Coastal Conservation in Europe, Especially the United Kingdom

John Marsh
Trent University

Abstract

This paper summarises some aspects of coastal conservation in Europe, especially the United Kingdom, to provide the basis for a comparison with the situation in Canada. First, the characteristics of European coasts are described, and the threats to them, which provide the motivation for conservation. Second, some multi-national approaches to coastal conservation are identified. Third, the main types of protected areas and designations used for coastal conservation in the U.K. are reviewed. Fourth, some of the problems encountered with these approaches to coastal conservation are noted. Finally, some lessons for Canada are suggested.

Introduction

This paper aims to provide a basis for considering coastal conservation and a comparative, perhaps guiding, perspective for coastal conservation in Canada. It summarises some aspects of coastal conservation in Europe, especially the United Kingdom (U.K.). First, the characteristics of European coasts are described, and the threats to them which provide the motivation for conservation. Second, some multi-national approaches to coastal conservation are identified. Third, the main types of protected areas and designations used for coastal conservation in the U.K. are reviewed. Fourth, some of the problems encountered with these approaches to coastal conservation are noted. Finally, some conclusions are reached and lessons for Canada suggested.

In much of Europe, especially the U.K., there are two treasured landscapes: the countryside and the coast. According to Byron, the renowned nineteenth century traveler and poet:

There is rapture on the lonely shore,
There is society where none intrudes,
By the deep sea, and music in its roar.

Corbin (1994) has documented "the desire for the shore" and the resultant "discovery of the seaside" that developed in western Europe at this time. More recently, the travel writer Paul Theroux recognised the importance of the coast in Britain when he

stated: "Britain was its coast" and added that "nowhere in Britain was more than sixty-five miles from the sea," "people naturally gravitated to the coast" (Theroux, 1984: 6).

But, what is "the coast"? According to Carter, the coast is a zone that can be defined as follows:

> *"That space in which terrestrial environments influence marine (or lacustrine) environments and vice versa. The coastal zone is of variable width and may also change in time. Delimitation of zonal boundaries is not normally possible, more often such limits are marked by an environmental gradient or transition. At any one locality the coastal zone may be characterized according to physical, biological or cultural criteria. These need not, and in fact rarely do, coincide"* (Carter, 1991: 1).

For Europe, the following parameters and features have been used since 1996 to define the coastal zone:

- 12 miles seaward of the coastline (the territorial waters);
- 10 kilometers (km) landward of the land side of coastal structures or areas, or (if coastal structures or areas are not present) 10 km landward of the coastline;
- coastal structures include coastal water bodies such as estuaries and lagoons up to tidal propagation and terrestrial structures such as dunes; and,
- coastal areas include the area below sea level. (Laurens *et al.*, 1997: 4)

In examining the interaction between people and the coast of Atlantic Europe over thousands of years, Cunliffe (2001: 567) suggested an even wider zone, "allowing land within 50 kilometres of the sea to be considered maritime."

With respect to the geomorphology of the coast, Ritchie notes that "for low soft coastlines, the present practice of setting the boundary of the coast at high water or low water mark is unsatisfactory. Fundamental coastal geomorphological teaching emphasizes the need to define the system as beginning at wave base, or if that is not possible, the breaker zone" (1992: 49).

The United Nations Environment Programme suggests a flexible approach to the definition of the coastal zone. One of its Principles of Integrated Coastal Zone Management is that: "coastal zone management boundaries should be issue-based and adaptive" (UNEP, 2001: 1).

Whatever spatial extent of land and sea is selected to define the coast, the main

thing is to recognize, "the great linkage between marine, coastal and terrestrial realms, which precludes the effective management of a marine area independent of managing adjacent land habitats." (Salm and Clarke, 1997: 2)

The Coasts of Europe

Characteristics

The coasts of Europe can be placed in a broader context and classified according to a global classification. Inman and Nordstrom (1971) have classified the world's coasts based on tectonic and morphological characteristics, as follows:

- Mountain coasts;
- Narrow shelf (headlands and bays, coastal plain);
- Wide shelf (headlands and bays, coastal plain);
- Deltaic coast;
- Reef coast; and
- Glaciated coast.

Europe has examples of many of the above coasts. It has mountain coasts, some narrow shelf headlands and bays, wide shelf headlands and bays and coastal plains, a few deltaic coasts, and glaciated coasts. Often regarded as a continent of peninsulas, Europe has a longer coastline in relation to its area than any other continent. The U.K. alone has more than 15,000 kms of coastline. According to Fisher: "The British coasts have indeed everything – from towering cliffs rising several hundred feet sheer from deep water to mud flats a mile or more wide uncovered by every tide; from restless shingle spits and moving sand dunes to granite headlands which see little change in a century" (Fisher *et al.*, 1963: viii).

The coasts are a product of geology, climate change, erosion, deposition, and human interference (Ashton, 1909). The shoreline of Great Britain is mainly a shoreline of submergence resulting from the melting of the Pleistocene ice sheets and the consequent rise in sea level. Steers, a pioneer of coastal geomorphology in Britain, emphasized the dynamic nature of coasts.

> *"A coast is far from static. Erosion is cutting back many parts, others are extending by the growth of sand or shingle banks and marshes, much is still slowly sinking partly as a result of isostatic movement, partly because of a slight recent rise in sea level following the melting of ice in polar regions. Parts, despite eustatic movements, are rising more quickly than is the sea level. There are abundant instances of raised beaches and submerged forests, and today's movements are but a continuation of those responsible for these features"* (Steers, 1964: 552-3).

Accelerated climate change in future decades, and rising sea levels, will make coasts even more dynamic, and pose new challenges to conserving them. Spenser and French affirm this in stating that "even the most recent downgraded predictions of global-warming related sea level rise imply a significant acceleration of the historical trend to which coastal landforms have responded over the present century. The nature of landform response is such as to render wide-ranging biogeographical inventories inadequate as a foundation for site-specific conservation management programmes. (Spencer and French, 2002: 73).

Values of Coasts

Coasts have a wide range of values. They include geological/geomorphological, vegetation, wildlife, scenery, amenity, and symbolic/spiritual values. And, of course, coasts are valued for ports, resource extraction, power development, urban development, waste disposal and military purposes. Unfortunately some values may conflict with others to the point of being regarded as threats. The United Nations Environment Programme (UNEP) acknowledges this in stating: "Almost all coastal and marine areas produce or support multiple products and services. Sectoral solutions usually 'transfer' the problem between resources, products and services. But coastal resources cannot be sustainably used by any interest group as their exclusive right... There is, therefore, a need to bring sectoral activities together to achieve a commonly acceptable coastal management framework" (UNEP, 2001: 1). Nevertheless, Salm and Clark (1984: 1) contend that "using resources in the coastal zone and ocean requires that some areas be retained in their natural states. Safeguarding critical habitat for fish production, preserving genetic resources, protecting scenic and coastal areas, and enjoying our natural heritage all may sometimes require the strict protection of natural areas."

The wide range of values of coasts is reflected in the potential reasons offered for conserving sites with special earth science features in Britain:

- preservation of our heritage for the future;
- research to advance science and industry;
- training of earth scientists;
- providing a teaching facility for schools;
- forming part of a leisure industry; and,
- for aesthetic, amenity, historical, cultural and wildlife value.

(Nature Conservancy Council, 1990)

Threats

In the 1960s the National Trust of the U.K., a non-governmental, charitable, environmental organization, had "become deeply concerned about the rapidly accelerating loss of outstandingly beautiful, hitherto unharmed coastline to unsuitable development. It was calculated that nearly three-quarters of the coast had been

damaged beyond retrieval, most of it in the previous fifty years" (Soper, 1984: 9). At the same time, Steers noted some of the specific threats to the coast of England and Wales. "Many miles of the coast are already spoiled by ill-planned and ill-sited bungalows and villas. Other parts are ruined by unsightly mining and manufacturing development or by past and present quarrying. At the present time nuclear stations are an additional menace" (Steers, 1960: 13). Nevertheless, Steers did believe that "there is no need to spoil the coast when it is made more accessible to the visitor. But foresight and careful planning are required, especially in view of the greater popularity which the future constantly brings to the coast." He went on to stress that "more and more people wish to enjoy the *natural* beauties of the coast. They will be able to do so with greater satisfaction to themselves if systematic planning takes place, for without planning the spoiling of the coast will continue. But planning must include all tourist amenities, including car-parks. Every year the problem becomes more difficult, and it is largely because we have failed to take an overall view" (Steers, 1960: 13).

Concern about threats to the coast continued into the 1970s and 1980s. "The threat to the coast still comes from development, but there is another, perhaps more formidable threat that has been widely recognized in recent years – pollution. This is not only the pollution of building, of car parks, of trampling feet, of acid-laden rain, but pollution from the sea itself" (Soper, 1984: 9). Theroux also commented on this at the resort of Margate; "There were about ten people standing on the sandy beach, but no one was swimming. They were peering at an oil slick that was a smooth puddle in the sea" (Theroux, 1984: 16).

In 1991, Carter identified the following coastal issues:

- storm hazard mitigation;
- control of shoreline;
- recreational despoilation and destabalization of the coast;
- wetland and estuary reclamation;
- waste disposal into coastal environments;
- siting of power plants by the coast;
- uncontrolled exploitation and enrichment of coastal ecosystems; and,
- saline intrusion into coastal aquifers due to abstraction of groundwater.

He noted that "it is often said that France only became aware of the need to manage its valuable coastal resources after the Amoco Cadiz spilt 200,000 tonnes of oil onto the Brittany shoreline" Carter (1991: 5).

With respect to the impact of recreation on the coast Carter observed that:

> *"The widespread and often insensitive marketing of coastal recreation in the last 40 years has led not only to the ugly disfigurement of many previously scenic coasts, but also to the economic disruption of many previously balanced local economies. Nowhere is this more evident than in the Mediterranean, where many small island communities have been saturated by new service industries, displacing traditional trades and crafts. All too often, lack of foresight in recreation development has led to the destruction of fragile ecosystems. This is ironic, as it was often the attraction of these ecosystems that encouraged the initial development."* (Carter, 1991: 3)

With specific reference to the impacts of tourism on the Atlantic coast of France, Miossec (1988: 1) reported that: "beaches are losing sand because of seafront embankments, littoral dunes are deteriorating and marinas are becoming silted." He asked therefore, whether when faced with pressures from municipalities, tourism development groups and other interests, are "...those responsible for the protection of coasts still are provided with the suitable means that take into account the specific nature of the environment."

The Fifth European Community Environment Programme Towards Sustainability, for the period 1992-2000, in describing the state of the European environment, referred, amongst other things, to: "deterioration of the coastal environment," "pollution of marine waters," and tourism "leading to a deterioration of mountain and coastal regions" (European Community, 1998).

In 1997, the following were identified as "environmental issues relevant for the European Coastal Zone" (Laurens *et al.*, 1997: 4):

- eutrophication/saprobiation;
- heavy metal pollution;
- antibiotics;
- persistent organic compound pollution;
- oil pollution;
- loss and degradation of habitats;
- thermal pollution;
- resource depletion - groundwater;
- resource depletion – gravel;
- coastal erosion;
- climate change;
- waste;

- overfishing;
- loss of biodiversity and genetic resources; and,
- introduction of foreign species.

While living in the 1950s and 1960s besides the Dee Estuary on the north-west coast of England, I witnessed the steady encroachment on the estuary mudflats of one such foreign species, *Spartina townsendii*. *Spartina* first appeared on the south coast of England in 1870 and it has been spreading ever since, especially in muddy estuaries, such as Poole Harbour on the south coast and the Dee Estuary. Steers noted that "it makes those areas where it grows firmer and less liable to erosion, and because of its rapid increase it is, under control, a valuable ally and is introduced for the purposes of reclamation. But left to itself to grow in a wild condition, it is apt to spread too quickly and even to upset navigation" (1960: 10). The spread of Spartina in the Dee Estuary not only disrupted navigation but also reduced recreational beaches and fisheries, and encouraged proposals for land reclamation.

As recently as 2001, English Nature warned that "the last of our coastal wilderness is being squeezed out of existence," "our estuaries are being strangled and our coast eroded due to last century's flood defence technology," so "our children will no longer enjoy the wonders of coastal wildlife." "We have to do a deal with nature" (English Nature, 2001: 1).

Given the increasing threats to the long valued coastline of Europe, more and more effort has been made in recent decades, at regional, national and local scales, to protect the coastline.

Regional Coastal Conservation in Europe

In 1975, the United Nations Environment Program (UNEP) started the Regional Seas Program (RSP) with an inaugural project on the Mediterranean Sea. Carter summarized the situation to be addressed by the project thus: "The Mediterranean is surrounded by 18 nations with over 200 million inhabitants, and attracts 100 million visitors every year. Declining environmental standards in water quality, biological production, aesthetics, etc., were combining to produce a crisis, presaging environmental and ultimately economic collapse."

An Action Plan has "led to numerous attempts to clean up the coast, and to reduce further degradation" (Carter, 1991: 4). While the emphasis has been on reducing pollution, in 1982, a Specially Protected Areas Protocol was adopted, and a Centre established that "provides training and advice on the creation and management of protected areas and works on the implementation of specific action plans for the protection of endangered species..." In 1995, a new protocol was adopted which

called for "The establishment of a list of Specially Protected Areas of Mediterranean Importance (SPAMI) in order to conserve biodiversity and to contain specific Mediterranean ecosystems" (MAP, 2002).

An evaluation of various integrated coastal management (ICM) projects in the Mediterranean in 1997 indicated that more than half were successful. However, integration had proved difficult and governance and participation, especially of the general public, were weak in all projects. Furthermore, most projects, especially those in the developing countries, had poor financial prospects for ensuring the sustainability of coastal conservation (Trumbic, 1997: 13-14). Many more regional coastal conservation initiatives have been taken in Europe, especially since the creation of the European Union (E.U.). These include:

- 1982 Declaration on Wadden Sea. The three countries around the Wadden Sea declared their intention to coordinate their activities to implement legal instruments to protect the natural environment (de Jong, 1997);
- Blue Flag Scheme. UNEP and WTO set standards for, and recognize clean Beaches (UNEP, 1996; Anon, 2002a);
- 1992, E.U., Natura 2000, Special Areas of Conservation declared to maintain biodiversity;
- 1993, E.U. Integrated Management in Coastal Zones, 35 Demonstration Programmes;
- 1994, E.U. Convention on the Protection of the Baltic Sea, to reduce pollution;
- 1995, MAP, Protocol on Specially Protected Areas of Mediterranean Importance; and,
- 1999, World Wildlife Fund (WWF) Proposal for Marine Protected Areas in the North-East Atlantic - European Environment Agency, Centre on Marine and Coastal Environment, State of Europe's Coast Report.

In contrast to comprehensive coastal zone management in the United States, impelled by the United States Coastal Zone Management Act (1972), many states, such as Britain and France, have had a more ad hoc approach (Carter, 1991: 5). "The grafting of coastal management onto existing administrative, judicial, and legislative structures is not easy and often results in inter-agency conflict. Resolution of such conflicts inevitably requires compromise solutions, so that the coast suffers from less effective management." In Europe engineering approaches to solve coastal problems seem more entrenched than in the U.S.A. (Carter, 1991: 8).

Coastal Protected Areas in the United Kingdom

In 1960 Steers, writing about the coast of England and Wales, felt obliged "to call attention to the importance of preserving a most valuable national heritage. There is no need to spoil the coast when it is made more accessible to the visitor" but "foresight and careful planning are required" (Steers, 1960: 13). In 1969, Steers also noted that we "must appreciate that conservation means the right use of the coast for the benefit of all; it does not mean indiscriminate development of any sort, nor does it mean prohibition to use the coast and enjoy it. In recent years there has been a considerable increase in the attention given to coasts. This has come about in several ways, the chief of which are: the consequences of the great storm surge of 1953, the ever-increasing demand for coastal holidays, and the large number of scientific studies of the coast" (Steers, 1969: v, vi).

In 1963, the Ministry of Housing and Local Government asked local planning authorities in England and Wales to make a special study of their coastal areas, and to write into their development plans a policy which would be their answer to four questions:

1. Which parts of the coast need safeguarding so that their natural attrac tions may be enjoyed to the full?
2. In which parts of the coast should facilities for holidaymakers and other developments be concentrated?
3. What steps should be taken to restore lost amenities and to create new ones?
4. What areas of scientific interest are there which need special consideration in relation to the use of the coast?" (National Parks Commission, 1968: 1).

In 1965, the National Parks Commission arranged a series of "coastal regional conferences" to provide the Minister with "a map and statement, demonstrating coastal planning policy, to be drawn up and acted upon (National Parks Commission, 1968: 1). The maps prepared by the local planning authorities showed the location of coastal built up areas and of coastal land allocated for development, the locations of maximum pressure of holiday use, and the degree of protection afforded unbuilt coastal areas by various forms of designation. The Commission also initiated three special studies, including one by the Nature Conservancy to identify and classify coastal places of scientific interest. Over ten Acts of Parliament were identified which allowed for the acquisition or appropriation of land for public open space and other recreational purposes. Some of these Acts enabled the creation of protected areas.

Protected Areas in General

In 1997, Bishop *et al.* identified 29 different types of protected areas used for the conservation of wildlife and landscape in the United Kingdom (Bishop *et al.*, 1997: 81). They defined a protected area as "an area of land and/or sea especially dedicated to the protection and management of scenic, wildlife, heritage and/or other environmental values." The types of protected areas and the region of the U.K. where they apply are given in Table 1 (Bishop, *et al.*, 1997: 86).

Table 1. Geographical application of protected areas.

Protected Area	Regional Application
Area of Outstanding Natural Beauty	E, W
Area of Outstanding Natural Beauty (Northern Ireland)	NI
Area of Special Protection	E, S, W
Area of Special Scientific Interest	NI
Biogenetic Reserve	E, NI, S, W
Biosphere Reserve	E ,NI, S, W
Countryside Stewardship	E
Environmentally Sensitive Area	E, NI, S, W
European Marine Site	E, NI, S, W
Forest Nature Reserve	E, NI, S, W
Forest Park	E, NI, S, W
Heritage Coast	E, W
Local Nature Reserve	E, NI, S, W
Marine Consultation Area	S
Marine Nature Reserve	E, NI, S, W
National Park	E, NI, W
National Scenic Area	S
Natural Heritage Area	S
Nitrate Sensitive Area	E, NI, S, W
Ramsar Site	E, NI, S, W
Regional Park	S
Site of Community Importance	E, NI, S, W
Site of Special Scientific Interest	E, NI, S, W
Special Area of Conservation	E, NI, S, W
Special Protection Area	E, NI, S, W
Tir Cymen	W
Water Protection Zone	E, W
World Heritage Site	E, NI, S, W

(E=England, NI=Northern Ireland, S=Scotland, W=Wales)

"Most of the protected areas operate indirectly through the planning system and/or voluntary agreements. However, a distinction is drawn between systems for nature conservation and landscape protection with the former relying more on direct controls (ownership and/or legal force)" (Bishop, *et al.*, 1997: 81).

Coastal and Marine Protected Areas

In the 1960s a survey led to the conclusion that "only some 900 miles of the 3000 miles round the shores of England, Wales and Northern Ireland were worth preserving" (Soper, 1984: 9). At this time, the National Trust owned or protected about 165 miles. In May 1965, Enterprise Neptune was launched by HRH The Duke of Edinburgh and the National Trust. Its aim was to raise L2 million to "purchase, endow, improve or buy covenants over desirable coastlands as and when they came on the market" (Soper, 1984: 9). By 1984, Enterprise Neptune had raised nearly L7 million and was half way to its target of 900 miles of protected coast. The following year, the National Trust re-launched Enterprise Neptune "to enable us to own and protect permanently those outstanding and precious stretches" of coast still worth preserving (Gibson, 1985: 12). After acquisition by the National Trust, most such stretches of coast have been designated as protected areas of one type or another.

Many of the 29 types of protected areas identified by Bishop *et al.* in 1997 are used to protect land with a coastal frontage. Some examples of these types of protected area that have coastal frontage will now be provided.

National Parks

National Parks have been designated since 1951 in England and Wales by the Countryside Commission. They are intended to protect natural beauty and provide opportunities for recreation, while allowing various rural land uses such as agriculture, forestry and villages to continue. Most land, at least 50% in each park, is owned privately or by the National Trust. The local authority must consult the Countryside Commission when reviewing plans for development in the parks and "take any action that will aid the purposes of the designation" (Countryside Commission: 1970). Six of the 11 national parks have a coastal terrestrial component, however only one, the Pembrokeshire Coast National Park in Wales, is entirely coastal in its emphasis. It covers 58,300 ha and has various coastal habitats such as the exposed cliffs of St. David's Head and the sandy beaches of St. Bride's Bay (Gubbay, 1986). Other national parks have a terrestrial emphasis but may have short sections of coast. For example, the Lake District National Park, in north-west England, includes three sections of coast totaling 20 miles. Major towns and areas of development on the coast were left outside the boundary of the park when it was designated, so most of the coast within the park is relatively natural and free of major development pressures.

Areas of Outstanding Natural Beauty

Areas of Outstanding Natural Beauty (AONB) have been designated since 1956 in England and Wales by the Countryside Commission. They are intended to conserve natural beauty while allowing recreation compatible with this objective and safeguarding agriculture, forestry, other rural industry as well as the economic and social needs of the local communities (Gubbay, 1986: 247). Local authorities were encouraged to develop, planning and management policies for AONBs, set up advisory committees to guide them, and review planning applications for proposed developments. However, given that in 1999, the Countryside Commission deemed the protection and management of AONBs "largely unsatisfactory and insufficient," steps are now being taken by the government to strengthen the legislation, financing and management of these areas (Anon, 1999b). Over half the 37 AONBs border the coast, especially of East Anglia, Isle of Wight, Dorset and Anglesey. The South Downs AONB, which includes sections of the south coast of England, is now being turned into a national park, though with major debates over which inland and coastal areas should be included (South Downs Campaign, 2002).

National Scenic Areas

In Scotland, the Countryside Commission for Scotland designated areas of scenery "which best combine those features which are most frequently regarded as beautiful" as National Scenic Areas (NSAs) (Countryside Commission for Scotland, 1978). Applications for development within NSAs are dealt with by the local planning authority with advice from the Countryside Commission for Scotland, which can only be ignored with the approval of the Secretary of State for Scotland. Twenty-nine NSAs covering over 1 million ha have frontage on the west coast of Scotland, especially in Ross and Cromarty and the Island of Harris. After decades of debate, Scotland is now designating some areas of scenic and ecological value as National Parks, but so far these have not been coastal areas.

Special Areas of Conservation

Special Areas of Conservation (SACs) were called for in the European Habitats Directive of 1992. These are intended primarily to protect important wildlife habitats, including coastal ones, throughout Europe. Accordingly, since 1997, English Nature has identified 12 Marine SACs, including areas in the Shetland Islands, east and west coasts of Scotland, east, west and south coasts of England, and the coasts of Wales and Northen Ireland. Information is now being obtained to develop management schemes that will conserve these areas. Key local stakeholders are being consulted and a national conference to discuss such areas has been held. It remains to be seen how effective this European initiative will be.

World Heritage Sites

World Heritage status has now been given by UNESCO to several coastal sites in the U.K., namely the Scottish island of St. Kilda, and the Dorset and East Devon

Coast of England (Anon, 2002a). The former site comprises 853 ha of a volcanic archipelago including some of the highest cliffs in Europe which have colonies of rare and endangered species, especially puffins and gannets. It is owned by the National Trust for Scotland which leases it to Scottish National Heritage which manages it. The latter site has approximately 155 km of coastal cliffs that provide an almost continuous sequence of Triassic, Jurassic and Cretaceous rock formations and internationally important fossil beds that have received scientific attention for over 300 years. The majority of the site is under private ownership, but the National Trust, two County Councils and Ministry of Defence own parts.

In Northern Ireland, the 70 ha Giant's Causeway, with over 40,000 spectacular black basaltic columns forming a causeway into the sea, was designated a World Heritage Site in 1986. Most of the site is owned by the National Trust, so it manages the site together with the Moyle District Council and the Department of the Environment for Northern Ireland (World Conservation Monitoring Centre, 2002). While World Heritage status is invariably an overlay status designation to an existing protective designation, it is beneficial because a management plan must be prepared for the area, and monitoring undertaken to ensure that the values recognized by World Heritage designation are being protected.

Special Coastal Designations

Only a few types of protected area are primarily intended to protect coastal and marine areas, namely:

- Heritage Coast;
- Marine Nature Reserve;
- European Marine Site; and,
- Marine Consultation Area.

These types of protected areas have a variety of objectives. Heritage Coasts are intended to protect the landscape and provide recreation and access. Marine Nature Reserves are intended for nature conservation and education and research. European Marine Sites are intended primarily for nature conservation. Marine Consultation Areas are intended primarily for nature conservation. The first two types of protected area, being the longest established, most numerous, and most extensive, are described in more detail below.

Heritage Coasts

The Heritage Coast scheme has no statutory basis and mainly defines the finest stretches of undeveloped coastline with high scenic quality although these boundaries are incorporated in local plans (Countryside Commission, 1970). In many cases Heritage Coasts were originally only defined laterally (minimum 1 mile) and no attempt was made to fix an inland boundary. Ceredigion District Council (Wales)

has recently defined a Marine Heritage Coast extending one mile offshore (Allan, 1997). This would probably have been impossible if Heritage Coasts were defined in statute because most terrestrial designations cannot be applied at sea (Bishop, *et al.*, 1997: 92). The Countryside Commission helped local authorities to define the extent of Heritage Coasts advised them on effective planning approaches and management plans, and gave grants towards staff (such as Heritage Coast Officers and Wardens), and schemes to promote conservation or public enjoyment (Glyptis, 1991).

The first and longest Heritage Coast, designated in 1973, is the North Northumberland Coast. Within four years, a further 30 were designated, including much of the coast of Devon and Cornwall (Anon., 1999a). There are now 43 Heritage Coasts, encompassing 1460 kms, or 33% of the coast of England and Wales.

Marine Nature Reserves

The U.K. Wildlife and Countryside Act of 1981 provided for the establishment of Marine Nature Reserves. Such Reserves can cover "any part of the sea within territorial waters adjacent to Great Britain, or any area in Great Britain between high and low water levels, or a combination of the two" (Nature Conservancy Council, 1982). They are to be managed by the Nature Conservancy Council for the purpose of:

- conserving marine flora or fauna or geological or physiographical features of special interest in the area; or
- providing, under suitable conditions and control, special opportunities for the study of, and research into, matters relating to marine flora and fauna and the physical conditions in which they live, or for the study of geological and physiographical features of special interest in the area. (Wildlife and Countryside Act, 1981: Section 36)

Marine Nature Reserves are protected through bye-laws, most passed by bodies other than the Nature Conservancy Council but with their advice. Such bye-laws can, for example, restrict the entry of vessels and persons, and prohibit the killing or disturbance of animals or plants, and the depositing of garbage in a reserve. It was anticipated in 1981 that the first set of seven reserves would be established within one or two years; however after 15 years there were still only three reserves, namely Lundy, Skomer and the Marloes Peninsula, and Strangford Lough designated in 1986, 1990 and 1995 respectively (Bishop, *et al.*, 1997: 93). The Lundy Reserve comprises the volume of sea and area of sea bed around the island of Lundy in the Bristol Channel defined by latitude and longitude, and extends shoreward to include all land covered continuously or intermittently by tidal waters or parts of the sea (Nature Conservancy Council, 1987). 1100 acres of the island is also designated as a Site of Special Scientific Interest. Special features of the reserve are the cliffs with bird colonies, inter-tidal caves and boulder beaches used by grey seals, rare species of vegetation on rock pinnacles, and shipwrecks (Langham, 1970). Six bye-

laws define the reserve, regulate activities in it, and specify fines for infractions. There is a "Code of Conduct" for shore visitors, divers, boat operators, anglers and fishermen, salvage operators and underwater archeologists. Protection of Skomer and the Marloes Peninsula, off the coast of Wales was initiated in 1968 when the West Wales Naturalists' Trust proposed measures to conserve the area. In 1974 a committeee was established that produced a plan for managing the reserve, and with input from the fishing industry began administering the reserve on a voluntary basis (Huff, 1985).

Problems with the System of Protected Areas

According to Bishop *et al.*, "Most people are unclear as to the purposes of the various types of protected areas". This is a universal problem, hence, the work of the World Conservation Union (IUCN) to develop and gain general acceptance of an international classification and descriptions of protected areas, and the efforts made by specific agencies and at individual areas, through policies and interpretive materials, to explain the purpose of each type of protected area. This problem is compounded by the multiple designation of many areas.

Even when Heritage Coasts were proposed in 1970, it was noted (Countryside Commission, 1970: 2) that: "35 of the 43 defined heritage coasts already coincide with the coastal frontages of national parks and AONBs and the management measures are generally successful in looking after them." Nevertheless, multiple designation of areas has become more and more common. Furthermore, Bishop *et al.* (1997: 101) note that "the majority of overlapping protected areas occurs on the coast, most notably in estuaries." For example, in Wales, the Lleyn Peninsula (including Bardsey Island) contains a Heritage Coast, an Area of Outstanding Beauty, an Environmentally Sensitive Area, a number of Sites of Special Scientific Interest and National Nature Reserves, a possible Site of Community Importance, a European Marine Site, and a proposed Marine Nature Reserve. Another example is Chichester Harbour, 35 miles of the south coast of England, which has an Area of Outstanding Natural Beauty, a Site of Special Scientific Interest, A Ramsar Site, and two local nature reserves (Tittensor and Beale, 1990).

Not only is there concern about the proliferation and overlapping of designations but also about variations in which parts of the U.K. they can be applied. Some types of protected areas apply to only part of the U.K. and there may be separate initiatives in Scotland and Wales. Bishop *et al.* (1997: 81) concluded that "there is scope for some rationalization of the system. Ideally, this would involve replacing existing protected areas with broader based ones, but considerable simplification could be obtained in practice by making the powers of agencies more flexible and changing the administrative arrangements for managing the various protected areas." Increasingly all parts of the U.K. will have to comply with directives from Europe.

The problem of having numerous conservation agencies and designations is rendered more complex because of the many other stakeholders with different interests in, and plans for the coast. Ritchie (1992: 49) has noted that: "Coast conservational management often encounters two closely related obstacles. First, there is an exceptionally large number of bodies with legitimate interests in the coastal zone. Many of these agencies and bodies have conflicting interests and conservation is but an additional factor. Second, planning exists within administrative boundaries which rarely coincide with natural coastal units..." He therefore advocates "enhanced cooperation between adjacent administrative units."

The continuing difficulty of including both marine and terrestrial environments in a single coastal protected area is exemplified by the recent debates over the new South Downs National Park. "A number of arguments were put forward for a marine area to be included within the boundary, beyond the mean low water mark at Seven Sisters. This would require new legislation. However, a number of voluntary methods for conserving marine areas could be considered by a national park authority" (The Countryside Agency, 2002: 2).

Referring to the coastal zone in general, the United Nations Environment Programme concluded in 2001 that "although there have been many attempts to protect coastal areas and to encourage sustainable forms of coastal development, few have been successful. The main reason is that they have largely been sectoral, and there is fierce competition for coastal resources in may areas... (UNEP, 2001: 1).

Conclusion

Europe has a long and varied coastline with many ecological, amenity and resource values. Historically its coast has been modified and degraded in various ways, and pressures to change the coast persist. Global warming and the attendant sea level change are raising interest and concern. Multi-national, regional, national and local initiatives have been taken, mostly in the last fifty years, to protect coastal areas and their values. Protected areas have been an important mechanism, as have been planning controls. However, much less attention is paid to protecting marine areas along the coast. Most protected areas are only terrestrial, few are marine, and very few both. There is a lack of integration of planning and management to protect the terrestrial and marine areas adjacent to the coast. Unfortunately, according to Doody *et al.*, even as recently as 1998, "the desirability of an integrated approach to management has yet to be accepted by all the players active in the coastal zone" (Doody *et al.*, 1998: 6). The European government is now bringing a more consistent, Europe-wide approach and providing incentives to protect the coast. For example, the European Community in its Environment Action Programme for 2001-2010 calls for "the protection and restoration of marine habitats and the coast and extension of the Natura 2000 network (of protected areas) to include them" (European Community, 2002: 3).

In the U.K. there is very heavy pressure on the coast, especially England's more accessible and used coasts, and ongoing threats to nature from pollution. There is a lot of emphasis on the scenic and amenity values of the coast and their protection. Considerable attention has also been given to the identification and protection of geosites, sites of geological or geomorphological significance. Numerous agencies and categories of protected area are serving to protect the coast. Furthermore, non-government organizations, especially the National Trust, have been important in raising interest in coastal conservation and acquiring coastal land for protection.

However, as elsewhere, there has usually been a split between the jurisdiction over, and management of the terrestrial and marine components of the coast, with few agencies and protected areas covering both. The numerous conservation agencies and many overlapping designations are confusing and may be unnecessary. Regional coastal planning and European directives should help to address this issue.

There have been decades of progress with coastal conservation, the designation of numerous protected coastal areas, and increasingly regional and integrated strategies for coastal zone management. Still, many threats to the coast remain, complicated by the likely rise of sea level. So, more effective means for coastal conservation are still needed, as is some rethinking of the role and impact of protected areas in this endeavour. While international comparisons are problematic and the application of procedures used in one country to another must be considered carefully and implemented cautiously, I am sure those of us involved in coastal conservation and protected areas in Canada can learn something from the strengths and weaknesses of coastal conservation in Europe.

Lessons for Canada

The European situation and experience suggests that Canada should:

- Protect the coast while it is still relatively natural;
- Prepare a State of the Coast report regularly;
- Pay more attention to the implications of climatic change for coastal change, degradation and protection;
- Plan coastal conservation on various scales from the continental to the national, regional and local;
- Use a variety of protected area designations, but avoid excessive multiple designations;
- Place more emphasis on marine conservation areas;
- Designate areas with both land and water components;
- Identify and protect sites of geological and geomorphological interest;
- Encourage conservation groups to buy coastline for protection;

- Adopt large scale partnership approaches to integrated planning and conservation;
- Offer financial and tax incentives for coastal conservation; and,
- Increase public education about coastal conservation.

Acknowledgements

Trent University for providing a sabbatical research grant. Department of Geography, The University of Reading University, U.K. for providing a base for undertaking this research.

References

Allan, L. 1997. Focal Point: The Ceredigon Marine Heritage Coast. *CoastNET,* 2 (1): 12.

Anon. 1997. Indicators for Environmental Issues in the European Coastal Zone. *Intercoast Network: International Newsletter of Coastal Management*, 29: 31.

Anon. 1999a. Keeping an Eye on the Coastline: Heritage Coasts. *Countryside: Past, Present and Future.* Countryside Commission, Cheltenham, 8.

Anon. 1999b. Cinderella May Go to the Ball at Last: AONBs. *Countryside: Past, Present and Future.* Countryside Commission, Cheltenham, 5.

Anon. 2001. Cliff Hanger of an Outcome. *English Nature Magazine,* 55: 3.

Anon. 2002a. *Dorset and East Devon Coast Nominated for a World Heritage Site of UNESCO.* International Association of Geomorphologists. [online]. www.geomorph.org/sp/dorset.

Anon. 2002b. French Beaches Lose Ground in Survey. *The Globe and Mail*, Toronto, May 29.

Ashton, W. 1909. *The Battle of Land and Sea on the Lancashire, Cheshire and North Wales Coasts.* John Heywood, London.

Atkinson, J.R. 1966. *A Policy for the Durham Coast.* Durham County Council, Durham,

Bishop, K., A. Phillips and L.M. Warren. 1997. Protected Areas for the Future: Models from the Past. *Journal of Environmental Planning and Management,* 40 (1): 81-110.

Carter, R.W.G. 1991. *Coastal Environments: An Introduction to the Physical, Ecological and Cultural Systems of Coastlines.* Academic Press, London.

Corbin, A. 1994. *The Lure of the Sea: The Discovery of the Seaside, 1750-1840.* Penguin Books, London.

Countryside Commission. 1970. *The Coastal Heritage.* Countryside Commission, London.

Countryside Commission. 1990. *Heritage Coast Policies and Priorities: Draft*

Policy Statement. Countryside Commission, Cheltenham.

Countryside Commission for Scotland. 1978. *Scotland's Scenic Heritage.* Countryside Commission for Scotland, Perth.

Cunliffe, B. 2001. *Facing the Ocean: The Atlantic and its Peoples, 8000 BC – AD 1500.* Oxford University Press, Oxford.

Davidson, N.C. *et al.* 1991. *Nature Conservation and Estuaries in Great Britain.* Nature Conservancy Council, Peterborough.

De Jong, F. 1997. The Wadden Sea: Shared Nature and Common Management" *Intercoast Network: International Newsletter of Coastal Management,* 29: 18-19.

Department of the Environment -Welsh Office. 1992. *Marine Consultation Areas: A Consultation Paper.* Department of the Environment, Welsh Office, London and Cardiff.

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

Doody, J.P., C.F. Pamplin, C. Gilbert and L. Bridge. 1998. *Information Required for Integrated Coastal Zone Management.* Thematic Study F. European Union Demonstration Programme on Integrated Management in Coastal Zones. n.p.

English Nature. 2001. *Living with the Sea: Future Coastlines for People and Wildlife.* Peterborough.

European Community. 1998. *Fifth European Community Environment Programme Towards Sustainability.* Brussels.

European Community. 2002. *Sixth Environment Action Programme. Environment 2010: Our Future, Our Choice.* [online]. www.europa.eu.

Fisher, J., J. Gilmour, J. Huxley and D. Stamp. 1963. Editors' Preface. In: J.A. Steers. *The Sea Coast.* Collins, London, viii-ix.

Gibson, J. and L. Warren. 1995. Legislative Requirements. In: S. Gubbay (Ed.) *Marine Protected Areas: Principles and Techniques for Management.* Chapman and Hall, London.

Gibson, Lord. 1985. Enterprise Neptune. *National Trust,* 44: 12.

Glyptis, S. 1991. *Countryside Recreation.* Longman, Harlow.

Graham, R. and D.W. Huff. *Annotated Bibliography of Underwater and Marine Park Related Initiatives in Northern Latitudes.* Waterloo, ON.

Graham, R. and D. Huff. 1985. Voluntary Marine Nature Reserves: A Case Study of Marine Conservation in England, Scotland and Wales. Pp. 127-145. In: J. Lien and R. Graham. (Eds.). *Marine Parks and Conservation: Challenge and Promise.* National and Provincial Parks Association of Canada, Toronto.

Gubbay, S. 1986. Nature Conservation in the Coastal Zone of Great Britain. *Journal of Shoreline Management,* 2: 241-257.

Gubbay, S. 1990. *A Future for the Coast: Proposals for a U.K. Coastal Zone Management Plan.* WWF and Marine Conservation Society. Ross-on-Wye.

Huff, D. 1985. A Review of Marine Parks and Conservation in Scandinavia and the United Kingdom. Pp.93-106. In: J. Lien and R. Graham. (Eds.). *Marine Parks and Conservation: Challenge and Promise.* National and Provincial Parks

Association of Canada, Toronto.

Inman, D.L. and C. Nordstrom. 1971. *Journal of Geology,* 71: 1-22.

Land Use Consultants. 1992. *The Chichester Harbour Landscape.* Countryside Commission, Cheltenham.

Langham, A. and M. Langham. 1970. *Lundy.* David and Charles, Newton Abbot.

Laurens, J., C. van Zwol and J. Kuperus. 1997. Indicators for Environmental Issues in the European Coastal Zone. *Intercoast Network,* Fall, 3-4: 31.

Lee, M. 2001. Coastal Defence and the Habitats Directive: Predictions of Habitat Change in England and Wales. *The Geographical Journal,* 167 (1): 39-56.

MAP. 2002. *Mediterranean Action Plan.* www.unepmap.org.

Miossec, A. 1988. The Physical Consequences of Touristic Development on the Coastal Zone as Exemplified by the Atlantic Coast of France between Gironde and Finistere. *Ocean and Shoreline Management,* 11: 303-318.

National Parks Commission. 1968. *The Coasts of North-West England.* Her Majesty's Stationery Office, London.

Nature Conservancy Council. 1982. *The Conservation of Coastal Cliffs and Scarps.* Nature Conservancy Council, Shrewsbury.

Nature Conservancy Council. 1982. *Marine Nature Reserves.* Peterborough.

Nature Conservancy Council. 1987. *Lundy Marine Nature Reserve: Code of Conduct and Bye-Laws.* Peterborough.

Nature Conservancy Council. 1990. *Earth Science Conservation in Great Britain: a Strategy.* Peterborough.

Pearce, F. and A.J. Crivelli. 1994. *Characteristics of Mediterranean Wetlands.* Med Wet. Tour du Valat, France.

Ritchie, W. 1992. The Conservation of Coastal Geomorphological Sites. Pp.47-51. In: C. Stevens, J.E. Gordon, C.P. Green and M.G. Macklin. (Eds.) *Conserving Our Landscape: Proceedings of the Conference – Conserving our Landscape: Evolving Landforms and Ice-age Heritage.* Crewe.

Salm, R.V. and J.R. Clark. 1984. *Marine and Coastal Protected Areas: A Guide for Planners and Managers.* IUCN, Gland.

Selman, P. 2000.Editorial. *Landscape Research,* 25 (3): 277-279.

Skomer Marine Reserve Steering Committee. 1976. *Skomer Marine Reserve: Management Plan.* Skomer Marine Reserve Steering Committee. n.p.

Soper, T. 1984. *The National Trust Guide to the Coast.* Webb and Bower, Exeter.

South Downs Campaign. Newsletter, 4, 2002.

Spenser, T. and J.R. French. 1992. Geomorphologically-informed Conservation of Coastal Depositional Landforms and Associated Habitats. Pp. 69-73. In: C. Stevens, J.E. Gordon, C.P. Green, and M.G. Macklin (Eds.) *Conserving Our Landscape: Proceedings of the Conference – Conserving our Landscape: Evolving Landforms and Ice-age Heritage.* Crewe.

Steers, J.A. 1960. *The Coast of England and Wales in Pictures.* Cambridge University Press, Cambridge.

Steers, J.A. 1963. *The Sea Coast.* Collins, London.

Steers, J.A. 1964. *The Coastline of England and Wales.* Cambridge University Press, Cambridge.

Steers, J.A. 1969. *Coasts and Beaches.* Oliver and Boyd, Edinburgh.

Stevens, C., J.E. Gordon, C.P. Green and M.G. Macklin. 1992. *Conserving Our Landscape: Proceedings of the Conference – Conserving our Landscape: Evolving Landforms and Ice-age Heritage.* Crewe.

The Countryside Agency. *South Downs News,* 5, 2002.

Theroux, P. 1984. *The Kingdom by the Sea: A Journey Around Great Britain.* Washington Square Press, New York.

Tittensor, R. and Beale, M. 1990. A landscape for sailing. *Countryside Commission News,* 44: 6.

Trumbic, I. 1997. Evaluation of Coastal Zone Management Initiatives ion the Mediterranean. Intercoast Network: *International Newsletter of Coastal Management,* 29: 13-14.

UNEP (United Nations Environment Programme). 1996. *Awards for Improving the Coastal Environment: The Example of the Blue Flag.* Nairobe.

UNEP (United Nations Environment Programme). 2001. [online]. *Coastal Zone Management.* www.uneptie.org.

United Kingdom, Government of. *Wildlife and Countryside Act, 1981.* Section 36. London.

Vale, E. 1936. *Seas and Shores of England.* London, Batsford.

World Wildlife Fund (WWF) International. 2002. *North Sea Protection on Ministers Agenda.* Living Planet Newsroom, 13: 1.

United Nations Educational, Scientific and Cultural Organization (UNESCO). *Information on World Heritage Sites.* [online]. www.unesco.org/whc/sites.

Warren, L.M. 1989. *Statutory Marine Nature Areas in Great Britain: A Progress Report.* Worldwide Fund for Nature, Godalming.

World Conservation Monitoring Centre. 2002. *World Heritage Sites.* Cambridge.