskoning (2006). Enforcement of marine nature conservation legislation: Examining the scope for improvements. A study building the evidence base for the Marine Bill on behalf of Defra

Scottish Natural Heritage *et.al*., (1997). *Natura 2000 - European marine sites: an introduction to management*

Marine Bill

Defra (2002). Safeguarding Our Seas – A Strategy for the Conservation and Sustainable Development of our Marine Environment. PB 6187. Defra Publications, London

Defra (November 2002). Seas of Change. The Government's consultation paper to help deliver our vision for the marine development

Defra (2004). The Government's response to its Seas of Change consultations to help deliver our vision for the marine environment. PB 9330. Defra Publications, London

Defra (2006). A Marine Bill – A Consultation Document. PB 11751. Defra Publications, London

Defra (2006). Unlicensed Activities: A review to consider the threats to marine biodiversity. Building the evidence for the Marine Bill

University of Hull (2006). Marine Species Protection: A review of risk and considerations for improvement. A study building the evidence base for the Marine Bill on behalf of Defra

University of Liverpool (2006). Marine Biodiversity – the rational for intervention. A study building the evidence base for the Marine Bill on behalf of Defra

University of Wales, Bangor (2006). Developing Scenarios for a Network of Marine Protected Areas. A study building the evidence base for the Marine Bill on behalf of Defra

Pembrokeshire Marine Special of Conservation Management Information

Countryside Council for Wales (1999). *Pembrokeshire Islands candidate Special Area of Conservation – Interim guidance on features and conservation aims*

Countryside Council for Wales (April 2005). *Pembrokeshire Marine Special Area of Conservation: Countryside Council for Wales' DRAFT advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994*

Milford Haven Environmental Surveillance Group (2000). *A Review of Environmental Studies in Milford Haven Waterway 1992-2000*

Pembrokeshire Marine SAC Relevant Authorites Group (2002). *Issues for the Pembrokeshire Marine Candidate Special Area of Conservation – Draft for Consultation*.

Other Marine Protected Area Management Information

Cardigan Bay Special Area of Conservation Management Plan

Fal & Helford Marine Special Area of Conservation. Draft Management Scheme. (no date)

Fortune, F., & Quigley, M. (no date). Managing the Berwickshire & North Northumberland Coast European Marine Site

Gubbay, S. (2006). Marine Protected Areas: A review of their use for delivering marine biodiversity benefits. English Nature Research Reports, No 688

Moray Firth Partnership. The Moray Firth candidate Special Area of Conservation management Scheme. Revision 1. 2003

Morecambe Bay European Marine Site Management Scheme. April 2001

Mortimer, D. (no date) Wash and North Norfolk Coast European Marine Site Management Scheme. ISBN: 1 85716 591 8

OSPAR Commission (1998). Convention for the Protection of the Marine Environment of the North East Atlantic

OSPAR Commission (2003) OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas. Meeting of the OSPAR Commission, Bremmen, June 2003, Annex 9

Pen Llyn A'r Sarnau Draft Management Scheme – in development

Severn Estuary European marine site management Scheme – consultation draft. March 2004. ASERA

Solent European Marine Sites. Foundation Document – Stage 1 towards the SEMS Management Scheme. February 2002

Solway Firth European Marine Site Management Scheme. December 2000

Strangford Lough management Scheme. (no date)

The North East Kent European Marine Sites Management Scheme. (no date)

The Plymouth Sound and Estuaries European Marine Site Management Scheme. 2001

World Commission on Protected Areas (WCPA), (1999). *Guidelines for Marine Protected Areas*

Monitoring

Bunker, F.St.P.D. 1993. *A comparison of subtidal survey techniques and their effectiveness in habitat recognition, description and mapping*. Unpublished report to Countryside Council for Wales.

Conner, D.W., Brazier, D.P., Hill, T.O., & Northern, K.O. 1997. *Marine Nature Conservation Review: marine biotope classification for Britain and Ireland. Volume 1. Littoral biotopes*. Version 97.06. JNCC Report, No. 229.

Conner, D.W., Dalkin, M.J., Hill, T.O., Holt, R.H.F., & Sanderson, W.G. 1997. *Marine Nature Conservation Review: marine biotope classification for Britain and Ireland. Volume 2*. Sublittoral biotopes. Version 97.06. JNCC Report, No. 230.

Cook, A & McMath, M (2001). *SensMap: Development of a protocol for assessing and mapping the sensitivity of marine species and benthos to maritime activities*.

Defra (2006). UKMMAS: A Strategy for UK Marine Monitoring and Assessment. A Report of the Marine Monitoring Co-ordination Group

Field Studies Council (1995). *The Coast of Dyfed and South West Glamorgan – An Environment Appraisal*. ISBN 1 851532 994

JNCC. 1988. *A statement on common standards monitoring.* Joing Nature Conservation Committee.

Wyn, G., Brazier, P. & McMath, M. 2000. *Countryside Council for Wales (CCW) handbook for marine intertidal Phase 1 survey and mapping*. CCW marine science report: 00/06/01.

Site Features

Birkett, D.A., Maggs, C.A., Dring, M.J. & Boaden, P.J.S. 1998. *Infralittoral Reef Biotopes with Kelp Species (volume VII). An overview of dynamics and sensitivity characteristics for conservation management of marine SACs.* Scottish Association for Marine Science (UK Marine SACs Project). 174 pages.

Carstairs, M. (2000). The ecology and conservation of Allis and Twaite Shad. British Wildlife magazine, Feb 2000, p.159-166

Davidson, N.C., Laffoley, D.d'A, Doody, J.P., Way, L.S., Gordon, J., Key, R., Pienkowski, M.W., Mitchell, R., & Duff, K.L. 1991. *Nature conservation and estuaries in Great Britain*. Peterborough, Nature Conservancy Council.

Davison, D.M., Hughes, D.J. 1998. Zostera Biotopes (volume I). An overview of dynamics and sensitivity characteristics for conservation management of marine SACs. Scottish Association for Marine Science (UK Marine SACs Project).

Elliott, M., Nedwell, S., Jones, N.V., Read, S.J. Cutts, N.D., & Hemingway, K.L. 1998. Intertidal sand and mudflats and subtidal mobile sandbanks *(volume II). An overview of dynamics and sensitivity characteristics for conservation management of marine SACs.* Scottish Association for Marine Science (UK Marine SACs Project). 151 pages.

Gilliland, P.M. & Sanderson, W.G. 2000. *Re-evaluation of marine benthic species of nature conservation importance: a new perspective on certain 'lagoonal specialists' with particular emphasis on Alkmarina romijni Horst (Polychaeta: Ampharetidae)*. Aquatic Conservation, 10, 1-12.

Hartnoll, R.G. 1998.Circalittoral fuanal turf biotopes *(volume VIII). An overview of dynamics and sensitivity characteristics for conservation management of marine SACs.* Scottish Association for Marine Science (UK Marine SACs Project). 109 pages.

Henderson, P.A. (February 2003). Background information on species of shad and lamprey. Marine monitoring report no.7

Hill, S., Burrows, M.T. & Hawkins, S.J. 1998. *Intertidal Reef Biotopes (volume VI). An overview of dynamics and sensitivity characteristics for conservation management of marine SACs.* Scottish Association for Marine Science (UK Marine SACs Project). 84 pages.

Holt, T.J., Rees, E.I., Hawkins, S.J. & Seed, R. 1998. *Biogenic reefs (volume IX). An overview of dynamic and sensitivity characteristics for conservation management of marine SACs*. Scottish Association of Marine Sciences (UK Marine SACs Project), Oban, Scotland, UK; 164 pages.

Joint Nature Conservation Committee. 1996. *Guidelines for selection of biological SSSIs: intertidal marine habitats and saline lagoons*. Peterborough.

Joint Nature Conservation Committee (1997). The Habitats Directive: selection of Special Areas of Conservation in the UK. Report No. 270

Kiely, O., Lidgard, D., McKibben, M., Connolly, N. and Baines, M. (June 2000). Grey Seals : Status and Monitoring in the Irish and Celtic Seas. Coastal Resources Centre, National University Ireland, Cork. Wildlife Trust, Haverfordwest, Wales

Liles, Geoff (2003). Otter (*Lutra lutra)* Activity & Habitat Availability on the Pembrokeshire Coast and Milford Haven Waterway, within the Pembrokeshire Marine Candidate Special Area of Conservation. A report for the Pembrokeshire Marine SAC Relevant Authorities Group

Liles, Geoff (2005). Pembrokeshire Marine Special Area of Conservation Otter (*Lutra lutra)* Volunteer Survey, The Otter Consultancy

Ports, Harbours & Shipping

ABP Research (1999). *Natura 2000: Good practice guidelines for ports and harbours operating within or near UK European marine sites*. (UK Marine SACs Project)

Environment Agency/CCW/Keep Wales Tidy Group (1998). *Advisory Manual Developing a Port Waste Management System*. ISBN: 0 9533724 0 5

Environment Agency. 2000. *Boats and the Coastal Environment*. Environment Agency, Bristol.

Environmental Tracing Systems Ltd (2000). *Environment Assessment and Sediment Dispersal Study of Dredge Spoil Grounds, Milford Haven – Final Report*

National Audit Office (2002) *Dealing with pollution from ships*. Report by the Controller and Auditor General. National Audit Office, 12 June 2002

Living Resources

Cabinet Office (2004) *Net Benefits: a sustainable and profitable future for UK fishing.* Prime Minister's Strategy Office, April 2004

Defra (2004) *Review of marine fisheries and environmental enforcement.* Department for Environment, Food and Rural Affairs, July 2004, p.40

Defra (2004) *Sustainable Fisheries Programme Issues Paper: Impact Assessments. Fishing Industry Strategy Unit, August 2004*

Defra (2005). Charting Progress – An Integrated Assessment of the State of UK Seas. PB 9911. Defra Publications, London

Defra (2005). Securing the Benefits: The joint UK response to the Prime Minster's Strategy Unit Net Benefits report on the future of the fishing industry in the UK. PB 10900. Defra Publications, London

European Commission (1992). Council Directive 92/4/EEC The Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) Official Journal No. L 206, 22/07/1992

European Commission (2006). Communicating from the Commission on Halting the Loss of Biodiversity by 2010 – and Beyond. Sustaining ecosystem services for human well-being

Fifth International Convention on the Protection of the North Sea, Bergen (2002). (the 'Bergen Declaration')

Fowler, S.L. (1999) *Natura 2000: Guidelines for managing the collection of bait and other shoreline animals within UK European marine sites*. English Nature (UK Marine SACs Project)

Gubbay, S. & Knapman, P.A. 1999. *A review of the effects of fishing within UK European marine sites.* English Nature, UK Marine SACs Project, 134pp.

Thomas, D. (2000). *Marine Fisheries and Wildlife in Pembrokeshire 2000: Sustainability and Biodiversity.* A Report to the Wildlife Trusts (UK) Marine Programme

Water Quality, Pollution & Waste Disposal

Cole *et.al*., (1999). *Natura 2000: Guidelines for managing water quality impacts within UK European marine sites*. (UK Marine SACs Project).

Defra / WAG (2004) *Final Regulatory Impact Assessment (RIA) of the Water Framework Directive 2000/60/EC.* March 2004

Environment Agency (1999) *The state of the environment of England and Wales: coasts.* The Environment Agency. The Stationary Office Ltd., London, p.25

Environment Agency (2004) *Priority and other specific polluting substances and the Water Framework Directive.* Briefing note. Environment Agency, Bristol, February 2004

Environment Agency (2004) *Diffuse pollution and the Water Framework Directive.* Briefing note. Environment Agency, Bristol, February 2004

European Commission (2000). Council Directive 2000/60/EC establishing a framework for the Community action in the field of water policy (the 'Water Framework Directive') Official Journal No. L 206,22/07/1992

Gibson, J. (2003) *UK coastal zone law notes (6): pollution from land-based sources.* Web resource, updated 06/03/03. Available at: http://web.uct.ac.z/depts/pbl/jgibson/iczm/notes/note6.htm

Recreation

Archaeological Diving Unit (ADU) 2000. *Protected Historic Wrecks*. ADU University of St Andrews. Scotland 2000. ISBN 1 873132255.

British Marine Industries Federation *et al*., (1999) *Managing personal watercraft: a guide for local and harbour authorities* available from the Royal Yachting Association, Eastleigh, Hampshire

Defra (2004) *Managing coastal activities: a guide for local authorities.* Department for Environment, Food and Rural Affairs, March 2004

Directive 2000/60/EC establishing a framework for Community action in the field of water policy

Dromgoole. S 1999 *Legal Protection of the Underwater Cultural Heritage: National and International Perspectives*. Kluwer Law International, The Hague ISBN 90 411 9762 1.

Pembrokeshire Coastal Forum (2005). South West Wales Coastal Recreation audit. By consultants Bowles Green.

Pickering, H. *et al.* (1995) *Managing water-based recreation in the coastal zone.* In: Whitmarsh, D. (ed) *Management techniques in the coastal zone.* Conference proceedings University of Portsmouth, 24-25 October 1994. Centre for Coastal Zone Management, University of Plymouth

Ratcliff, T. (1992) Responsibility for water sports management and development, *Ocean & Coastal Management,* **18,** pp.259-268

Saunders *et.al*., (2000). *Natura 2000: A review of the effects of recreational interactions within UK European marine sites*. (UK Marine SACs Project)

Tyler-Walters, H. (2005). Assessment of the Potential Impacts of Coasteering on Rocky Intertidal Habitats in Wales. Report to Countryside Council for Wales from the Marine Life Information Network (MarLIN). Marine Biological Association of the UK, Plymouth. [CCW Contract no. NWR012]

Miscellaneous Activities

Posford Duvivier Environment (2001). *Natura 2000: Guidelines on the impact of aggregate extraction on European marine sites*. (UK Marine SACs Project)

WAG (2004) *Interim Marine Aggregates Dredging Policy, South Wales*. Welsh Assembly Government, November 2004

WAG (2004) *People, places, futures – the Wales Spatial Plan.* Welsh Assembly Government, November 2004

WAG (2006). Department for Environment, Planning and Countryside. Draft Strategy for Wales on Integrated Coastal Zone Management ('Making the Most of Wale's Coast/)

Canning, R. (2003) The elements of marine spatial planning: key drivers and obligations. In Earll, R. (ed.) *Spatial planning in the coastal and marine environment: next steps to action.* CoastNET conference 1 October 2003, SOAS, University of London, P.9

Earll, R. (ed.) *Spatial planning in the coastal and marine environement: next steps to action.* CoastNET conference 1 October 2003, SOAS, University of London

Joint Links (2002) *Marine spatial planning for the UK.* Joint Wildlife, Countryside and Environment Links discussion paper. November 2002

APPENDIX 4: Relevant Authority Group

4a: Relevant Authority Group members and contact information

Countryside Council for Wales
Llanion House
Llanion Park
Pembroke Dock
Pembrokeshire, SA72 6DY
Tel: 01646 624000
Contact names: Mr Mike Camplin, Senior Marine Conservation Officer West Wales
Ms Andrea McConnell, West Region District Team Leader
http://www.ccw.gov.uk/

Environment Agency Wales
Llys Afon,
Hawthorn Rise,
Haverfordwest,
Pembrokeshire, SA72 6DY
Tel: 01437 760081
Contact names: Ms Kate Collins, Habitats Directive South Wales Marine Coordinator
Mr Ged Davies, Team Leader – Environment management (Pembrokeshire)
http://www.environment-agency.gov.uk/regions/wales/?region=wales&lang=_e

Dŵr Cymru Welsh Water
Cilfynydd Environmental Education Centre
Cilfynydd WWTW
Cilfynydd, Nr Pontypridd,
Carmarthenshire, CF37 4WX
Tel: 01443 492720
Contact name: Mrs Dusitaporn Thomas, Environment Manager
http://www.dwrcymru.com/

Milford Haven Port Authority
Gorsewood Drive
Milford Haven
Pembrokeshire, SA73 3ER
Tel: 01646 696100
Contact name: Captain Mark Andrews, Harbourmaster
http://www.mhpa.co.uk/

Pembrokeshire Coast National Park Authority
Llanion Park
Pembroke Dock,
Pembrokeshire, SA72 6DY
Tel: 0845 345 7275
Contact name: Ms Jane Hodges, Ecologist
http://www.pcnpa.org.uk/

Pembrokeshire County Council
County Hall,
Haverfordwest,

Pembrokeshire, SA61 1TP
Tel: 01437 764551
Contact names: Mr Stephen Hurr, Development Plans Officer **(RAG Chairman)**
Mr Trevor Theobald, Ecologist
http://www.pembrokeshire.gov.uk/

South Wales Sea Fisheries Committee
Queen's Buildings,
Cambria Place,
Swansea, SA1 1TW
Tel: 01792 654466
Contact name: Mr Phil Coates, Director
http://www.swsfc.org.uk/

Trinity House Lighthouse Service
Trinity Square,
Tower Hill,
London, EC3N 4DH
Tel: 0171 4806601
Contact name: Mr Antony Porter, Legal & Insurance Support Officer
http://www.trinityhouse.co.uk/

4b: Purpose and Terms of Reference

PEMBROKESHIRE MARINE SPECIAL AREA OF CONSERVATION
RELEVANT AUTHORITIES GROUP
PURPOSE & TERMS OF REFERENCE

The Pembrokeshire Marine SAC Relevant Authorities Group will:
- develop and implement a management scheme to achieve the conservation objectives for the SAC, which has the widest possible public understanding, agreement and ownership; and
- whilst recognising that decision making remains the responsibility of the individual relevant authorities, provide a means to assist those authorities in making decisions appropriate to the conservation requirements of the site.

TERMS OF REFERENCE

1 The Relevant Authorities Group is established in accordance with Government guidance[29].

2 The membership of the Group will comprise all of the Relevant Authorities, as defined in the Habitats Regulations[30], for the Pembrokeshire Marine Special Area of Conservation.[31]

3 The Group will establish a Management Scheme for the Pembrokeshire Marine European Marine Site as provided for in Regulation 34 of the Habitats Regulations and as outlined in DETR/Welsh Office guidance. The Group will publish and disseminate a Management Scheme document.

4 No Relevant Authority will have authority over any of the others. The roles of Chair and Secretariat of the group will be undertaken by agreement to assist the activities of the Group.

5 The Group will have no authority over any of the functions, duties or responsibilities of the member Relevant Authorities. Each of the Relevant Authorities is jointly and equally empowered to establish a Management Scheme in partnership with the others.

6. The Relevant Authorities will exercise their functions so as to secure compliance with the requirements of the Habitats Directive[32].

7 The Group will ensure that there is wide participation in developing and ownership of the management scheme by:
enabling and encouraging the creation of an advisory / liaison forum and establishing links with existing relevant groups and fora;
consultation with competent authorities who are not also relevant authorities;
publication of appropriate information on the development and establishment of the scheme.

8 The Group may:
establish such groups as will contribute to the wide participation in the development of the management scheme; and/or
undertake such projects as are considered conducive to the development of the management scheme.

9 The Group will keep these Terms of Reference under review.

[29]European Marine Sites in England & Wales. A Guide to the Conservation (Natural Habitats &c) Regulations 1994 and to the Preparation and Application of Management Schemes. DETR/Welsh Office. ISBN 1 85112 087 4

[30]The Conservation (Natural Habitats &c) Regulations 1994 (SI No 2716)

[31]The meaning of 'Relevant Authority' is as defined in Regulation 5 of the Habitats Regulations. For the Pembrokeshire Marine site these comprise: Countryside Council for Wales, Dŵr Cymru Welsh Water, Environment Agency, Milford Haven Port Authority, Pembrokeshire Coast National Park, Pembrokeshire County Council, Trinity House, South Wales Sea Fisheries Committee.

[32]Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

4c: Relevant Authority roles/responsibilities

The **Countryside Council for Wales** (CCW) is the executive authority for the conservation of wildlife habitat and geological sites, and for the protection of wild animal and plant species, in the sea and on land in Wales.
General role & responsibilities: It is the agent for the Government's fulfilment of international obligations and advises the UK Government on these matters through the Joint Nature Conservation Committee. The Council is required to keep the countryside of Wales under constant review and to offer its independent advice to Government and others as necessary about the protection of its natural beauty and amenity and their enjoyment by the people of Wales and its visitors. The Council promotes that enjoyment in a way which encourages understanding of the environment, and sustains public support for the conservation of natural resources.
Responsibilities specific to the SAC:

- participation in management groups;
- advising other Relevant Authorities as to the conservation objectives for the SAC, and as to any operations or activities which may cause deterioration or disturbance to SAC features;
- consultation with Competent Authorities over the implications of plans and projects;
- the making of byelaws (with the consent of the Secretary of State) for the regulation of activities not covered by other Relevant Authorities;
- monitoring and reporting on the condition of SAC features.

Jurisdiction: Out to the 12mile limit.

Dŵr Cymru Cyfyngedig which trades as **Dŵr Cymru/Welsh Water** (DCWW) is appointed by the Secretary of State for Wales to be the Water and Sewerage Undertaker for Wales under the Water Industry Act 1991.
General role & responsibilities: DCWW provides, operates, develops and maintains a system of water supply and also abstracts, treats and distributes a supply of water to domestic and commercial customers. DCWW also provides and maintains a system of public sewers and treatment works in order to remove, treat, and dispose of waste sewage sludge and other effluent both from domestic and commercial customers.
Responsibilities specific to the SAC: Whilst the Company has no water supply interest within the boundaries of the site it does have a number of sewage outfalls which dispose of effluent, directly or indirectly to the marine boundary of the site. DCWW is committed to undertaking all its work in such a way as to take account of the environment and the need for conservation, and with respect to sewage disposal is pledged to the eventual provision of full treatment and disinfection at all of its works which discharge to sea or estuary, including those to be found within the Pembrokeshire Marine SAC.
Jurisdiction: case dependant

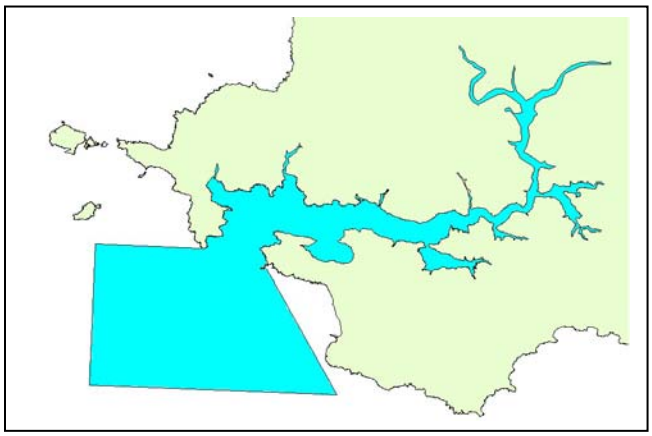
The **Environment Agency** (EA) was formed following Royal Assent to the 1995 Environment Act, amalgamating the National Rivers Authority (NRA), Her Majesty's Inspectorate of Pollution (HMIP), 83 Waste Regulation Authorities (WRA), and parts of the Department of the Environment (DoE).
General role & responsibilities: The Agency has a wide range of statutory duties and powers related to its functions. Many of these are relatively unchanged from those carried out by the NRA, HMIP and the WRAs. However, the 1995 Environment Act consolidated and amended inherited duties and added new duties including making a contribution to sustainable development, having regard to costs and benefits, compiling reports on the state of the environment, producer responsibility and contaminated land.
The Agency provides high quality environmental protection and improvement through an emphasis on prevention and education, and then vigorous enforcement where necessary. Principal functions are pollution prevention and control, water resources, flood defence (including responsibility for construction and maintenance of sea defences but not for coastal protection), fisheries, conservation, navigation and recreation.
Responsibilities specific to the SAC:

- The Agency is required to contribute to the development of a management scheme for the SAC.
- The Agency issues a range of consents and authorisations and undertakes operational work which could potentially impact on the SAC. It is a requirement that SAC features be taken into account when determining authorisations and carrying out Agency work. The Agency is required by DETR to review all existing consents and authorisations which may impact on SACs by 2004. The Agency has agreed in principle a staged process for completing this task with CCW.

- The Agency controls the exploitation of relevant fisheries (salmon, trout, freshwater and eel) via primary legislation, licencing and the creation of bylaws in order to optimise social and economic benefits from their sustainable exploitation.
- The Agency has a duty to further wherever possible the conservation of SAC features when carrying out water management activities, to have regard for conservation as part of Pollution Prevention and Control (PPC) activities, and generally to promote the conservation of natural beauty and amenity and the wildlife dependent on the aquatic environment.
- (The Agency does not have any specific powers in respect of its Recreation duty nor own any property relevant to the SAC.)

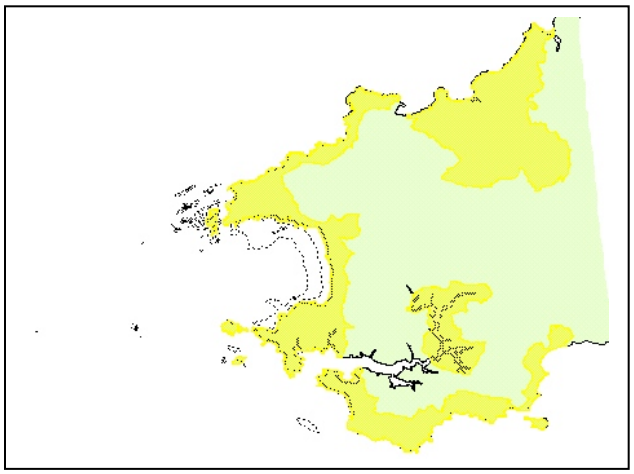
Jurisdiction: Pollution control and fisheries responsibilities extend to 3 and 6 nautical miles from the coast respectively**.**

Milford Haven Port Authority (MHPA) - formally the Milford Haven Conservancy Board - is a Trust Port set up as an independent statutory body by Act of Parliament in 1958.
General role & responsibilities: To promote and protect both local and national interests in the development of the Haven for public benefit. In particular, MHPA serves the navigational needs of the three major oil refineries/facilities in the Haven. The Authority's main functions are to maintain, improve, protect and regulate the navigation in the Haven, and to provide port and harbour services and facilities.
Responsibilities specific to the SAC: The Milford Haven Conservancy Act 1983 rules that the Authority's Board should have regard to the desirability of preserving natural beauty and conserving the environment in the planning and exercise of its functions.
Jurisdiction: see map.



Milford Haven Port Authority area of jurisdiction (shaded). The landward boundary is the mean high water mark, including all creeks, bays, pools and inlets other than those into which the tide flows only through a culvert or pipe, and other than a dock which is normally tidally enclosed.

Pembrokeshire Coast National Park Authority (PCNPA) is a special purpose authority set up in 1996, as part of local government re-organisation in Wales.
General role & responsibilities: The Environment Act 1995 sets out two purposes for National Parks in England and Wales. Conservation "to conserve and enhance the natural beauty, wildlife and cultural heritage of National Parks", and education and recreation "to promote opportunities for the understanding and enjoyment of the special qualities (of the Parks) by the public". The National Park Authority (NPA) also has a duty to foster the social and economic well being of communities within the National Park. The NPA is the sole local planning authority for the area within its boundaries (jurisdiction as local planning authority extends to Low Water Mark, ordinary tides only).
Responsibilities specific to the SAC: National Park byelaws for behaviour on access land apply to any and all land that is owned or otherwise legally occupied by the NPA. This includes land occupied by the NPA outside the National Park boundary. With reference to the Pembrokeshire Marine SAC, the NPA leases the foreshore (between Low Water Mark and High Water Mark, ordinary tides) on the whole of the west and north coast of Pembrokeshire (excluding Fishguard and Goodwick), all the Milford Haven Waterway and Daugleddau Estuary within the Park (except Benton) and the south coast between Giltar Point and the National Park boundary at Angle (except MoD land).
Jurisdiction: see map.

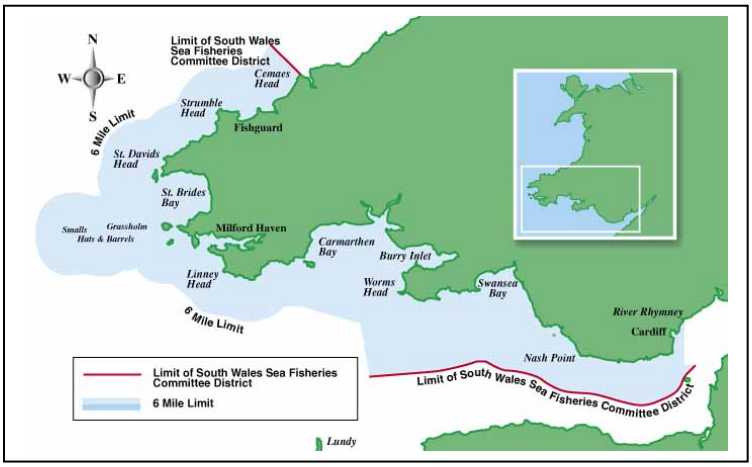


Pembrokeshire Coast National Park Authority area of jurisdiction (shaded). Outside the Daugleddau Estuary the National Park boundary follows Low Water Mark, ordinary tides. Within the Daugleddau Estuary (above Burton), the National Park boundary includes the seabed below Low Water Mark, ordinary tides. (The presumption is, however, that all statutory functions of the NPA cease at Low Water Mark, ordinary tides).

Pembrokeshire County Council (PCC)
General role & responsibilities: PCC is a multi-purpose authority with responsibilities covering the environment, transport, education, social services, housing and economic development. Duties and activities include town and country planning, coastal defence, economic development and tourism, coastal management, beach management, emergency planning, public health and water quality monitoring.
Responsibilities specific to the SAC: The County Council is the planning authority for the area adjoining the Haven and Daugleddau, which is outside of the Pembrokeshire Coast National Park. The Planning function within the local authority is divided between Development Control and Development Planning
Jurisdiction: Planning jurisdiction normally only applies as far as Mean Low Water Marks (MLWM), but under certain circumstances can extend beyond in relation to structures above and below water that have a land origin.

South Wales Sea Fisheries Committee (SWSFC) is a statutory body constituted under the Sea Fisheries Regulation Act 1966.
General role & responsibilities: SWSFC regulate, protect and develop fisheries for shellfish and regulate the fishing for or taking of seafish.
Responsibilities specific to the SAC: Since 1992, SFCs have also been under a duty to have a regard for the conservation of the wider marine environment, in addition to more specific responsibilities recently introduced arising from the EU Habitats and Birds Directives.
Jurisdiction: see map.

The jurisdiction of SWSFC is currently between Cardiff and Cardigan, and to the 6 nautical mile offshore fishery limit which arising from outlying islands means up to 22 miles offshore in some areas.



Trinity House Lighthouse Service
General role & responsibilities: Trinity House Lighthouse Service has a duty to deliver modern, reliable and economic aids to navigation service, to assist the safety of all classes of mariners in general navigation. Its principal activities include buoy laying, superintendence of and consent to local lights, wreck marking and/or dispersal, helicopter and lighthouse operations, and the provision of differential GPS.

APPENDIX 5: Liaison Forum

5a: Purpose and Terms of Reference

PEMBROKESHIRE MARINE SPECIAL AREA OF CONSERVATION

LIAISON FORUM

PURPOSE & TERMS OF REFERENCE

PURPOSE

Special Areas of Conservation are designated to meet the aim of the European Community Habitats and Species Directive[33] to promote the maintenance of biodiversity. The Directive requires that management of SACs to meet this aim should take account of the economic, cultural, social and recreational needs of local people. In order to achieve this objective for the Pembrokeshire Marine Special Area of Conservation there is clearly an essential need for liaison between those local people and the authorities responsible for management (the 'relevant authorities' as defined in the Habitats Regulations[34]). The primary purpose of the forum is to provide a focus for that liaison. The forum will provide a formal means of dialogue between the Relevant Authorities Group (RAG) and local interests.

TERMS OF REFERENCE

1) The Pembrokeshire Marine SAC Liaison Forum is established to assist with the development, implementation , monitoring and review of a management scheme for the Pembrokeshire Marine SAC through the exchange of relevant information and views.

2) Membership of the Liaison Forum will comprise members of the Relevant Authorities Group and representatives of community and sectoral interests listed in Annex 1.

3) The RAG and sectoral and community interests will exchange information and advice on:

- the features of the site and their environment;
- issues relevant to the conservation of the SAC features;
- the use of the site by sectoral interests, local communities and the public;
- the potential interaction between public use of the site and the features, whether positive or negative;
- implications of management of the site for nature conservation of the features for sectoral interests, local communities and the public;
- proposals associated with the development and implementation of a management scheme for maintenance of SAC features in favourable condition.

4) Sectoral and community interest representatives will:

- ensure representation of their interest at meetings of the Forum;
- equitably collate, represent and accurately convey the views of those they represent to the Forum;
- effectively transmit information and feedback to those interests they represent;
- provide an informed sectoral and community response to proposals associated with the development and implementation of a management scheme for the SAC.

[33] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

[34] The Conservation (Natural Habitats &c) Regulations 1994 (SI No 2716) The meaning of 'Relevant Authority' is defined in Regulation 5 of the Habitats Regulations. For the Pembrokeshire Marine site these comprise: Countryside Council for Wales, Dwr Cymru Welsh Water, Environment Agency, Milford Haven Port Authority, Pembrokeshire Coast National Park, Pembrokeshire County Council, Trinity House, South Wales Sea Fisheries Committee.

5) Whilst acknowledging the range of legitimate issues and information which the forum will address will be wide, to ensure a clarity of purpose the forum will only consider issues which are clearly relevant to the purposes of the forum, RAG or SAC.

6) Whilst the Forum will provide the main means of communication between public interests and the RAG, members of sectoral interest groups, local communities or the public may additionally make their views known to the Relevant Authorities Group at public meetings, through their elected local community representatives or directly, in writing, to the appropriate Relevant Authority.

ANNEX 1: LIAISON FORUM - MEMBERSHIP

Membership will include the members of the Relevant Authorities Group and representatives from the following interest groups:

Community

Industry

Commerce & business

Fisheries

Nature Conservation / Environment

Recreation

Tourism

Education

Skomer Marine Nature Reserve Advisory Committee

Milford Harbour Users Association

Milford Haven Waterway Environmental Surveillance Group

5b: Competent Authorities roles/responsibilities

The **Crown Estate** was established in its present form by the Crown Estate Act 1961.
Under this Act, the Estate is managed by a Board of Commissioners who have a duty to 'maintain and enhance the value of the estate and the return obtained from it, but with due regard to the requirements of good management.' The Crown Estate grants licenses/leases for activities to take place on its land (it does not licence activities). The Crown Estate is an estate in land which includes 55 % of the foreshore and all the seabed out to the 12 mile limit.

The **Marine and Fisheries Agency** (M&FA) has a wide range of responsibilities and undertakes delivery functions for The Department for Environment, Food and Rural Affairs (DEFRA) in a number of areas. In England and Wales, the Agency has overall responsibility for the enforcement of the Common Fisheries Policy (CFP) and its associated regulations. When breaches of the regulations are identified the Agency investigates and takes appropriate enforcement action including prosecution. In April 2008, the Welsh Assembly Government will be taking over the M&FA in Wales.
The Agency licenses a number of activities in the marine environment on behalf of the Secretary of State for Environment, Food and Rural Affairs, and in certain areas for Wales for the Welsh Assembly Government: The Food and Environment Protection Act 1985 (FEPA) requires a licence to be obtained to deposit any articles or substances in the sea or under the seabed (below mean high water springs); the Coast Protection Act 1949 (CPA) requires a consent to be obtained for any construction or alteration of works lying on or below the seashore, below the mean high water springs. CPA also covers the removal of material below mean low water springs; the Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) (England and Northern Ireland) Regulations 2007 require a license for dredging of aggregates from the marine environment; the Offshore Marine Conservation Regulations will be introduced to extend the protection of important marine species and habitats under the Birds and Habitat Directives beyond UK territorial waters. It will require licences to be issued for certain marine activities which would otherwise be an offence under the new regulations.
The Agency also provides a 24 hour response service to major oil spills and pollution incidents at sea. The Agency is responsible for issuing approval for the use of dispersants in shallow or coastal waters within an hour of notification. It also has a role in coordinating the environmental aspects of a major marine incident and licensing the use of oil dispersants under FEPA.

The **Maritime and Coastguard Agency** is the government agency with responsibility for maritime safety, responding to maritime emergencies and minimising the risk and impacts of pollution from ships to the marine environment and UK interests.

The **Ministry of Defence** provide the defence capabilities needed to ensure the security and defence of the United Kingdom and the Overseas Territories, including against terrorism, and to support the Government's foreign policy objectives, particularly in promoting international peace and security. In Pembrokeshire the Ministry of Defence operate training establishments.

The **Welsh Assembly Government** is the devolved government for Wales. Led by the First Minister, it is responsible for many issues, including health, education, economic development, culture, the environment and transport. (The National Assembly for Wales is the representative body with legislative powers in devolved areas. It has sixty elected members and meets in the Senedd.)

The **National Trust** is the largest conservation organisation in Britain independent of Government. It is a registered charity founded in 1895. The National Trust is committed to preserving for the nation the finest countryside, coastline, historic buildings, landscape parks and gardens. The National Trust is also the largest private landowner in England and Wales, and owns and manages on the nation's behalf about 600 miles of coastline. Nearly all of the National Trust's 8,500 acres in Pembrokeshire lie close to the sea.

APPENDIX 6: Complementary plans covering the Pembrokeshire Marine SAC

The following has been adapted from a working document "Maritime (Coastal and Marine) Management in / around Pembrokeshire" by Sue Burton in 2001. It is in need of updating. It aimed to summarise the current direct management of the marine and coastal areas of Pembrokeshire. It was not intended to include all voluntary initiatives or national/international legislation.

Contents:

5.5 Environment Agency Rod Fishing Byelaws
5.6 Environment Agency Net Byelaws
5.7 Environment Agency Net Limitation Order

6. PORTS, SHIPPING & NAVIGATION REGULATIONS
6.1 Milford Haven Port Authority Safety Management System (SMS)
6.2 Port of Milford Haven Emergency Plan
6.3 Milford Haven Port Authority Byelaws and General Directions

7. MARINE POLLUTION CONTINGENCY PLANS
7.1 National Contingency Plan (NCP)
7.2 West Wales Environment Group (WWPH&EG) Plan
7.3 Local Authority shoreline response plans
7.4 Milford Haven Waterway Oil Pollution Contingency Plan
7.5 Stena Port of Fishguard Oil Pollution Contingency Plan

1. DEVELOPMENT PLANS (WITH DIRECT BEARING ON COASTAL MANAGEMENT)

1.1 Joint Unitary Development Plan (JUDP)

Pembrokeshire County Council (PCC) and Pembrokeshire National Park Authority (PCNPA) have prepared a Joint Unitary Development Plan for the whole county, which replaces the Structure Plan and Local Plans (Dyfed Structure Plan, PCNPA Local Plan, North Pembrokeshire Local Plan, and South Pembrokeshire Local Plan).

Information from other management documents is incorporated into the JUDP to ensure that JUDP policies fully recognise the importance of, and do not compromise environmental protection and the achievement of, sustainable development.

However the JUDP is to be superseded by local development plans (LDPs) – separate for PCC and PCNPA.

Geographical cover: Pembrokeshire

2. MULTI-SECTORAL PLANS & BYELAWS (WITH DIRECT BEARING ON THE COAST)

2.1 Shoreline Management Plans (SMPs)

Shoreline Management Plans have been prepared by maritime local authorities with the aim of improving the understanding of coastal processes, predicting the likely future evolution of the coast, identifying assets at risk and improving consultation between organisations with an interest in the shoreline. These plans consider options and detail preferred approaches, recommend monitoring programmes and identify potential enhancements to the defences.

The Pembrokeshire coast is included in two plans, the Cardigan Bay SMP, which covers the shoreline from St. Govan's Head to the Teifi estuary within Pembrokeshire, and forms part of the Plan that extends to Ynys Enlli on the Llyn Peninsula, and the Carmarthen Bay SMP, which was prepared by Carmarthen Bay Coastal Group, and covers the shoreline from St. Govan's Head to Worm's Head.

The preparation of these SMPs is co-ordinated by Coastal Groups that comprise representatives from the maritime local authorities, CCW, landowners and the Environment Agency. These groups ensure the integrity of individual SMPs within the coastline as a whole.

The Plans are due for review in 2006/7 and the maritime authorities are now commencing the research needed on issues identified in the first phase plans and initiating consultations with interested individuals and bodies.

Geographical cover: Whole coastline - Pembrokeshire being covered in two plans.

2.2 Pembrokeshire Coast National Park Management Plan

The Pembrokeshire Coast National Park Management draft Plan 2008-2012 (replacing 2003-2007), out to consultation during early 2008, presents a vision for the future of the National Park. It reports on the condition of the Park, sets out management objectives, identifies partners' roles and the National Park Authoritie's niche in achieving these objectives, and lists strategic areas of action and identifies upcoming projects. The Plan provides a docking point for the National Park Authority's Business Plan and the proposed work programme, and is the bidding channel to the National Assembly for Wales. It will be regularly updated by Management Plan Reviews.

Geographical cover: Pembrokeshire Coast National Park

2.3 Pembrokeshire Coast National Park Authority byelaws

Pembrokeshire Coast National Park Byelaws for behaviour on access land. Made under the National Parks and Access to the Countryside Act 1949, and Local Government Act 1933. These byelaws cover such topics as mechanically propelled vehicles, hunting and shooting, pollution and noise.

Persons offending against the byelaws shall be liable to a fine.

2.4 Catchment Abstraction Management Strategies (CAMS)

The Environment Agency launched the CAMS process in April 2001 and set out a six-year programme to develop a CAMS for every catchment in England and Wales. The document *'Managing Water Abstraction'* provides a national framework for the CAMS process. The main aims of CAMS are:

- to inform the public on water resources and licensing practice
- to provide a consistent approach to local water resources management, recognising the reasonable needs of water users and the environment
- to provide the opportunity for greater public involvement in managing the water resources of a catchment

The Cleddau and Pembrokeshire Coastal Rivers CAMS is currently being worked on.

Geographical cover: The catchments of the rivers Eastern and Western Cleddau and a number of the coastal rivers. The coastal river catchments are the Nevern, Gwaun, Alun, Solva, Ritec, Cresswell, Castlemartin Pill, Westfield Pill and Gann Flats Stream. The CAMS area covers most of Pembrokeshire and a very small strip of Carmarthenshire.

2.5 MoD Integrated Land Management Plans for the Army Training Estate, Pembrokeshire

ILMPs have been produced by Defence Estates for the three Army Training Estate (ATE) ranges in Pembrokeshire: Castlemartin, Manorbier and Penally. The overall aim of each Integrated Land Management Plan (ILMP) is to "maximise the military training potential in each area in a way that is consistent, economic, and environmentally acceptable and reflects MoD policy in pursuit of active conservation measures". The objectives and prescriptions that are identified within each ILMP are linked to MoD's Rural Estates Strategy Objectives, which are in turn part of the Defence Estate Strategy. Each ILMP comprises six Component Management Plans (CMPs):

- Military training
- Archaeology
- Nature conservation
- Landscape
- Access and recreation
- Estate management.

These plans were produced by CMP teams drawn from the MoD and from local "stakeholders" such as CCW, National Trust, Wildlife Trust South & West Wales, Cambria Archaeology, EAW, PCNPA and independent experts. The annual work programme is generated by the integration of objectives and management prescriptions identified in each of the CMPs. Implementation of the three ILMPs will be subject to monitoring and annual review by the MoD's Land Command (Army) and Defence Estates, assisted by the South Pembrokeshire Range Recording & Advisory Group (SPRRAG) and individual stakeholders.

Geographical cover: The three ILMPs include significant stretches of coastline, and intertidal areas in south Pembrokeshire. The ILMPs also cover the Sea Danger Areas off each range.

2.6 Castlemartin MoD Range byelaws

The Castlemartin RAC Range Byelaws 1986 (SI no.1834). Made by the Secretary of State for Defence, under the provisions of the Military Lands Acts and the Land Powers (Defence) Act, for regulating the use of the Castlemartin Range.

The byelaws primarily cover access.

Infringement of byelaws within the 'Danger Area' (including both land and sea areas) can lead to fines.

2.7 Manorbier MoD Range byelaws

Manorbier Anti-Aircraft Artillery Range Byelaws 1941. Made by His Majesty's Principal Secretary of State for the War Department, under the provisions of the Military Lands Acts, 1892 to 1903, as amended by Regulation 52 of the Defence Regulations, 1939.

The byelaws primarily cover access.
Infringement of byelaws within both land and sea areas can lead to fines.

2.8 National Trust byelaws
The National Trust - for Places of Historic Interest or Natural Beauty - Byelaws 1965.
Topics covered include, amongst others, litter, protection of animals, and moorings.
Infringement of byelaws on National Trust property ('all land and water including estuaries, foreshores…') can lead to fines.

Geographical cover: National Trust sites. Coastal sites in Pembrokeshire include Longhouse, Ynys Barry, Pwll-caerog, Llan Ferran, St David's Head, Treginnis, Porthclais, Caer Bwdy, Morfa Common, Solva, Sheepfields, Deer Park, Martin's Haven, Marloes Sands, Kete, Little Milford Wood, Lawrenny, West Williamston, Freshwater West, Stackpole Estate, Barafundle, Stackpole Quay, Trewent Point, Manorbier, Lydstep Headland, Colby Estate.

2.9 Milford Haven Recreation Plan
The Milford Haven Recreation Plan was revised in 2005 by the Milford Haven Waterway Recreation Working Group – comprising local authorities and the Milford Harbour Users Association. Milford Haven Port Authority is the lead body. The non-statutory plan is a working advisory document in managing recreational activities on the Waterway. The aim is to promote the sustainable use of the Milford Haven Waterway, balancing the demands on its natural resources and resolving conflicts from the standpoint of recreation. Zones within the Waterway are provided for specific activities, and policies are set out for sensitive areas. A free publication – the Milford Haven Waterway Leisure Guide – is produced and reviewed annually which contains maps and information for the recreational user.

Geographical cover: Port of Milford Haven

3. ENVIRONMENTAL QUALITY / PUBLIC HEALTH

3.1 Air Quality Management
Under Part IV of the Environment Act 1995, local authorities are required to review and assess air quality in their areas "from time to time". All local authorities should have carried out a first round of review and assessments by the end of 2000, with a further exercise in 2004.

Pembrokeshire County Council has completed its review of air quality, following a detailed consultation exercise. It has concluded that the standards and objectives for all seven pollutants as set out in regulations are or will be met by 2005, and that there is no requirement to establish an Air Quality Management Area (AQM). Nonetheless, the Council has committed itself in drawing up an Air Quality Strategy by January 2002, which will set out in a partnership approach, how air quality in the County can be further improved. The Council and its predecessor authorities have over the past 30 years or so measured air pollution in the County, and this has enabled data to be collected which demonstrated that air quality is good.

3.2 The Port of Milford Haven Port Waste Management Plan
Individual plans for independently operated sites are presented as annexes. These include the Elf Jetty, Milford Haven Port Authority Jetty, Petroplus Jetty, Carr Jetty, Texaco Jetty, Milford Docks, Neyland Marina, Port of Pembroke, and the Pembroke Dock Ferry Terminal.

Geographical cover: Port of Milford Haven

3.3 Other Port Waste Management Plans
Port Waste Management Plans also exist for Solva, Goodwick and Tenby.

3.4 Waste Management Planning
A local authority UDP sub-regional liaison group exists for strategic waste management.

The Environment Agency Wales work closely with local authorities in supporting local recycling initiatives, developing regional and national policy, and promoting waste minimisation with industry.

3.5 Beach Plans
Beach Action Plans are produced internally by the Environment Agency in consultation with Pembrokeshire County Council and Dŵr Cymru Welsh Water.

3.6 Green Seas Initiative
The Green Seas Initiative is co-ordinated by the Wales Tourist Board to improve the quality of the coastal environment. Partners include the Environment Agency, Dŵr Cymru Welsh Water (DCWW), Countryside Council for Wales, the Welsh Local Government Association and several other organisations. The overall aim is to achieve a standard of water quality along the majority of the coastline of Wales that will enable local authorities to apply for Blue Flag awards, or the recently introduced Green Coast awards.

The Blue Flag award is a European award administered by Keep Wales Tidy, of which water quality guideline standards in the EC Bathing Waters Directive are just one element.
The Green Coast award, pioneered by Keep Wales Tidy, includes equivalent water quality standards to the Blue Flag scheme but not some of the beach management criteria that would be inappropriate for beaches where these would conflict with conservation criteria.

Within Pembrokeshire, the initiative has a high profile due to the large numbers of good quality beaches and the importance of these to the tourist industry.

4. NATURE / WILDLIFE / LANDSCAPE CONSERVATION

4.1 Pembrokeshire Local Biodiversity Action Plan
The Pembrokeshire Local Biodiversity Action Plan (LBAP) has been drawn up to improve the status of certain habitats and species within the county. To implement the plan the Pembrokeshire Biodiversity Partnership has been formed comprising statutory and non-statutory organisations including land owning, farming, fishing and conservation interests. Pembrokeshire County Council provides the chair and secretariat. The LBAP has already identified 41 habitats and 110 species for which Biodiversity Action Plans (BAPs) will be written. These include coastal and marine habitats and species. Pembrokeshire Marine SAC features overlap with the following local BAPs:

- Grey seal
- Commercial fish species
- Native oyster
- Broad sea fan
- Cushion star
- Otter
- Inlets and enclosed bays
- Intertidal – open coast
- Boulders/rock – supralittoral zone
- Seagrass beds
- Coastal saltmarsh
- Mudflats
- Saline lagoons
- Coastal strandline
- Maerl beds

- Open sea – water column
- Tidal rapids
- Inshore sublittoral rock
- Inshore sublittoral sediment

Note that this list is in need of updating since it expanded at the end of 2007.
Geographical cover: Pembrokeshire

4.2 Natura 2000 marine and coastal site management schemes
Natura 2000 sites include both terrestrial and marine based Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Marine SACs and SPAs are also known as European Marine Sites. Each site is chosen because of specific 'features' of conservation interest. These 'features' include habitats and species listed in the EC Habitats and Birds Directives. The Directives require conservation of these 'features'. On many sites this is being achieved through management schemes drawn up jointly by relevant authorities and interested stakeholders.

There are three marine SACs which are entirely or partly within Pembrokeshire: Cardigan Bay SAC, Pembrokeshire Marine SAC and Carmarthen Bay & Estuaries SAC.
Coastal SACs include St David's and the Limestone Sea Cliffs of South West Wales.
SPAs include Grassholm, Ramsey and St David's, Skomer and Skokholm, and the Castlemartin Coast.

4.2.1 *Cardigan Bay SAC* management scheme
Agreed management scheme released in May 2001. New draft incorporating review, with need to add post-moderation features, out to consultation at end of 2007.

Geographical cover: The site extends from Aberarth in the north to just south of the Teifi Estuary, and out to approximately 12 miles offshore. The landward boundary is generally at mean low water mark, increasing up to mean high water mark where there are Sites of Special Scientific Interest (SSSIs) on the shore.

4.2.2 *Pembrokeshire Marine SAC* management scheme
Agreed management scheme launched in 2008.

Geographical cover: The site extends from Aberiddi in north Pembrokeshire to Manorbier in south Pembrokeshire and includes the Milford Haven waterway to tidal limits and the offshore islands to The Smalls. The landward boundary is generally at mean low water mark, increasing up to mean high water mark where there are Sites of Special Scientific Interest (SSSIs) on the shore.

4.2.3 *Carmarthen Bay & Estuaries SAC* management scheme
Work on the management scheme has yet to begin.

Geographical cover: The site extends from Tenby and Caldey Island in the west, to Port Eynon Bay on the Gower Peninsula to the east. The site includes the whole of Carmarthen Bay and the Taf, Towy, Gwendraeth and Burry Inlet Estuaries. The landward boundary is generally at mean low water mark, increasing up to mean high water mark where there are Sites of Special Scientific Interest (SSSIs) on the shore.

4.3 National Nature Reserve site management plans (coastal)
All plans will need to incorporate new features added to lists in the SSSI notification/renotification (SAC Moderation) process that is currently taking place by the Countryside Council for Wales (CCW).

4.3.1 Ramsey Island NNR
Management plan drawn up by the RSPB, currently being reviewed by CCW.

4.3.2 Grassholm Island NNR

Management plan drawn up by the RSPB, currently being reviewed by CCW.

4.3.3 Skomer Island NNR
Management plan drawn up by CCW in 1995/6, currently under review.

4.3.4 Stackpole NNR
Management plan under constant review by CCW.

4.4 Skomer Marine Nature Reserve Management Plan
The Skomer Marine Nature Reserve (MNR) surrounds Skomer Island and the Marloes Peninsula. The foreshore of the MNR lies within the Pembrokeshire Coast National Park. The shoreward boundary is a line defined by the Highest Astronomical Tide, except within Martin's Haven, where the boundary descends to Mid Tide Level.

A management plan for the Skomer Marine Nature Reserve is under development by the Countryside Council for Wales for use as a working document. A leaflet on the reserve and a leaflet on user regulations are publicly available. These detail the MNR code of conduct & byelaws.

Skomer Marine Nature Reserve byelaws were made by the Countryside Council for Wales, with the consent of the Secretary of State for Wales, under section 37 of the Wildlife and Countryside Act 1981. They cover protection of wildlife, pollution and littering, and recreation. South Wales Sea Fisheries Committee byelaws 27 and 28 refer specifically to the MNR.
The MNR code of conduct includes the use of breeding area protection zones for seabirds and seals in order to minimise disturbance.

4.5 Intertidal and Coastal SSSI Management Plans
Some management plans for sites have been completed.

5. FISHERIES REGULATIONS

5.1 South Wales Sea Fisheries Committee Byelaws
Byelaws of specific note include:
Byelaw 25. Prohibiting the use of towed fishing gear within the Daugleddau upstream of the Pembroke to Neyland road bridge.
Byelaw 26. Prohibiting the use of any trawl, Danish (Anchor) seine or Fly dragging seine within Milford Haven and the Daugleddau east of longitude 05°02' west.
Byelaw 27. Prohibiting the use of dredges and beam trawls within the Skomer Marine Nature Reserve.
Byelaw 28. Prohibiting scallop fishing within the Skomer Marine Nature Reserve.
Byelaw 29d. Prohibiting the fishing of bass by boat in the region of Pembroke River/Pwllcrochan Flats between the dates 1st May to 31st October.
Byelaws 30 & 31. Prohibiting the placing and use of any nets within the Daugleddau upstream of the Pembroke to Neyland road bridge, except boat set fixed nets having a mesh size of 50-65mm from 15th January to 30th April each year. (Any salmon or sea trout (Sewin) should be returned to the sea if caught in fixed nets).

Geographical cover: Coast and coastal waters between Cardiff and just south of River Teifi to six miles offshore (unless otherwise specified)

5.2 National and European fisheries legislation
Includes the European Common Fisheries Policy due for review in 2002.
Implemented by the Marine and Fisheries Agency (M&FA) on behalf of the Welsh Assembly Government (WAG), & South West Sea Fisheries Committee (SWSFC).

Geographical cover: UK territorial waters

5.3 Bass Nursery Areas
All tidal waters of Pembroke River/Pwllcrochan Flats and of the Cleddau estuaries east of the road bridge are designated as Bass nursery areas by the Department of Environment, Food and Rural Affairs (DEFRA). Bass fishing is prohibited between 30th April and 1st November. The legislation is The Bass (Specified Sea Areas) (Prohibition of Fishing) Order 1990: SI 1990 No.1156.
Fishing for any species of sea-fish using sand-eels (*Ammodyridae*) as bait, by any fishing boat, within the areas specified above is also prohibited.

Geographical cover: Specified areas

5.4 Salmon Action Plans (SAPs)
Produced by the Environment Agency Wales in 2000 for the Cleddau and the Nevern. These are part of a series of plans for all principal salmon rivers in England and Wales that the Environment Agency intend to produce by 2002. Each SAP is designed to address, at a local level, the main objectives of the Environment Agency's National Salmon Management Strategy, which is primarily aimed at securing the well being of the stock while improving catches and the associated economic returns to the fisheries.

Geographical cover: Rivers Cleddau and the Nevern, Pembrokeshire

5.5 Environment Agency Rod Fishing Byelaws
Byelaws made by the Environment Agency under the Salmon and Freshwater Fisheries Act 1975, regulating fishing with rod and line. The byelaws cover fishing practices as well as size and bag limits.

5.6 Environment Agency Net Byelaws
Net byelaws limit the area of operation, season and form of commercial netting for migratory salmonids.

5.7 Environment Agency Net Limitation Order
Net Limitation Orders limit the number of licences available each year to fish for migratory salmonids. In the Cleddau there are currently 6 migratory salmonid licences available for the traditional Compass Nets.

6. PORTS, SHIPPING & NAVIGATION REGULATIONS

6.1 Milford Haven Port Authority Safety Management System (SMS)
The Safety Management System applies to all operational activities conducted within the Milford Haven Port Authority Group and all persons engaged in those activities. It is supported by SMS Management Procedures and documents such as Emergency Contingency Plans.

6.2. Port of Milford Haven Emergency Plan
This plan, revised in March 2001, sets out the Port Authority's response to emergencies occurring within its area of jurisdiction. The potential emergency situations covered by the plan include fire or explosion on a jetty; fire or explosion on a vessel alongside a jetty; fire or explosion on a vessel at anchor or moored in the Haven; grounding, salvage, collision or emergency (other than fire or explosion) involving vessels in the Haven, and vessels approaching the Haven on fire or in danger of sinking.

In the event of such an emergency, activation of this plan would take precedence over activation of the Port Authority's Oil Pollution Contingency Plan (see 7.4).

Geographical cover: Port of Milford Haven

6.3 Milford Haven Port Authority Byelaws and General Directions

General Directions are complementary to Byelaws. They have the same purpose i.e. to regulate the use of the Haven by all but particularly the safe navigation of vessels. General Directions may perhaps best be categorised as the "dos" whilst Byelaws are the "don'ts". Both are enforceable through the courts. General Directions being ratified by the Authority are much simpler to make and modify than byelaws that have to be approved by the Secretary of State for DfT.
Geographical cover: Port of Milford Haven

7. MARINE POLLUTION CONTINGENCY PLANS

7.1 National Contingency Plan (NCP)
This plan, which was published by the Maritime and Coastguard Agency (MCA) in January 2000, meets the UK Government's obligations under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (the OPRC Convention). The legal basis for the plan is contained in Section 293 of the Merchant Shipping Act 1995, as amended.

The NCP sets out the framework within which response to maritime pollution incidents is organised at UK level. It also sets out the circumstances in which the MCA deploys the UK's national assets in response to a maritime pollution incident, with the aim of protecting overriding public interest. MCA has overall responsibility for implementation of the NCP.

Local Authority contingency plans for shoreline pollution, together with Ports and Harbours contingency plans for oil pollution set out in detail the local response that would be made to maritime pollution incidents. They also underpin the NCP.
The NCP covers all incidents within or likely to affect the UK pollution control zone.

7.2 West Wales Public Health & Environment Group (WWPH&EG) Plan
Within the framework provided by the National Contingency Plan, any response to a maritime pollution incident in the UK that requires a regional or national response, will involve the establishment of an Environment Group. In addition to providing environmental and public health advice and information to response centres or units set up to respond to a maritime pollution incident, the Environment Group will be responsible for initiating and co-ordinating any assessment of impacts of an incident on the environment and public health that are considered appropriate.

In accordance with guidance in the NCP, a standing West Wales Public Health & Environment Group has been established, and a contingency plan setting out the structure, functions and organisation of the WWPH&EG is in preparation.

Geographical cover: Dyfi Estuary to Ogmore

7.3 Local Authority Shoreline response plans
Shoreline pollution response contingency planning is to form part of the remit of the Local Resilience Forum for West Wales (Dyfed Powys region).

For pollution incidents occurring in Pembrokeshire, Pembrokeshire County Council will take the lead in the shoreline response.

7.4 Milford Haven Waterway Oil Pollution Contingency Plan
Under the Merchant Shipping (OPRC) Regulations 1998, all qualifying authorities defined in the regulations (including Milford Haven Port Authority) are required to prepare an oil pollution contingency plan for waters within its/their jurisdiction. The current plan that meets this statutory requirement was approved and published in June 2000, and superseded the anti-oil pollution plan operated by the oil industry based on the Haven and the

Port Authority (the Milford Haven Standing Conference on Anti-Oil Pollution). It should be reviewed every 2 years and re-approved by the MCA every 5 years.

Milford Haven Port Authority's statutory duty extends to removal of oil from the water and from jetties and other structures and shoreline within its ownership. Similar responsibilities are laid on the other OPRC qualifying authorities within the Haven (namely Petroplus, ChevronTexaco, TotalFinaElf, HM Moorings & Salvage Depot and Pembroke Dock Royal Dockyard waters controlled by the Queens Harbourmaster, and the Milford Docks Company). Agreement has been reached between these authorities and the Port Authority such that the Harbourmaster acts on their behalf in terms of the clean up of oil on the water within the area of their statutory responsibility. The responsibility for clean up of oil on jetties, other structures, and shoreline within their control remains with the qualifying authorities. Outside these areas, Pembrokeshire County Council has voluntarily accepted responsibility for shoreline clean up within the area covered by the MHPA's plan.

Geographical cover: Port of Milford Haven

7.5 Stena Port of Fishguard Oil Pollution Contingency Plan

OPRC pollution contingency plan for Fishguard Harbour. The plan sets out how the Port will remove oil from waters within the Port's control and from jetties, structures and shoreline within its ownership. The plan was published in 2000 and will be reviewed every 5 years.

Multiple consultees and partners – links to other plans

Geographical cover: Port of Fishguard

APPENDIX 7: Guidance for plans and projects

See following 2-page diagram.

Guidance for Competent Authorities * applying the Habitats regulations to Plans and Projects

*This applies to all competent authorities whether or not they are also relevant authorities for the site

First Stage – Preliminary Assessment

Establish if the Habitats Regulations apply to the application and appoint a lead authority if necessary

Preliminary assessment by competent authority

Is the project or plan in or near a European Marine Site?

Preliminary assessment by competent authority

Decide or agree lead if necessary

Competent authorities are recommended to seek advice from the Countryside Council for Wales at this first stage

---

Second Stage – Assess Significant Effects

Consider whether the plan or project is likely to have significant effects on the European marine site either alone or in combination with other projects or plans.

Competent authorities consider if the project or plan is likely to have significant effects

Undertake initial assessment. This will address the following questions

Competent authorities may consult public and expert opinion during second & third stages

The scope of additional information may be discussed with CCW and other competent authorities involved

Is the activity necessary for management of the site for nature conservation?

What effects excluding trivial or inconsequential can be reasonably predicted from the project / plan that may affect the conservation objectives of the site (see Regulation 33 Advice package)

Are there site interest features that may be sensitive to the operations associated with the project? (see Regulation 33 Advice package)

If effects or combinations of effects are trivial or inconsequential the project may be approved at this point

Could the interest features be exposed to the operations (See Regulation 33 Advice package)

What is the scale or magnitude of the effects?

Is a more thorough assessment necessary?

Conduct public consultation when necessary

Seek additional information from applicant and consider alernatives

Having taken the questions and activities above into action it is then possible to assess if the activity likely to significantly affect the integrity of the site?

NO

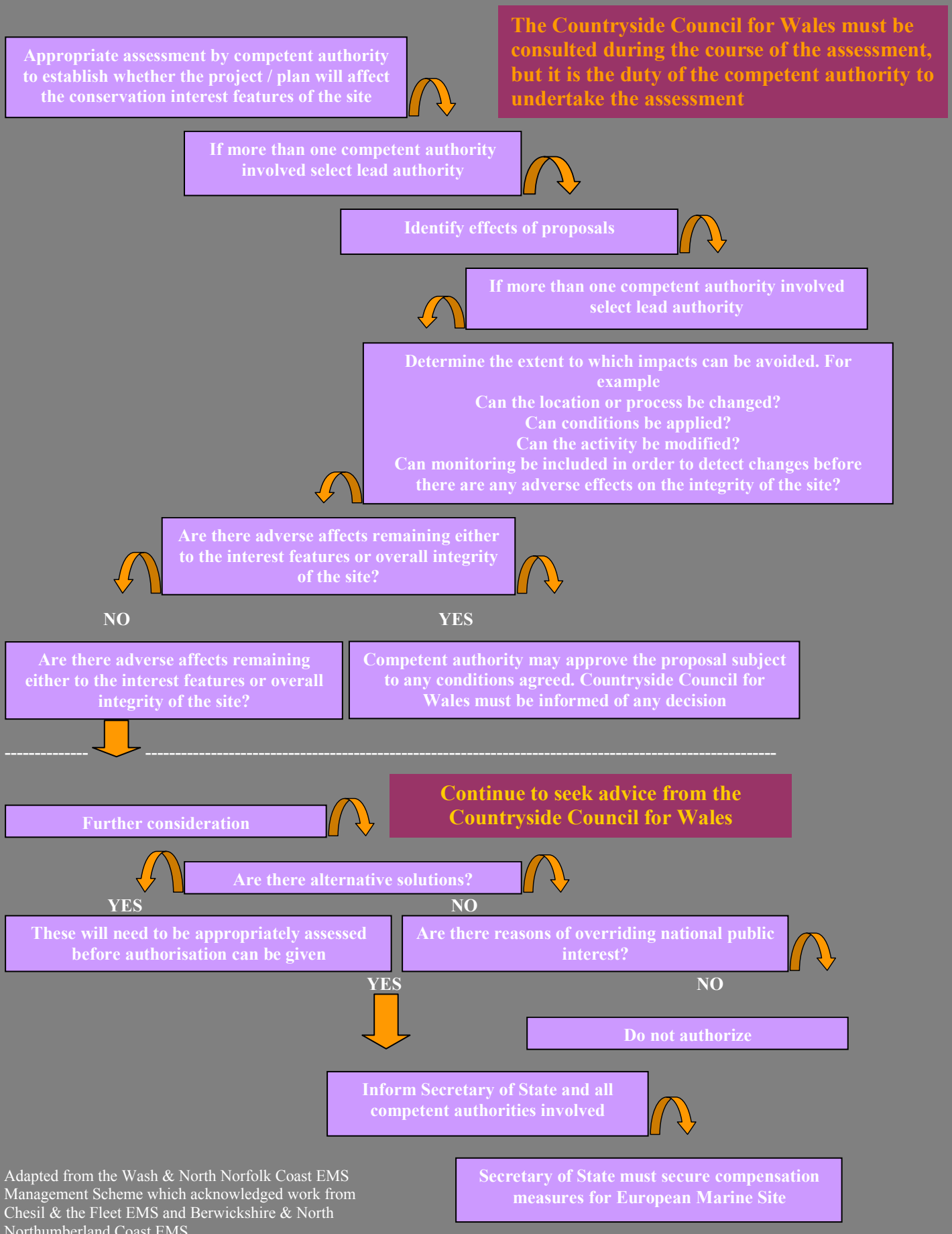
If the project will not significantly affect the integrity of the site it may be approved

YES

If the activity is thought likely to significantly affect the integrity of the site proceed to the Third Stage – Appropriate Assessment

Third Stage – Appropriate Assessment

Regulation 48 of the Habitats Regulations requires the competent authority to undertake an appropriate assessment before deciding to give consent, permission or authorisation to a project or plan within a European Marine Site



Adapted from the Wash & North Norfolk Coast EMS Management Scheme which acknowledged work from Chesil & the Fleet EMS and Berwickshire & North Northumberland Coast EMS.