

NATURE CONSERVATION / ENVIRONMENT SUMMARY PAPER

GENERAL OVERVIEW

Much of Wales' varied and beautiful countryside and marine areas are of high ecological value supporting a wide range of fauna and flora. Traditional farming practices have had a profound influence on the intrinsic character and diversity of the countryside, the land having been worked over thousands of years to produce varied and valuable habitats. However, changing agricultural practices towards greater intensification and mechanisation now represents one of the greatest threats to this richness and diversity, threats which also include tourism, non-agricultural development, transport and forestry. Intensification and increased efficiency of some commercial fishing practices has had a similar impact on the marine environment, reducing biodiversity and damaging habitats. Fishing is far from being the only human activity to impact on the marine environment and a useful review of the history and literature relating to this subject is to be found in "*Historical perspective and selective review of the literature on human impacts on the UK's marine environment*", June 2000, English Nature Research Report No. 391.

The key to a healthy, balanced and valuable environment is the creation of a rich and diverse mosaic of habitats which will in turn support a rich and diverse wildlife. The challenge facing Wales, in common with other developing and developed countries, is how to balance the needs of the environment, which include space, clean air, water and soils, limited disturbance and maintenance of diversity, with the increasing economic, infrastructure, recreational and development needs of the human population.

One way that Wales is facing these challenges is through the implementation of the EC 'Habitats' and 'Birds' Directives. Through this European programme of conservation site designation (Natura 2000), 70% of the coast of Wales is in the process of being given protection as Special Areas of Conservation and / or Special Protection Areas.

Wales remains a place of wonder and refreshment for residents and visitors alike. The high dependency of Wales', and Pembrokeshire's, economy on maintaining its visitor numbers makes it essential that the quality of its environment and wildlife is protected.

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WHAT DO WE HAVE IN PEMBROKESHIRE?

Pembrokeshire is particularly blessed with the quality of its environment and its wildlife. This is of supreme importance to Pembrokeshire, providing as it does the bedrock for two of the County's principal industries, agriculture and tourism, as well as being a prime reason why so many people choose to move to the area to live. It is agriculture, together with the powerful forces of nature, that has historically shaped the landscape and created the richness of habitats that are now found in the County. As well as providing beauty and diversity, Pembrokeshire has also been widely perceived as having a clean, "green" image and this is an important asset in itself as a marketing tool. The fragility of this image was highlighted by the "Sea Empress" oil pollution incident of 1996, a hit on its image from which the County is still recovering in some aspects.

Of particular importance and a feature on which much of the outside perception of Pembrokeshire is based, is the 259 km long coastline, the majority of which lies within the Pembrokeshire Coast National Park. Established in 1952 as the most westerly National Park and the only one designated primarily for its coastline, it covers an area of 1606 sq. kms. The landscape ranges from the dramatic coastline to open hills, valleys and woodland and secluded tree-lined rivers. Pembrokeshire's coastline exhibits the full range of shoreline habitats from wave-exposed cliffs and headlands to sheltered muddy bays and estuaries.

The National Park contains one of the largest densities of protected environmental sites in Europe. Pembrokeshire is internationally important for many of its coastal, marine and lowland heath habitats, and is also of national importance for others, e.g. ancient semi-natural oak woodland. The national / international significance and importance of Pembrokeshire's biodiversity is reflected by the fact that approximately 6% of the total land area lies within the County's 93 Sites of Special Scientific Interest (SSSIs). There are 8 National Nature Reserves (NNRs) wholly or partly within the County together with Wales' only Marine Nature Reserve (Skomer MNR), one of only two to be designated in the UK. There are 2 marine Special Protection Areas (SPA) designated under the EC 'Birds' Directive and 3 Candidate Marine Special Areas of Conservation (cSACs) designated under the EU 'Habitats' Directive which lie wholly or partly within the Pembrokeshire Coastal Zone. A useful descriptive list of the coastal conservation areas in Pembrokeshire can be found in "*The Coast of Dyfed and South West Glamorgan – An Environmental Appraisal*", Field Studies Council, 1995. Most of the coastline is

designated as Heritage Coast and most of the north and west of the County is designated as an Environmentally Sensitive Area.

Amongst the many important areas for nature conservation within the coastal fringe that may be mentioned are the estuarine and marsh habitats at the Welsh Wildlife Centre near Cardigan managed by the Wildlife Trust of South & West Wales, the Milford Haven Waterway and its many marine and land-based features, the Bosherton Lilyponds, the Castlemartin and Stackpole range areas, the Gann estuary and the islands. The offshore islands of the Pembrokeshire coast are of international importance for their breeding populations of seabirds, the island group of Skomer, Skokholm and Grassholm being designated as a Special Protection Area under the "Birds" Directive. Grassholm, an RSPB Reserve, hosts one of the largest gannet colonies in the world and the only one in Wales, with over 27,000 pairs nesting there in recent years. Skomer Island, a reserve of the Wildlife Trust of South & West Wales, has the largest breeding population of Manx shearwater in the world numbering over 160,000 pairs. Many other species, particularly auks, breed on the islands of Skomer and Skokholm, whilst Ramsey Island is important for breeding grey seals. Cardigan and Carmarthen Bays host large numbers of seaduck and divers, particularly in the winter, with the latter area recording up to 11,000 common scoter, a feature for which much of it is designated as a Special Protection Area. The cliffs and offshore islands are important strongholds of the chough and peregrine, and the Milford Haven Waterway is of national importance for its wintering waders and wildfowl. The importance of coastal areas for Pembrokeshire's healthy otter population is only recently becoming realised and the County's coastline hosts a significant proportion of the UK's grey seal breeding population.

The Skomer Marine Nature Reserve is an area of outstanding submarine landscape beauty and marine wildlife importance, supporting as it does a rare and wide range of marine species and habitats. It is regularly visited by divers and is being very carefully monitored and studied to ensure that the fragile ecosystems are properly understood and protected.

Cetaceans, particularly harbour porpoise and bottle-nosed dolphins, are regularly seen in inshore waters off the west and north coastline, whilst in deeper waters, killer whale and other larger cetaceans and basking sharks are occasionally seen, although with less frequency than in the 1970s and '80s. Turtles are also occasional visitors and warmer

water species of fish such as sunfish and trigger fish are appearing with greater regularity.

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Threats affecting the environment and nature conservation in Pembrokeshire

A number of threats to the land and water based environments and their related fauna and flora exist. These include :

- Disturbance through physical trampling, close contact, noise, habitat interference, etc. Examples include : disturbance of marine mammals by eco-tourism activity; bait collection; erosion through heavy visitor traffic on coast paths; recreational activity.
- Encroachment and/or destruction by industrial and other forms of development. Examples include: Renewable energy generation; building and infrastructure construction; aggregate dredging.
- Pollution and litter / waste. Examples include: Death of marine species through entanglement or ingestion; discharge of toxic chemicals into the environment; discharge of 'greenhouse' gases adding to the problems of climate change.
- Physical damage / death resulting from man's targeted and non-targeted activities. Examples include : fishing by-catch; collision with powered craft and vehicles; shooting;
- Habitat loss / modification. Examples include: draining of wetlands; dredging; coastal protection and flood defence works; inappropriate grazing and other land management regimes.
- Over-exploitation of natural resources: Examples include : Over-fishing; intensive agriculture and forestry; bait collection.
- Introduction of alien species and/or pathogens. Examples include: distance transfer through attachment to vessel hulls or within bilge/ ballast tanks; escapement from fish farms; illegal introduction / release.

Initiatives are being developed and implemented to overcome or ameliorate these effects through statutory and voluntary controls, codes and zonation. Examples include the development of a Marine Code for the regulation of recreational and commercial activity within sensitive areas; establishment of areas of conservation designation (SACs, SPAs, SSSIs, NNRs / MNRs, etc.) to restrict development and other activities; encouragement of sustainable practices in exploitative activities such as agriculture,

forestry and fishing through legislation, strategy/policy development and subsidy/grant programmes; tightening of legislative control and enforcement of discharges and dumping of pollutants and litter, particularly persistent inorganic waste; establishment of voluntary and community initiatives, e.g. Coastcare Groups, Rivers Trusts, etc.

Climate change is an environmental issue which is likely to have significant impact on the coastal zone through changes in weather patterns, sea level rise and air and water temperature rises. The MONARCH (Modelling Natural Resource Responses to Climate Change) project is a phased investigation into the impacts of climate change on the nature conservation resources of Britain and Ireland. It links established impact models to climatological classifications to provide a framework for studying the responses of key habitats and species to climate change. MarClim, (Marine Biodiversity and Climate Change), is another current project which is focussing on a set of temperature-sensitive, readily observed, intertidal climate indicator species for which long-term data sets and monitoring sites are available. The work will demonstrate the changes that have occurred during the last 50 years and the results will be used to develop and test hypotheses on changes now occurring and to forecast future changes.

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What do Nature Conservation and the Environment mean to Pembrokeshire's coastal zone?

The high quality environment and rich diversity of wildlife are a major source of employment and socio-economic benefit to the County through tourism and recreational activity as well as through providing a valuable resource for academic institutions and others to conduct research and develop the interests of students. These features also act as a resource and a source of inspiration for artists, writers, photographers and musicians, all of whom add to the cultural and socio-economic value of the County. The maintenance of a high quality environment is of great value to the fishing, agricultural, forestry and market gardening sectors which in turn add value to the County's socio-economic and cultural base.

In order to maintain the above benefits through the maintenance of the environmental quality and diversity of the coastal zone and in order to comply with EC legislation, there is a need to establish local conservation protection measures and designations. Whilst

there are very real benefits to be gained from these measures, there is also a risk that these restrictions might have an adverse effect on the viability, sustainability and/or development of a number of business sectors, especially fishing, aggregate dredging, mariculture, port / harbour and other commercial and recreational development. Over-zealous and/or inadequately considered constraints on some activities on the grounds of environmental protection can lead to the loss of significant socio-economic and cultural benefits to the County. This is likely to have an adverse impact on the socio-economic sustainability of the coastal communities and the County as a whole through a reduction in job availability and shrinkage of the employment sector base.

Equally, some of these activities, such as certain forms of recreation; eco-tourism; fishing; use of high speed or large craft; energy generation; fossil fuel exploration and extraction; aggregate and other dredging; forestry, infrastructure and buildings development; drainage, coastal protection and flood defence works, can have the capacity to disturb, injure or destroy elements of the aquatic and terrestrial habitats and fauna and flora of the area. Certain terrestrial and marine activities and operations such as certain forms of fossil fuel extraction, processing and transportation; land and sea transport systems; agriculture and forestry can cause polluting discharges into air or water or onto land. Also, marine and terrestrial litter and discards derived from e.g. shipping, tourism, fishing, agriculture, fly-tipping, waste tips, can create environmental degradation and a hazard to wildlife through entanglement or ingestion. Increased tourism activity in the coastal zone and elsewhere, whilst being of vital importance to rural and coastal economies, is potentially damaging to the environment and nature conservation through increasing pressure for space and infrastructure development, increased loading on sewage and waste disposal systems and demand for domestic water, eco-tourism disturbance and pressure, etc. Some human activities such as marine transportation, aquaculture, mariculture, agriculture and the pet/ horticulture trade can risk the introduction of alien species, pathogens and genetic strains to wild populations with potentially damaging environmental and economic consequences.

The effective, appropriate and balanced management of all these activities and interests is complex and requires a high level of information and understanding if it is to be achieved. Whilst the high quality environment and diversity of wildlife and habitats provide a rich resource for scientific and academic study, some opportunities for which have been utilised, the detailed knowledge and information available on which to base

necessary judgements and management decisions is often scant, particularly in the marine environment. Funding and other resources are often inadequate to meet the needs in the short to medium term with the result that the necessary information remains unavailable and the business development process is delayed or halted completely. The effects of climate change are likely to be felt acutely in the coastal areas of Pembrokeshire threatening as they do changes in weather patterns, rises in sea temperatures and sea levels. The emission of 'greenhouse' gases, particularly through the burning of fossil fuels, is implicated in the climate change and its effects and coastal areas will be increasingly looked to as areas of renewable energy generation to reduce these emissions. The impact of extensive tidal, wind and wave generating infrastructure on the marine and terrestrial environments and ecosystems and on the human activities which currently take place there is as yet unknown.

The maintenance of a balance between Pembrokeshire's environmental protection needs and duties and its need for a broad, adaptable and developing commercial base is already a major challenge and is likely to increase in future years.

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HOW IS IT MANAGED?

The range of international, national and regional legislation relevant to nature conservation in the UK is complex and extensive. A valuable compilation and description can be found in Reports 1 and 2 to the JNCC published in July 2003 by the Institute of Estuarine & Coastal Studies of the University of Hull and entitled "Summary of Current Legislation Relevant to Nature Conservation in the Marine Environment in the United Kingdom" and "Regulatory Responsibilities & Enforcement Mechanisms Relevant to Marine Nature Conservation in the United Kingdom", respectively. A further helpful review is given in "*UK Nature Conservation Obligations under International Conventions and Agreements*", May 2000, DETR for the Review of Marine Nature Conservation.

The principal agency involved in the protection and conservation of wildlife, its habitats and of geological sites on land and in the sea in Wales is the Countryside Council for Wales. The CCW is the agent for the Government's fulfilment of international obligations and advises the UK Government / Welsh Assembly Government on these matters through the Joint Nature Conservation Committee. The Welsh Assembly Government

has responsibility for nature conservation out to the 12nm territorial limit with respect to SSSIs, SACs and SPAs, BAPS, and LIFE funded studies on the best practice for management of marine SACs.

Two EU Directives, the EC Directive on the Conservation of Wild Birds, (the 'Birds' Directive 79/409/EEC) and the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (the 'Habitats' Directive 92/43/EEC) are central to the conservation of species and habitats through the Natura 2000 network of protected sites. These two Directives have been enacted in the UK through the Conservation (Natural Habitats, &c) Regulations 1994 and also, in the case of the 'Birds' Directive, through the Wildlife and Countryside Act 1981. Three candidate Special Areas of Conservation have been established in whole or in part within Pembrokeshire's coastal waters and Management Schemes are in the process of being agreed prior to completion of the designation process in June 2004. Only a small, relatively inaccessible area of coastline in north Pembrokeshire is not covered by these designations.

The other two major legislative provisions relevant to nature conservation in the UK are the Wildlife & Countryside Act 1981 and the Countryside & Rights of Way (CROW) Act 2000. The 1981 Act allowed for the designation of Sites of Special Scientific Interest (SSSIs) in England and Wales, these being areas identified by the CCW in Wales as being of the highest conservation value. These provisions have been further strengthened by the CROW Act 2000. The transference of the SSSI framework to the marine environment has been problematic as the SSSI is essentially designed to protect terrestrial features in a context of land ownership. The WCA 1981 also identifies rare and endangered animal and plant species within Schedules 5 and 8 of the Act respectively and these species are afforded special protection. Section 14 of the Act prohibits the release to the wild of any animal identified in Part 1 of Schedule 9 and the planting or encouragement to grow in the wild of any plant identified in Part II of Schedule 9. Special protection for seals is given by the Conservation of Seals Act 1970.

The importation and/or release of non-native species, pathogens and genetic strains, whether intentional or not, poses a significant threat to the biodiversity and ecological health of both terrestrial and aquatic ecosystems. There are over 45 international instruments and 24 UK domestic legislative provisions relating to the introduction and management of non-native species and pathogens. DEFRA has overarching responsibility whilst other agencies / committees with a role to play include the

Environment Agency; consultative bodies, e.g. Countryside Council for Wales and JNCC; Forestry Commission; HM Customs & Excise; local authorities; NGOs, e.g. RSPB, Wildlife Trusts, National Trust; trade organisations. Controls on releases to the wild are enacted primarily through the Wildlife and Countryside Act 1981. A broad review of the legislation and its application in the UK and elsewhere in the world is given in “*Review of Non-Native Species Legislation and Guidance*”, October 2001, Ecoscope Consultants on behalf of DEFRA. The presence of alien plants, e.g. Japanese Knotweed on land and Sargassum in the sea and animal species, e.g. terrapins in Bosherton Lilyponds, is already a problem in the County. The arrival of vessels from foreign waters always carries a risk of importation of alien species and pathogens either attached to the hulls or in the ballast water. On land, the scientific and environmental implications of proposals to introduce genetically modified (GM) crops to the County are as yet unknown.

The area of jurisdiction of a coastal Local Authority generally coincides with the authority’s administrative boundary, which under the provisions of S.72 of the Local Government Act 1972 is taken as including the intertidal area down to the low water mark. However this boundary may be extended seaward where :

- Waters within their area are located internal to baseline, e.g. estuaries, creeks, inlets and channels
- It is provided for by local Act of Parliament, Byelaw or Ministerial Order, for instance in the case of harbour authorities
- A public general Act extends it for particular statutory functions

A detailed and helpful review of the local authority position is given in “*Extent of Local Authority Jurisdiction in the Marine Environment*” December 2000, a report prepared for the European Wildlife Division of the Department of the Environment, Transport and the Regions.

Since the introduction of the Sea Fisheries (Wildlife Conservation) Act 1992, Ministers and Sea Fisheries Committees have been obliged to have regard to the conservation of marine flora and fauna in the discharge of any of their functions under Sea Fisheries Acts and to achieve a reasonable balance between that and any other considerations to which they are required to have regard. The South Wales Sea Fisheries Committee is likely to be required to introduce and to enforce Byelaws to meet the UK’s obligations under the Habitats and Birds Directives in Pembrokeshire.

ORGANISATIONS AND OTHER INTERESTS INVOLVED

Environment Agency Wales; Milford Haven Port Authority / Milford Docks Company; Pembrokeshire County Council; Pembrokeshire College; Wildlife Trust of South & West Wales (including the Skomer and Skokholm Conservation Committee and the Friends of Skomer and Skokholm); Welsh Assembly Government; Royal Society for the Protection of Birds; Countryside Council for Wales; Marine Conservation Society; South Wales Sea Fisheries Committee; Pembrokeshire Coastal Forum; Pembrokeshire Coast National Park Authority; Pembrokeshire Rivers Trust; International Fund for Animal Welfare; National Trust; The Darwin Centre for Biology and Medicine; Field Studies Council; Keep Wales Tidy / Coast Care; Joint Nature Conservation Committee; Joint Nature Conservation Committee (incl. its Seabirds and Cetaceans Team); Centre for Environment, Fisheries and Aquaculture Science; The Wildfowl & Wetlands Trust; Botanical Society of the British Isles; British Association of Shooting and Conservation; Pembrokeshire Environmental Forum; Pembrokeshire Biodiversity Initiative; Milford Haven Waterway Environmental Surveillance Group; South & West Wales Fishing Communities Ltd.; Pembrokeshire Wildfowlers Association; West Wales National Contingency Plan Environment Group; West Wales Badger Group; Pembrokeshire Heathlands Partnership; Pembrokeshire Biodiversity Partnership; Carmarthen Bay and Estuaries candidate SAC Partnership; Cardigan Bay SAC Partnership; Pembrokeshire Marine SAC Partnership; Green Sea Partnership; Landmap Partnership; Arena Network; Friends of the Earth; Skomer Marine Nature Reserve Advisory Committee; Pembrokeshire Outdoor Charter Group;

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INTERACTIONS

The following interactions are particularly relevant to this Topic Area in Pembrokeshire :

- Some wildlife and habitats are at risk from some recreational, commercial and development activities
- Much of the County's economic activity through tourism, agriculture, fishing and related businesses is dependent on the maintenance of a high quality environment and biodiversity

- Some elements of the County's economic activity can have an impact on the quality of the environment and the diversity of its wildlife and habitats
- Pembrokeshire has a range of resources suitable for developing renewable and fossil fuel industries in the County but these carry a risk of environmental and ecological degradation
- Infrastructure developments to accommodate increasing demands of the resident and visiting populations of the County can carry a risk of environmental and ecological degradation

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ISSUES

General Environmental Issues

1. DSP and other algal toxins can have a significant impact on shellfish and other marine fauna, e.g. in the Milford Haven Waterway
2. The environmental impact of maintenance dredging on the Haven waterway is not fully known
3. The environmental impact of the dumping of dredged spoil from the Milford Haven Waterway is inadequately known
4. Environmental impact of beach litter
5. Lack of data on current and future possible effects of global warming on marine ecosystems
6. The presence of persistent inert pollutants (plastics/nylon, etc.) in the marine environment creates a hazard for humans and wildlife and environmental and aesthetic degradation
7. Lack of adequate marine ecological surveillance / monitoring to provide baseline information makes informed decision making and effective management very difficult
8. Knowledge of the long-term effects of oil spillages especially on micro-organisms is lacking
9. Chronic inputs of hydrocarbons to the environment, e.g. through urban run-off

10. The lack of true Regional control of fishing and other activities out to the 12 mile limit seriously restricts the ability of the regulators to effectively manage and develop the fauna, flora and habitats of coastal marine waters
11. Adherence to the principle of “shared access to a common resource” provides little incentive to the fishing industry to adopt conservation measures and practices
12. The likely impacts of climate change on marine ecosystems are unknown
13. Any increase in tourist numbers and activity in the County will need to be carefully managed to prevent environmental damage and disturbance
14. The risk of serious pollution and environmental damage arising from a major oil discharge or other similar incident is still present.
15. Algal blooms, which have wildlife and human health implications, still occur in the Pembroke Mill Pond
16. Discharges of poor quality effluent from Merlin’s Bridge STW, Crundale Pumping Station, and the Haverfordwest sewage scheme continue to have adverse environmental impacts
17. Low dissolved oxygen levels in estuaries at periods of low freshwater discharge and high temperatures can create a chemical barrier to the passage of fish and can lead to ecological damage
18. There is a risk of importation of undesirable alien pathogens in illegally discharged ballast water

Species related issues

19. Plants used for local regeneration / habitat enhancement schemes should come from local sources
20. *Sabella* spp. and other sensitive species are adversely affected by bait digging on the Gann Flats – a SSSI – leading to possible decline in biodiversity
21. Perceived increase in populations of grey seals around Pembrokeshire’s coast is reducing profitability and therefore viability of some commercial fishing operations through damage to gear and to loss of / damage to fish in nets
22. Risk of introduction of alien species on ships’ hulls
23. There is an apparent decline in mega-cetacean (Orca, Basking Shark) records in Pembrokeshire over the last 20 years
24. *Sargassum muticum*, an alien invasive marine weed, has been identified at Dale Road

25. Populations of many commercially fished species are declining due to e.g. over-fishing, climate change with resulting changes in ecological balances
26. Some perceive that there is a possible risk of disease transfer between dogs and seals
27. There is a risk of entanglement of turtles, seals and cetacean species in fishing gear and pot / mooring ropes
28. Shad and lamprey species are only known as occasional nomads in the coastal waters of Pembrokeshire and are not known to breed locally.
29. Alien species could be introduced to local waters attached to the hulls of vessels or in illegally discharged bilge tank water
30. Some marine species can be adversely affected by the presence of anti-foulant in the water which has washed off the hulls of large ships
31. Over-fishing of whelks in Carmarthen Bay is believed to be leading to population decline
32. There is a lack of information for the public on the presence and dangers of weever fish
33. Alien invasive weeds, e.g. Japanese Knotweed, are encroaching in some coastal locations
34. Salmon stocks are declining for a number of high seas and in-river reasons
35. Nest robbing of some rare and LBAP bird species is still continuing
36. The conservation status of the Harbour Porpoise should be strengthened to afford it greater protection

Habitat related issues

37. Land claim in the inter-tidal zone can lead to loss of inter-tidal habitat and ecosystems, e.g. Coshaston Pill, Pembroke River, Castle Pill, Westfield Pill, Pembroke Foreshore, Fishguard (Goodwick Marina proposal)
38. The full ecological footprint of renewable energy schemes is unknown and should be assessed
39. The full ecological footprint of the oil refineries is unknown and should be assessed
40. Environmentally inappropriate coastal defence schemes can cause loss of habitat and biodiversity
41. Loss of sand from some south Pembrokeshire beaches is creating changes to ecosystems and biodiversity

42. Sheep grazing is believed to be causing degradation of coastal heath and loss of vegetative diversity in the section of cliff top between Abercastle and Pwll Deri
43. Changing agricultural practices (e.g. larger units, specialisation, loss of traditional skills, move from hay to silage cropping, increased mechanisation and chemical use) are contributing to habitat and species loss and reduction in biodiversity
44. Land use changes are contributing to a loss of breeding habitat for waders and other coastal species
45. The true environmental impact of the introduction of GM crops and its significance to the Pembrokeshire countryside are unknown and need to be assessed
46. Some land use practices can result in or exacerbate river corridor and wetland degradation resulting in loss of habitat for migratory fish, changes in freshwater discharge patterns and increased silt deposition in estuaries and coastal waters resulting from increased channel erosion and land loss
47. A lack of areas of ‘unmolested” (pristine) habitat and communities prevents the comparative study of habitats and ecosystems against baselines

Direct human interaction issues

48. Injudicious use of nitrates, herbicides, insecticides and other chemicals can result in significant environmental damage and loss of biodiversity
49. Some forms of fishing gear can have a detrimental impact on the sea bed and its wildlife
50. Tankers moored in St. Brides Bay pose a pollution threat from illegal discharges and dumping
51. Wildlife boating trips around islands, e.g. Caldey Island, and elsewhere can cause disturbance of seals and other coastal wildlife
52. Inadequate regulation of recreational users in a number of environmentally sensitive areas can result in environmental disturbance and there should be greater use of zonation, licensing and enforcement activity
53. Research is required to properly evaluate the potential impact of marine and land based renewable energy schemes
54. Fishing and other boat related litter creates a hazard to wildlife and humans and causes environmental and aesthetic degradation
55. Sewage and other discharges into rivers and coastal waters can have significant impacts on marine and estuarial ecosystems and biodiversity

56. Horses and/or dogs on the foreshore and its hinterland can cause disturbance to wild species and habitats
57. Inappropriate coastering activity can impact on fragile habitats and species
58. Powered craft can disturb nesting birds in the Daugleddau area
59. Wildfowling activity is perceived to cause disturbance to wildlife in the Daugleddau area
60. Bait collecting can have an impact on shoreline species and habitats
61. Some commercial fishing practices take a significant by-catch of non target species with resulting impacts on populations of those species
62. The extent and significance of species removal by divers for the table or the curio shelf are unknown
63. Inappropriate development can have significant adverse impact on ecosystems and biodiversity
64. Agricultural, urban and industrial run-off / seepage can have significant adverse impacts on the environment and wildlife communities
65. Plastic coverings from early potato fields being blown into the coastal zone can have damaging environmental and aesthetic consequences
66. The true environmental impact of aggregate dredging proposals in Carmarthen Bay is unknown and difficult to assess
67. Industrial fishing of sandeels and other small species can lead to population decline and a loss of food prey for other species

Conservation/Environmental designation issues

68. Inadequate resources are committed to the management, monitoring and enforcement of SSSIs and other designated areas
69. Inadequate funding / resources are available for increasing public awareness of environmental / conservation issues
70. There is public concern about the possible adverse effects of 'green' initiatives
71. Constraints on activities in the areas of designation threaten to limit some areas of socio-economic development in coastal communities
72. The challenge raised by the contrasting arguments of environment v economy in relation to the Port and the petro-chemical industry in the Haven remains unresolved
73. There is a lack of scientific data on which to base decisions relating to the determination and implementation of Management Plans for SACs

74. There is a lack of public awareness as to the true possible effects of SACs, SPAs, etc. on local communities and economies
75. There is widespread public ignorance, confusion and concern about the scale and complexity of conservation / environmental designations and regulations
76. There is a lack of clarity as to the purpose and final desired outcomes of the conservation designations – pristine? optimal sustainable yield?
77. Castle Pill is not included in Pembrokeshire Marine cSAC
78. Strumble Head and its porpoise populations are not included in a designated cSAC
79. Conservation measures introduced to protect one species might be to the detriment of another – who decides?
80. Interpretative material should be displayed at the SSSI site at Broadhaven North to explain why it is a special site
81. There is no provision for payment of compensation or “set aside” for those businesses affected by the introduction of conservation designated areas

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Last amended 19th August 2003