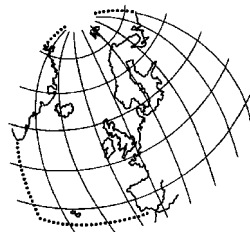


Biodiversity Series

Tourism



OSPAR Commission
2003

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”) was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Community and Spain.

La Convention pour la protection du milieu marin de l'Atlantique du nord-est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par la Communauté européenne et l'Espagne.

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contents

Executive Summary	4
Récapitulatif	5
1. Introduction	7
2. Environmental impacts of tourism in coastal zones	7
2.1 Negative impacts	7
2.1.1 Pressure on natural resources: land, water and local resources	8
2.1.2 Wildlife	10
2.1.3 Pollution: water, land, air, noise and aesthetic	10
2.2 Other remarks	12
3. Measures for the management of the environmental impacts of tourism in coastal zones	13
3.1 Managing tourism in the context of an ICZM strategy	13
3.2 Managing tourism towards sustainability	17
3.2.1 Role of Governments	17
3.2.2 Role of tourist industry	19
3.2.3 Role of the consumer	20
4. Identification of existing actions	21
5. Choice of possible actions for the development of sustainable tourism in coastal zones of OSPAR maritime area	25
References	28

EXECUTIVE SUMMARY

The 1998 OSPAR Biodiversity and Ecosystems Strategy provided that the Commission would examine tourism and recreational activities, with the aim of identifying whether specific activities of this kind require further assessment. A Background Document on tourism was therefore adopted by OSPAR 2003, in order to examine the impact of tourism on the marine environment, its species, habitats and biological diversity.

Tourism is one of the world's fastest growing industries and a major source of foreign exchange earnings for many countries. Even in Europe, it is still growing and is forecast to increase further over the next 20 years. Coastal zones have been, and still are, the most popular tourist destinations in Europe and thus tourism has had, and can be expected to continue to have, significant impact on the marine environment.

Coastal zones are characterised by their great variety of natural ecosystems – wetlands, seagrass meadows, beaches, sea-cliffs, and small islands – and the fragility of many of them. The balance between tourism and environment in coastal zones can therefore be very delicate. There need to be limits on quantitative growth, but there remains scope for tourism to improve its quality, and thus its economic benefits, within the carrying capacity of a given area. This emphasises the importance of appropriate planning and sustainable management of resources – including the protection, conservation and restoration of coastal zones.

This study therefore draws attention to some of the negative environmental impacts of tourism in coastal zones (Chapter 2) and makes proposals improve the sustainability of tourism sustainable, with special emphasis on the protection of the environment, through measures for the management of the environmental impacts of tourism in coastal zones (Chapter 3).

The document also identifies existing international actions related to sustainable tourism particularly in coastal zones (Chapter 4) and proposes a choice of possible further actions (Chapter 5) within the framework of the OSPAR biodiversity and ecosystem strategy, which is primarily concerned with the marine environment and therefore deals with landward environmental issues only in so far as they have trans-boundary impacts on the marine environment.

OSPAR is recommended to base its programme of work on the assumptions that the Contracting Parties will be applying either the EU ICZM Recommendation or (for the non-EU Contracting Parties) the principles upon which it is based, and similar agreed approaches to safeguarding water resources, the quality of bathing water, the protection of terrestrial species and habitats and the disposal of waste.

Against this background, OSPAR is recommended to focus on:

- a. the integration of management of marine protected areas with tourism management, including the control of motorboats, diving and recreational fishing;
- b. control of the foreshore and its immediate margin (including the use of motor vehicles), dunes, marshes, beaches, and breeding and spawning areas;
- c. combating marine litter;
- d. the protection of coastal freshwater supplies through better freshwater and irrigation management;
- e. establishing indicators for measuring the overall progress of tourist sites in coastal zones towards sustainable coastal tourism development, including the follow-up of Environmental Impact Assessments, to check actual level of environmental impact against that predicted;
- f. improved stakeholder participation in coastal management;
- g. improving environmental awareness in tourist zones.

RECAPITULATIF

La Stratégie OSPAR biodiversité et écosystèmes, de 1998, prévoyait que la Commission examinerait le tourisme et les activités récréationnelles, dans le but de savoir si certaines activités de ce type exigeaient une étude plus approfondie. Un document de fond sur le tourisme a en conséquence été adopté par OSPAR 2003, dans le but d'examiner l'impact du tourisme sur le milieu marin, ses espèces, ses habitats et sa diversité biologique.

Le tourisme est l'une des industries qui se développent le plus rapidement à travers le monde, et constitue pour de nombreux pays une source très importante d'acquisition de devises étrangères. Même en Europe, il continue de se développer, et les prévisions sont qu'il continuera de se développer plus encore sur les 20 années à venir. Les zones côtières ont été et restent les destinations touristiques les plus fréquentées d'Europe, et de ce fait, le tourisme a eu, et il est probable qu'il continuera d'avoir, un impact significatif sur le milieu marin.

Les zones côtières sont caractérisées par la grande diversité de leurs écosystèmes naturels - terres inondables, prairies d'algues, plages, falaises littorales et petites îles - ainsi que par la fragilité de nombre de ces écosystèmes. L'équilibre entre le tourisme et l'environnement des zones côtières peut donc être très délicat. S'il est nécessaire que des limites soient imposées au développement sur le plan quantitatif, il existe encore des perspectives d'amélioration de la qualité du tourisme et donc d'accroissement de ses avantages économiques, dans les limites de la capacité vectrice des zones en question. Ceci prouve l'importance d'une planification adéquate et d'une gestion pérenne des ressources - notamment la protection, la conservation et la restauration des zones côtières.

La présente étude attire donc l'attention sur certains des impacts environnementaux négatifs du tourisme dans les zones côtières (Chapitre 2) et fait des propositions visant à améliorer la pérennité du tourisme, en mettant en particulier l'accent sur la protection de l'environnement, par des mesures de gestion des impacts environnementaux du tourisme dans les zones côtières (Chapitre 3).

Le document définit par ailleurs les mesures d'ores et déjà en place au plan international relativement au tourisme pérenne, en particulier dans les zones côtières (Chapitre 4) et propose une sélection de nouvelles mesures éventuelles (Chapitre 5) dans le cadre de la Stratégie OSPAR biodiversité et écosystèmes, qui visent particulièrement le milieu marin et ne traitent en conséquence des questions d'environnement terrestre que dans la mesure où elles ont des impacts qui se répercutent sur le milieu marin.

Il est recommandé à OSPAR de baser son programme de travail sur l'hypothèse selon laquelle les Parties contractantes appliqueront soit la recommandation ICZM de l'Union européenne soit (dans le cas des Parties contractantes qui ne sont pas membres de l'Union européenne) les principes sur lesquels la recommandation se fonde, ainsi que des approches analogues convenues en ce qui concerne la sauvegarde des ressources en eau, de la qualité de l'eau de baignade, la protection des espèces et des habitats terrestres et l'élimination des déchets.

Dans ce contexte, il est recommandé à OSPAR de se concentrer sur :

- a. l'intégration de la gestion des zones marines protégées à la gestion du tourisme, y compris la réglementation des embarcations à moteur, de la plongée sous-marine et de la pêche d'agrément ;
- b. le contrôle de l'avant-plage et de sa marge immédiate (y compris l'utilisation des véhicules à moteur), des dunes, des marais, des plages, ainsi que des zones de reproduction et de frai ;
- c. la lutte contre les ordures en mer ;
- d. la protection des approvisionnements en eau douce sur les côtes par une amélioration de la gestion des eaux douces et de l'irrigation ;

- e. la définition d'indicateurs permettant de mesurer la progression générale des sites touristiques en zones côtières dans le sens du développement d'un tourisme côtier pérenne, dont le suivi des évaluations d'impact environnemental, ceci afin de s'assurer du niveau réel de l'impact environnemental par rapport à celui qui avait été prédit ;
- f. le renforcement de la participation des acteurs à la gestion du littoral ;
- g. le développement de la sensibilisation à l'environnement dans les zones touristiques.

1. INTRODUCTION

Tourism is one of the world's fastest growing industries and a major source of foreign exchange earnings for many countries. Tourism is continuing to grow rapidly and an enormous increase, particularly in Europe, is forecast for international tourism over the next 20 years (CBD, Doc. UNEP/CBD/WS-Tourism/3, 2001; WTO, 2001).

Expansion of tourism affects all regions, but especially coastal zones which have been, and still are, the most popular destinations in Europe (EC, 2000). It has had a significant impact on environmental, economic and social conditions and continues to do so.

Coastal zones are characterised by their great variety of natural ecosystems – wetlands, seagrass meadows, beaches, seacliffs, and small islands – their attractiveness and, particularly, their fragility.

Given their fragility, unplanned tourism in coastal zones can result in serious environmental impacts. Signs of negative impacts of tourism on coastal environment are visible, *inter alia*, through problems related to waste disposal, pollution of marine water, physical alterations of coastlines and damage to fragile ecosystems.

These signs indicate that the balance between tourism and environment in coastal zones is very delicate. Some coastal zones and islands in the southern part of Europe have experienced negative effects of a tourism development that exceeds their carrying capacity. There are limits in quantitative growth, but a lot of scope to grow in quality and to make best use of a given carrying capacity through good destination and quality management. In particular mass tourism destinations urgently need sustainable tourism concepts to cope with the numbers of tourists and not to risk decline. So tourism needs to be maintained through appropriate planning and sustainable management of resources – to include the protection, conservation and restoration of coastal zones.

However the primary objective of this study is to draw attention to some of the negative environmental impacts of tourism in coastal zones and to make some proposals to make tourism sustainable, with special emphasis on the protection of the environment.

2. ENVIRONMENTAL IMPACTS OF TOURISM IN COASTAL ZONES

The environmental impacts of tourism in coastal zones arise from the construction or improvement of infrastructure for the development of tourism industry (e.g. hotels, marinas, transport, waste water treatment facilities etc) and from recreation (golf courses, water sports, theme parks, artificial reefs, etc.). Some of these impacts are positive (economic growth for what would otherwise be peripheral regions, access to open space for the inhabitants of densely developed urban areas, etc) but other impacts are negative.

2.1 Negative impacts

Negative impacts from tourism occur when tourist activities exceed the carrying capacity of the sites where tourist activities develop. Carrying capacity is an instrument to be used appropriately, especially for destinations and should not necessarily be a compulsory tool. The local level should have a key role in determining the direction that tourist development should follow to be sustainable taking into account the principle of subsidiarity.

The main negative environmental impacts of tourism in coastal zones cause three major types of concern: (1) pressure on natural resources; (2) harm to wildlife and (3) generation of pollution (ESC, Doc. E/CN.17/1999/5/Add.3, 1999; WTO 1998; EC, 2000; CBD, Doc. UNEP/CBD/WS-Tourism/4, 2001).

2.1.1 Pressure on natural resources: land, water and local resources

The development of tourism requires natural resources as it expands. This development can put pressure on natural resources when it increases demand in areas where resources are scarce. The main natural resources at threat are: a. land, b. water and c. other local resources (food, energy, construction materials).

a. Land

The development of tourism sites (hotels, theme parks, etc) and their associated infrastructure (airports, roads, etc), requires the use of land. As a result, many areas have undergone enormous transformation through tourism development, especially along the coast, where tourism development can be in direct competition with other land uses such as agriculture, fisheries, industry and nature conservation.

The strong competition for the use of land in coastal zones between tourism and other activities can lead to destruction of ecosystems, such as coastal wetlands. In effect, the restricted availability of land for tourism development in coastal zones, combined with the engineering ability to reclaim wetlands, means that coastal wetlands are often drained, dredged and filled. Over time, these activities can result in the complete disappearance of coastal wetlands.

Tourism development in coastal zones can result in other significant impacts which include: (i) soil erosion, (ii) landslips and (iii) coastline changes.

(i) Soil erosion

Some tourism development projects (e.g. hotel and road construction) entail, *inter alia*, extensive clearance of vegetation and trees and the digging and in-filling of land for foundations. Such activities can cause soil erosion, as well as reduce the fertility and water-holding capacity and change the soil consistency, density and compression.

The soil erosion may lead to stream or water source blockage as well as increased siltation and sedimentation of sea water. Increased suspended solid concentration in sea water may disrupt food chains in aquatic ecosystems in both the beach front and marine zones (ESCAP, Doc. ST/ESCAP/1371, 1995).

(ii) Landslips

Site preparation activities such as clearance, tree-grubbing, grading, demolition and dredging, as well as construction activities such as the placement of structures, installation of utilities, laying-out of circulation systems, landscaping and fencing may result in a modified landscape, altered soil profile, altered topography and altered drainage characteristics, leading to higher landslip potential, especially in areas with steep slopes and sparse vegetation (ESCAP, Doc. ST/ESCAP/1371, 1995).

(iii) Coastline changes

In some coastal zones, unplanned, inappropriate or unfinished tourism development has resulted in the building and development of infrastructure too close to the shoreline, exacerbating erosion and necessitating the development of coastal defences - both "hard" coastal defences (e.g. breakwaters, seawalls, groynes, flood embankments and barrages) and "soft" coastal defences (e.g. beach nourishment and set-back of structures). In some areas, however, both hard and soft coastal defence measures can be justified to stop natural coastline change. In such cases a balance needs to be struck in order to manage the coastline in a sustainable manner.

The development of such defences has produced serious impacts which can be summarized as: (1) disturbance of the coastal dynamics causing, *inter alia*, the destruction of beaches, dunes and the near shore zone by partial or complete modification of landforms and sedimentary processes; (2) continuous loss of characteristic marine influenced ecosystems, such as wetlands; (3) an increasing threat to the biodiversity of coastal areas and (4) landscape deterioration (HELCOM Recommendation 16/3).

Coastal defences are common in Regions II (Greater North Sea) and III (Celtic Seas) and on parts of the French and Portuguese coasts in Region IV (Bay of Biscay and Iberian Coast) (OSPAR Commission, QSR 2000).

b. Water

Another key natural resource that is essential for tourism is water. The tourism industry generally exploits water resources for hotels, swimming pools, golf courses, urban-style parks, showers on beaches etc. This is of particular concern in regions where water resources are scarce, such as areas with low or irregular rainfall. In these regions, the exploitation of water resources can result in degradation of groundwater reserves – the overuse of scarce groundwater reserves may upset the water balance of the coast and cause saline water intrusion into the groundwater –and water shortage (ESCAP, Doc. ST/ESCAP/1371, 1995; WWF, 2000).

c. Local resources

Tourism can create great pressure on local resources such as food, energy and construction materials (sand and gravel) (ESCAP, Doc. ST/ESCAP/1371, 1995; CBD, Doc. UNEP/CBD/SBSTTA/4/11, 1999).

Coastal tourism development, by responding to market forces, induces higher number of people to move and concentrate into the coastal zone (“littoralisation”). Consequently, higher demand for food is inevitable, which leads to increased exploitation, and in some cases depletion, of living resources such as fish. This can also aggravate the demand for water by increasing the amount of irrigated land. Nevertheless, the influx of tourists can also provide a new market for agriculture and horticulture in otherwise remote areas.

A high demand for energy can be needed to meet the expectations tourists often have for hot water, air conditioning, heating etc.

Construction materials (especially sand and gravel) are in great demand to satisfy the need for construction of tourist facilities, for coastal protection and beach replenishment. High demand for marine sand and gravel exists in the North Sea area, particularly the southern part, including the Channel, and to a lesser extent in the Celtic Sea and Irish Sea areas and the French and Iberian Atlantic coasts (OSPAR Commission, QSR 2000), although in the UK (Europe’s largest producer of construction aggregate) the vast bulk of the aggregate from the North Sea, Channel, Irish Sea and Celtic Sea is *not* used for tourism related purposes at present. In the short-term, the main impact on the ecosystems is the disturbance and removal of benthic organisms from the extraction site. While this could damage sensitive sites (for example those that act as spawning areas for fish that lay their eggs directly on gravelsuch as herring) in practice this should be avoided by appropriate site selection informed by Environmental Impact Assessment. Finally, extraction of sand and gravel from the sea is not the only human activity in the marine environment that can be connected to tourism. Dredging should be mentioned too. Dredged material consists primarily of material removed during the construction of coastal engineering projects, such as marinas, or removed to keep navigation channels clear. These removal activities affect the marine environment. For instance, in Northern Ireland, the dredging of the Port of Belfast has doubled the size of its approach channel to facilitate and attract larger craft. This has significantly disturbed the marine environment of Belfast Lough.

2.1.2 Wildlife

The main impacts on wildlife from tourism can be summarized as: (1) damage caused by tourist activities; (2) increased risk of the spread of pathogens from humans or companion animals to wild species; (3) increased risk of introduction of non-indigenous species; (4) disturbance of wild species, disrupting normal behaviour and affecting mortality and reproductive success; and (5) alterations in habitats (CBD, Doc. UNEP/CBD/SBSTTA/4/11, 1999).

For instance, yachting and boating are sources of introduction of non-indigenous species through hull fouling. The most significant ecological effects of these introductions are competition (for food, space or light) with indigenous species and alteration of habitats. These effects have been recorded in the OSPAR maritime area, particularly in Regions I (Arctic Waters) and II in relation to bay barnacle, and Regions II, III and IV in relation to *Elminius modestus* (barnacle) (OSPAR Commission, QSR, 2000).

A tourist activity such as wildlife observation can also result in serious impacts on wildlife. In effect, the viewing of wild animals in their natural habitats has become an attraction, resulting in the intrusion of humans into environments which had previously been the exclusive preserve of wildlife. This invasion of the territorial space of the animals has a degrading effect on their habitat as it is often accompanied by increased noise levels. This puts a high level of pressure on animal habits and behaviours and tends to bring about behavioural changes, which can disrupt breeding and eating patterns.

Other tourist activities can cause severe impacts on wildlife. For example, the collection of marine species as souvenirs (i.e. species included in the OSPAR List of Threatened and/or Declining Species). The demand for souvenirs created by tourists stimulates fishing activities. This can upset the delicate balance of sustained yield to such degree that certain local marine species could extinct.

Attention should also be drawn to other tourist activities such as hunting, angling, underwater fishing and the collection of fauna such as crustaceans and molluscs for food (*pêche à pied*) because these activities can cause the depletion of local populations of certain marine species and the destruction of marine habitats.

Finally, special attention should be devoted to pedestrian traffic and the use of motorised vehicles. In the OSPAR maritime area, these activities have increased pressure on some coastal dune systems, disturbing the natural vegetation and seabird habitats (OSPAR Commission, QSR 2000). In fact, the main impact of these activities is soil compaction. Generally speaking, soil compaction has a negative impact, as it increases the soil density. The result is a decrease in aeration and water filtration, leading to an increase of water run off. Increased runoff has two major consequences. The first is the reduction of the available soil moisture, which may result in the loss vegetation cover. The second is the acceleration of water erosion (Mieczkowski, 1995).

Collection of flora by tourists can also lead to loss of individual species and as a result to loss in biodiversity.

2.1.3 Pollution: water, land, air, noise and aesthetic

Pollution associated with tourism can be categorised into five main types: a. water, b. land, c. air, d. noise and e. aesthetic.

a. Water pollution

The development of tourist facilities (hotels, commercial areas, community complexes etc.) and tourist activities (cruising, yachting, water sports etc.) entails an increase in the level of waste. Such waste can generally be divided into: (1) wastewater, (2) chemical wastes and (3) litter (CBD, Doc. UNEP/CBD/SBSTTA/4/11, 1999). Their treatment and disposal, particularly during peak tourist seasons, may be inadequate or at worst non-existent

The disposal of untreated or inadequately treated, wastewater into the sea causes elevated faecal coliform levels and eutrophication (nutrient enrichment) of coastal waters (ESCAP, Doc. ST/ESCAP/1371, 1995; CBD, Doc. UNEP/CBD/SBSTTA/4/11, 1999). These phenomena can pose threat to public health and to ecosystems.

Improper disposal of wastewater can cause serious problems to public health because it can introduce large amounts of pathogens into the water body, making it dangerous for water-based sports (swimming, diving, surfing etc.).

Discharges from wastewater treatment plants are an important source of eutrophication, the impacts of which can be summarized as follows: increased phytoplankton and macroalgae production and biomass, changes in species composition, and increased burden of sediments and oxygen consumption in the water.

Eutrophication is non-existent in the open shelf and deep areas of the OSPAR region. However, within the coastal zone, embayments and estuarine areas of some parts of the maritime area, particularly the south-eastern part of the Region II, there is a clear evidence of eutrophication (OSPAR Commission, QSR 2000).

Water pollution can also be caused by fertilizers and pesticides which are widely used on golf courses, hotel gardens and other recreational areas. The water containing chemicals can reach the sea through groundwater route or through direct runoff into rivers and estuaries. (Holden, 2000). The older generation of pesticides, some of which are still in use are less likely to biodegrade over time and more likely to cause ecological damage.

Oil spills from motorised leisure activities (cruising, yachting, jet skis, etc.) and shipping in general also cause water pollution, specially in harbours and marinas.

Finally, water pollution is caused by the improper collection and disposal of litter (plastic bags, glass and plastic bottles, aluminium cans, etc.). In the OSPAR maritime area, particularly on some recreational beaches close to population centres, litter is a considerable problem. In effect, litter linked with tourist facilities – especially hotels and marinas – and tourist activities – particularly cruises – can result in water quality degradation and cause the death of marine organisms (mammals, seabirds, etc) which can confuse plastic with their prey or which become entangled in it (ESCAP, Doc. ST/ESCAP/1371, 1995).

b. Land pollution

In the context of tourism, a major source of land pollution is the inadequate collection and disposal of litter by tourists and municipalities. As the number of tourists visiting a coastal zone increases, the quantity of litter increases accordingly. This can lead to land quality degradation and, consequently, to habitat destruction and species loss, especially if coastal landfill sites are managed inefficiently. In this context, special attention should be devoted to the inappropriate use of mechanical beach cleaning machines by the coastal communities, because it often leads to a further destruction and degradation of coastal habitats, often without the mean goal, the reduction of marine litter, being achieved.

c. Air pollution

Transport by air, water, road and rail is continuously increasing in response, *inter alia*, to the rising number of tourists and their greater mobility. One consequence of this increase is that tourism is responsible for an important share of air emissions through the burning of fossil fuels (coal, oil and natural gas). Such emissions include carbon dioxide (CO₂), which is the main cause of global warming, and sulphur dioxide (SO₂), which contributes to problems of acid rain. In this context, the problem of air pollution from tourist transportation acquires special dimension in some ports where the emissions from ships have become the major source of pollution.

Air pollution is also caused by dust generated during the construction of tourist facilities and by energy use in the air-conditioning and heating of tourist facilities (ESC, Doc. E/CN.17/1999/5/Add.3, 1999).

d. Noise pollution

Noise pollution from the construction of tourist facilities as well as from tourist transportation and the use of motorised vehicles (such as motor boats and jet skis) can cause disturbance to tourists and to the behaviour of marine wildlife, especially in areas such as breeding and spawning areas. In relation to tourists, it should be noted the increased requirements from tourists on undisturbed and silent coastal areas. As regards marine wildlife, in the North Sea, bird-breeding areas on sandy beaches have been almost completely lost because of recreational activities (OSPAR Commission, QSR, 2000).

e. Aesthetic pollution

The development of tourist facilities can lead to a decline in the aesthetic quality of the environment. Tourism can fail to integrate its structures with the natural features and indigenous architecture of the area. This has led to a uniform style of development along many coastlines of the world, that ignores local architectural styles, building traditions and materials (Holden, 2000; Convery & Flanagan, 2000). This can be avoided, *inter alia*, developing specific guidelines with the aim of integrating building architecture with the local environment in coastal zones, like guidelines for assessing seascape quality available in Wales.

2.2 Other remarks

Despite its negative impacts, tourism can sometimes offer action to prevent negative impacts and to conserve environment.

These actions can be summarized as follows: (CBD, Doc. UNEP/CBD/COP/5/2, 1999; Holden, 2000):

- **Revenue creation for the maintenance of natural areas:** The most direct means of exploiting tourism for the sustainable use of biological resources is through the allocation of some proportion of tourism revenue for that purpose. For instance, revenues from park-entrance fees and licence fees for activities such as hunting and fishing can be allocated specifically for the protection and management of environmentally sensitive areas.
- **Environmental awareness raising:** Tourism has the potential to increase public appreciation of the environment and to spread awareness of environmental problems when it brings people into closer contact with nature and the environment. This confrontation may enhance awareness of the value of nature and lead to environmentally conscious behaviour and activities to preserve the environment.
- **Alternative employment:** Tourism in the EU employs 7,7 million people, a figure estimated to rise by approximately 15% of the next ten years. In 2001 the tourism industry delivered about 5% of EU GDP. 95% of European tourism enterprises are SMEs (Small and Medium sized Enterprises). In certain coastal locations tourism is vital for the development of local and regional economies, especially in rural coastal areas that are looking for alternatives to substitute activities and income linked to agriculture, fisheries or mining. If properly managed, tourism provides extra resources and employment to local communities, which give them additional motivation and means to conserve and protect the coastal environment. People involved in sustainable tourism activities or eco-tourism may become more conscious of the value of conservation of natural areas. However, in order to have a true sustainability effect, such moves need to be integral to the overall development of the mass tourism offer, so that a significant number of mainstream coastal tourists will take them up.

3. MEASURES FOR THE MANAGEMENT OF THE ENVIRONMENTAL IMPACTS OF TOURISM IN COASTAL ZONES

The relation between tourism and environment has two faces. On the one hand tourism-related activities can damage the natural environment. On the other hand however, the experiences that tourists have of nature can motivate them to support nature conservation.

Because tourism in coastal zones is essentially dependent on an unspoilt, natural or unpolluted environment, it follows that tourism has both a responsibility for, and a need to, invest in the protection, conservation and restoration of the natural environment. However, tourism in coastal zones can have, and often has, negative environmental impacts through unsustainable consumption patterns, the pollution generated and harm to wildlife.

In order to avoid such impacts, tourism in coastal zones must be managed in a way that is environmentally, socially and economically sustainable.

In the context of sustainability, the objective is to limit tourist development to the carrying capacity of the region, and to promote models of tourism which have an acceptable level of societal and environmental impact, while maximizing the economic return from the infrastructure load (EC, 1999a).

In short, the central challenge for the tourism industry in coastal zones is to transform itself, in all its forms, into a sustainable activity through its better management. This can be achieved through Integrated Quality Management (IQM). Generally speaking IQM is a managerial approach for tourist destinations, including coastal destinations, which seeks to progressively improve the visitor experience whilst securing economic, environmental and cultural benefits for the host community. So, IQM offers an opportunity to act on three fronts in coastal zones: (1) economic development, (2) environmental protection and (3) preserving the identity of the local people (EC, 2000). This challenge should be encompassed within the framework of an integrated coastal zone management (ICZM) strategy.

3.1 Managing tourism in the context of an ICZM strategy

Europe's coastal zones are of strategic importance. They are home to a large percentage of people, a major source of food and raw materials, a vital link for transport and trade, the location of some of the most valuable habitats, and the favoured destination for tourists. Yet Europe's coastal zones are facing serious problems of habitat destruction, water pollution, coastal erosion and resource depletion.

While similar problems may occur in other parts of the European area, they are particularly acute in the coastal zones because of the complexity of the interactions between the aquatic and the terrestrial systems, between coastal zones and their hinterlands, and between islands and continental areas.

Given the multiple use and complexity of coastal zones, uncoordinated sectoral policies in them tend to conflict. The best means to avoid such situation and to ensure the effective implementation of many individual sectoral goals – for example, those related to tourism – is through an integrated territorial approach (EC, COM (2000)547 final).

According to the European Commission (EC, 1999b) “ICZM is a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones”.

ICZM thus seeks, over the long-term, to balance the benefits from economic development and human uses of the coastal zone; the benefits from protecting, preserving and restoring coastal zones; the benefits from minimizing loss of human life and property, and the benefits from public access to and enjoyment of the coastal zones, all within the limits set by natural dynamics and carrying capacity. In short, ICZM appears as a tool for the achievement of sustainable development in coastal zones.

The process of ICZM embodies a set of general principles. According to the Recommendation 2002/413/EC, these principles can be summarised as follows:

a. A broad overall perspective (thematic and geographic)

One of the key principles of an effective ICZM policy is to look at the problems faced by coastal zones in the widest possible context.

Attempts to manage coastal zones in a sustainable manner will fail unless they consider concurrently the full range of the many systems – hydrological, geomorphological, socio-economic, administrative, institutional and cultural – that have significant influences on the dynamics of the coastal zones.

A “systems” approach will normally require consideration of the driving forces and/or areas of impact located in several administrative units. It may also need to consider areas far from the coastline, since many of the systems influencing the coastal zone are physically dispersed.

Furthermore, the close links between the marine and terrestrial components of the coastal zone (linked through both human and physical processes) imply that any successful coastal zone management initiative should be included both the seaward and landward portions of the coastal zones. On this point, it should be emphasized that many of the problems facing coastal zones can have their origins many hundreds of kilometres away from the coastlines. For instance, eutrophication problems in the coastal zone must be solved in collaboration with those who are using or producing the nitrate that eventually arrives at the coast as pollution. Similarly, resolution of the problems of tourist concentration on the coast includes encouragement of more diffuse forms of tourism, associating the hinterland.

In addition, any efforts to improve the state of coastal zones will fail unless they consider the problems in an interconnected manner and not in an isolated manner. For example, the question of tourism in coastal zones cannot be addressed effectively without also considering a whole range of other issues. These include water reserves, land-use, employment and the impact of tourism on existing natural habitats (EC, 2001).

b. A long term perspective

The needs of both present and future generations must be considered concurrently and equally, ensuring that decisions respect the “precautionary principle” – which states that rather than await certainty, regulators should act in anticipation to any potential harm in order to prevent it –and do not foreclose options for the future.

c. Adaptive management (responding to new information and conditions) during a gradual process

Integrated planning and management is a process that develops and evolves over the course of years.

It is often extremely difficult to predict the precise problems that a particular coastal zone will face in the future. This is why ICZM is designed to be an evolving process, which not only deals with today’s problems but also is flexible enough to adapt to as yet unforeseen issues that may arise in the future.

The ICZM process thus requires monitoring so that it can be adjusted through adaptive management, as problems and knowledge evolve.

d. Reflect local specificity

Any effective ICZM strategy must be based on local solutions that suit local conditions. For instance, a policy designed to stop seawater seeping into the water table in Spain would be ill-suited to a coastal zone on Norway's coast.

The ICZM strategy must therefore be based on a thorough understanding of the local circumstances.

This implies a need for the collection of appropriate data; the production of relevant information and indicators; good flows of information between those taking ICZM action and information providers; and proper use of assessment techniques.

e. Working with natural processes

The natural processes and dynamics of coastal systems are in continual change.

Successful coastal zone management is based on an understanding of the natural processes and dynamics of coastal systems. By working with these natural processes, rather than against them, and by respecting the limits ("carrying capacity") imposed by natural processes, we make our activities more environmentally sustainable and more economically profitable in the long term.

For example, tourist developments (hotels, marinas, front sea promenades, etc) in a coastal zone can lead to an increased erosion of the adjacent shoreline: they can disrupt local coastwise movement of sediment, sand and gravel, if the natural processes at work in a coastal zone have not been adequately considered in the planning phase before construction starts.

f. Participatory planning

Participatory planning works to incorporate the opinions and perspectives of all of the relevant stakeholders (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) into the planning process.

Having identified the stakeholders, it is essential to ensure their involvement in the ICZM process, because collaborative involvement helps to ensure identification of real issues, promotes local knowledge, and builds commitment and shared responsibility.

g. Support and involvement of all relevant administrative bodies

Coastal zone management is not effective if it is not supported by all levels of administration, as well as by all of the relevant sectoral branches of administration concerned with the management of coastal area.

In this context it is essential to encourage:

- **Co-operation and co-ordination between different administrative levels.** Typically, management responsibilities with respect to coastal zones are spread across several levels of administration.

An ICZM initiative will fail without the involvement and commitment of higher, middle and upper level authorities. This implies the need for vertical cooperation and coordination between all different administrative levels.

For instance, a particularly important obstacle to ICZM can occur when plans and strategies are determined by national or regional authorities without local involvement. In such circumstances, local authorities may suffer from loss of motivation in trying to implement ICZM where they feel powerless to affect significant decisions (EC, 1999a).

Therefore local authorities in coastal zones must be at the heart of ICZM. It would not make sense for national or regional authorities to try to impose their solutions on these zones. What the higher levels of government can do, however, is to provide support and guidance to local initiatives and ensure that the many national or regional policies and strategies that need to be implemented in coastal zones are not contradictory to local efforts, or among themselves (EC, 2001).

- **Cooperation and coordination between neighbouring territorial authorities.** The appropriate scope for ICZM normally reaches across administrative boundaries. This implies the need for spatial cooperation and co-ordination between adjacent authorities.
- **Cooperation and coordination between local sectoral administrations.** Sectoral pressures and conflicts are widespread in coastal zones and frequently one sector, such as tourism, may perceive the others, such as agriculture, industry or nature conservation, as a threat to its own objectives. In order to avoid this, it is essential to develop horizontal cooperation and coordination across different administrative sectors.
- **Cooperation across the land-sea boundary.** Cooperation across the land-sea boundary is absolutely fundamental to the development of ICZM, as the integration of the management of the land and sea is one of its fundamental objectives. This can only be achieved by ensuring that authorities responsible for both domains and the economic actors active in both domains are involved in the process.

h. Use of a combination of instruments

Coastal zone management can only succeed through the use of multiple instruments and techniques, including a broad mix of: (i) legal instruments, (ii) voluntary agreements, (iii) the land-use planning system, (iv) economic instruments and (v) ICZM-friendly technologies (EC, 1999a).

(i) Legal instruments

There are different legal instruments that could be used to facilitate ICZM. These can be categorised into three types:

- Legal instruments requiring information collection and diffusion. Legal instruments may be used to ensure that basic information is collected and available. The principal mechanisms include requirements for impact assessments, and laws on public access to databases.
- Legal instruments to enable collaboration. Because the functions of public authorities are defined by legislation, they may be legally prevented from cooperating with others in the coastal zone if their statutory powers and duties are expressed in narrow sectoral terms. Legislation defining the functions of public authorities in the coastal zone should provide them with powers and duties for mutual cooperation.
- Legal instruments for policy implementation. Implementation of ICZM policy through coordination of existing laws requires the enactment of ICZM legislation, setting out a framework within which existing laws can be coordinated.

(ii) Voluntary agreements

Voluntary agreements are a pledge by one or more sectors of the economy to behave in a certain way in order to attain environmental goals. For example, voluntary agreements can be made with the tourism sector through regional and local tourism organisations. The agreements can concern, *inter alia*, information diffusion, the protection of nature and environment, and sustainable tourism initiatives.

(iii) Land-use planning system

The planning system is the principal mechanism for coastal management. However, it is important to remember that land-use planning is only one component of the ICZM process, because there are several

reasons why land use planning alone is not a sufficient vehicle for ICZM. The most important reasons are: (1) limited scope (most planning systems cover only the terrestrial parts of the coastal zone and many planning systems take a narrow perspective, focusing on development control (buildings) rather than broader land-use issues and (2) lack of flexibility.

(iv) Economic instruments

Economic instruments include taxes, subsidies and rebate systems, and these instruments can be applied to provide incentives for ICZM.

(v) ICZM-friendly technologies

ICZM initiatives can help ensure that technology is part of the solution through: (1) legal standards, such as standards for best environmental practice (BEP) or best available techniques (BAT); (2) general education which can be used to engender a strong preference and demand for cleaner production and products, thus creating a market; (3) environmental audits and environmental reporting (ISO 14000 and EMAS) and (4) dissemination of good practice and expertise.

3.2 Managing tourism towards sustainability

The future of sustainable coastal tourism development is linked to the control of negative environmental impacts on the environment. This control concerns different groups of stakeholders such as governments and tourism industry. All of these different stakeholders have a role to play in influencing the development of tourism and influencing the extent to which its interaction with the environment is negative.

3.2.1 Role of Governments

In order to promote sustainable tourism in coastal zones, governments should pay special attention to: a. coastal tourist development; b. construction of tourist facilities (resorts, hotels, restaurants, shops etc) and its associated infrastructure (roads, airports, etc) in coastal zones; c. tourist recreational activities (golf courses, cruising, fishing and artificial reefs, etc); d. pollution generated by tourism and e. information and training (CDS, Decision 7/3,1999; Council of Europe, Recommendation No. R (94) 7; Council of Europe, Recommendation No. R (97) 9; ESC, Doc. E/CN.17/1999/5, 1999; WWF 2000):

a. Coastal tourist development

Governments can play an important role in preventing unplanned tourism in coastal zones.

First, governments need to adopt both global and local approaches to planning programmes for coastal tourist development. Programmes at both national or regional and at local levels need to be developed by discussion and cooperation between all the different tourism stakeholders. Their preparation needs to be based on (1) carrying out an inventory and assessment of natural and cultural resources; (2) taking into account the carrying capacity of the sites concerned and (3) making all major development projects subject to an environmental impact assessment.

Governments also need to plan for the following in the development of coastal zones for tourism: (1) maintaining the diversity of the natural landscape features of coastal zones; (2) providing for sufficient space to enable other activities (e.g. agriculture, industry) to take place and (3) providing for areas where development (especially building) and activities are strictly controlled and for other areas where development (especially building) is completely prohibited.

b. Construction of tourist facilities and its associated infrastructure in coastal zones

In order to avoid the negative environmental impacts related to the construction of tourist facilities and their associated infrastructure in coastal zones (destruction of ecosystems, soil erosion, coastline changes, depletion of local resources, etc), the relevant authorities need to:

- (i) strictly control the siting of facilities and infrastructure
 - Development of tourist facilities and their associated infrastructure in coastal zones should, as far as possible, be concentrated in already established resorts. The use of undeveloped land in the immediate coastal strip, should be avoided/banned where it is important for nature, such as wetlands, beaches, dunes and breeding and spawning areas. In this context land use planning measures, such as the establishment of protected areas or zoning, can play an important role.
- (ii) strictly control the design and planning of facilities and infrastructure
 - The possibility of using, modernising or rehabilitating existing facilities and infrastructure should be fully explored before any new construction is considered.
 - Where new facilities are considered necessary, they should be compatible with the architecture and natural environment of the surrounding area. To this effect, the relevant authorities should draw requirements regarding, in particular, the materials used (materials should be environmentally friendly), building height (providing for accommodation units of various sizes can avoid dependence on a single type of tourism) and collection and treatment of wastes (imposing strict rules on the collection and treatment of wastes can minimise pollution).
 - Furthermore, facilities should be designed to avoid changes in the coastal dynamics, and designed to save energy, by reducing the need for artificial lighting, heating or cooling.
 - Finally, designs should ensure that natural vegetation is left intact as far as possible. Where this is not possible, indigenous plant species should be used for landscaping.
- (iii) strictly control the process of construction
 - During construction, all efforts should be made to avoid damaging vegetation and soils. Materials should be stored in designated places. Dust should be damped down to avoid covering sensitive ecosystems. Once facilities are built, efforts should be made to monitor their impacts on the coastal environment.

c. Tourist recreational activities

Negative environmental impacts associated with the development of tourist recreational activities in coastal zones could be avoided by the relevant authorities adopting measures such as: (1) effective environmental management of new and established caravan sites, camping sites, marinas or golf courses; (2) controlling off-road motor car traffic and parking, specially on beaches and dunes and (3) effective management of water sports and implementing already existing measures and guidelines on water sports.

d. Pollution generated by tourism

Through legal, economics, social and technical instruments, the relevant authorities should: (1) ensure that all tourist developments, once completed, comply with the various requirements for the protection of the environment; (2) assess the effect of tourist activities on the coast, and ensure that the carrying capacity of tourist destinations is not exceeded; (3) take into account appropriate standards for drinking water, seawater and sewage and bathing water; (4) in coastal resorts, provide for sewage treatment installations and recycling and waste disposal systems, using equipment appropriate to the features of the site and the number of tourists, and regularly checking the satisfactory operation of such installations; (5)

promote technological innovations and ways of minimising water and energy consumption and prevent waste generation; (6) restrict motor-car and water-borne traffic on shores and coastal waters; (7) promote public transport and encourage less noisy and less polluting modes of transport and (8) ensure that beaches are regularly cleaned, by providing adequate waste receptacles, sanitary facilities, carrying out beach clean-ups, etc.

e. Information and training

In this context it is important to develop awareness-raising campaigns and training programmes for: (1) tourists and tourism professionals, in order to increase their awareness of the quality of the environment; (2) decision-makers, to enable them to choose the most appropriate and viable type of development for their municipalities; (3) local authority staff and local teams responsible either for promoting tourism or for operating specific amenities; (4) local inhabitants, to make them aware not only of the attractive features of their region but also of the vulnerability of the areas in which they live; and (5) officials responsible for town planning, restoration and rehabilitation, to help them promote environment-friendly architecture.

3.2.2 Role of tourist industry

If anything is to change in the direction of sustainable development of tourism, action by the tourist industry is essential. If landscapes, habitats, and biological diversity and a favourable social network are to exist for the use and enjoyment of future generations, then tourism stakeholders need to recognize the need to conserve and improve this base of the industry. A growing number of tourism enterprises already have quality policies, which are more and more developed. Likewise, quality management and systems at destination level are regarded as being vital. It is increasingly considered crucial to put sustainability at the core of quality, as unsound tourism development reflects badly on the product, which in turn negatively affects the customer base. The tourist industry can be split in three groups – a. tour operators, b. facilities operators and c. transport operators – all with a distinctly different set of possible action (Council of Europe, 1997; WWF 1999; ESC, Doc. E/CN.17/1999/5/Add.3, 1999; UNEP, 2001).

a. Tour operators

Sustainable development on the part of tour operators should include the selected means of transport as well as accommodation at the destination, and their office facilities and the nature of their catalogue.

Activities of tour operators can include: (1) incorporating environmental competency into the corporate image; (2) evaluating and analysing of own activities through audits; (3) including environment-friendly travel offers; (4) informing travellers on their potential environmental impacts by providing them with documentation and information about all aspects of the destination site; (5) preferring accommodation which meet environmental criteria and follow safety standards; (6) choosing whenever possible environmental friendly means of transport on site destinations as public transport; (7) monitoring environmental awareness and satisfaction of clients, including providing them with a checklist to return after their trip and (8) implementing environmental measures in their own office facilities.

b. Facilities operators

Facilities operators (hotels, resorts, restaurants, camp sites, bungalows, etc) can play an important role in the protection of the marine and littoral environment against pollution from tourist activities.

Facilities operators can adopt measures in their environmental strategy related to: (i) energy, (ii) water, (iii) waste reduction, (iv) waste disposal, (v) local environment and (vi) environmental awareness.

- (i) *Energy*: Facilities operators can save energy by adopting various initiatives, such as checking their heating system regularly and introducing new forms of heating from renewable sources

- (e.g. solar energy); adopting energy-saving bulbs, time switches and infra-red sensors and informing their guests about energy saving procedure.
- (ii) *Water*: Likewise facilities operators can save water by, for instance, reducing WC flush-capacity; inspecting all points of water consumption regularly; only using laundry/dish washing machines on full load and informing their guests about water-saving procedures.
 - (iii) *Waste reduction*: To reduce waste generation, facilities operators can adopt various measures such as minimising plastic packaging and separating materials; minimising paper consumption and using recycled paper.
 - (iv) *Waste disposal*: For better environmental disposal of wastes, facilities operators can provide their customers with clearly labelled, separate waste collection points for the different kinds of waste, and display guidance on their proper use.
 - (v) *Local environment*: Facilities operators can improve the local environment through measures such as avoiding harmful chemical products for horticulture in line with OSPAR Recommendation 2000/2 on Best Environmental Practice (BEP) for the Use of Pesticides on Amenity Areas.
 - (vi) *Environmental awareness*: Facilities operators can create environmental awareness by informing tourists about their environmental initiatives and providing them with information on environmentally responsible behaviour and also by training their staff members periodically on environmental policies.

c. Transport operators

Transport operators (airlines, cruise ship organisations, car rental firms and bus companies) have a major role to play in the development of more sustainable tourism through reducing and controlling their substantial contributions to pollution and wastes.

For example, transport operators can establish specific targets to reduce air emissions (such as CO₂, unburned hydrocarbons, etc) or to use more environmentally-friendly fuel. They can also use the best available technology (BAT) and provide their staff with training and seminars on sustainable development and behaviour. Cruise-vessel operators can ensure the proper management of waste from vessels.

d. Voluntary response

Finally, it is important to emphasize how far individual businesses or organisations involved in the tourism industry have responded to concern about environmental and social impacts of tourism by supporting voluntary initiatives for sustainable tourism. These initiatives include self-commitments initiatives (International Hotels Environment Initiative –IHEI–, Tour Operators Initiative for Sustainable Tourism, Voluntary Initiatives for Sustainability in Tourism (VISIT) etc.), Eco-labels (Blue Flag Campaign, ECOTEL Certification, Green Tourism Business Scheme, etc.) and Awards (Green Coast Award for Rural Beaches, Committed to Green Recognition Programme, etc.) (WWF, 1998; WTO, 2002).

3.2.3 Role of the consumer

Sustainable tourism can only be a success if consumers buy the product. An advanced knowledge-based economy will give tourists the possibility of being more aware of the thinking behind sustainability thinking. Well thought out and promoted accreditation and labeling schemes will enable them to make informed choices on what tourism products they buy, who gets their money, and which companies deserve their loyalty.”

4. IDENTIFICATION OF EXISTING ACTIONS

This section summarises the existing international actions related to sustainable tourism particularly to sustainable tourism in coastal zones.

European Community: Most of the Community actions which contribute to sustainable tourism have been developed within the framework of a wide range of Community policies and programmes, especially policies and programmes devoted to the environment, which, while not specifically designed in terms of tourism objectives, have nevertheless an important influence on tourism (EC, COM (2001)171 final).

- Council Directive 75/442/EEC of 15 July 1975 on waste as amended by Council Directive 91/156/EEC of 18 March 1991. Among measures to be adopted by Member States is the establishment of an an integrated and adequate network of disposal installations. This measure benefits tourism, especially in coastal areas, where one source of tourist pollution is associated with inadequate collection and disposal of tourist litter by municipalities.
- Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water, as last amended by Council Directive 91/692/EEC of 23 December 1991. This Directive lays down the minimum quality criteria to be met by bathing waters.
- Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds as last amended by Council Directive 97/49/EC of 13 August 1997. This Directive seeks to protect, manage and regulate all bird species naturally living in the wild within the European territory of the Member States, including the eggs of these birds, their nests and their habitats. This has a direct impact on tourism in coastal zones of natural relevance such as spawning and breeding areas.
- Council Directive 85/337/EEC of 27 June 1985, on the assessment of the effects of certain public and private projects on the environment, as amended by Council Directive 97/11/EC of 3 March 1997. This Directive applies to the assessment of the environmental effects of those public and private projects which are likely to have significant effects on the environment. Among projects listed in Annex II (projects subject to an assessment where Member States so determine through a case-by-case examination against thresholds or criteria set by the Member State) are: marinas, holiday villages and hotel complexes outside urban areas and associated developments, permanent camp sites and caravan sites and theme parks.
- Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment, as amended by Commission Directive 98/15/CE of 27 February 1998. The objective of the Directive is to protect the environment from the adverse effects of waste water discharges. The Directive requires the provision of collecting systems for urban waste water and treatment before discharge, especially if urban waste water is going to discharge into “sensitive areas”. Among “sensitive areas” referred to are: coastal waters which are found to be eutrophic or which in the near future may become eutrophic, and coastal waters which are found to have a poor water exchange, or which receive large quantities of nutrients. This measure remedies the deterioration of the coastal environment, benefiting tourism.
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as amended by Council Directive 97/62/EC of 13 November 1997. This Directive aims to promote the maintenance of biodiversity in the Member States. To this end it establishes a European ecological network —“Natura 2000” — which comprises “special areas of conservation” and “specially protected areas”.
- Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (IPPC Directive). This Directive lays down measures to prevent or, where that is not practicable, reduce emissions in the air, water and land from the activities

listed in Annex I (among others waste management), in order to achieve a high level of protection of the environment taken as a whole. This largely benefits tourism.

- Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste. The aim of this Directive is to provide for measures, procedures and guidance to prevent or reduce as far as possible negative effects on the environment from landfilling waste.
- Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer. It forbids the use of hydrochlorofluorocarbons, specially in aerosols and as refrigerants. These measures affect tourism, since air conditioners and propellants in aerosol spray can, among others, contain hydrochlorofluorocarbons and are widely used in the tourist industry.
- Regulation (EC) N° 1655/2000 of the European Parliament and of the Council of 17 July 2000 concerning the Financial Instrument for the Environment (LIFE). Through LIFE-environment the EC can support projects focused on the development of environmentally-friendly tourism activities.
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (Water Framework Directive) as amended by Decision No 2455/2001/EC of the European Parliament and of the Council of 20 November 2001. The aim of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, *inter alia*, contributes to the protection of territorial and marine waters. This has a direct impact on tourism in coastal zones.
- Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues. The purpose of this Directive is to reduce the discharges of ship-generated waste and cargo residues from ships using ports in the Community, by improving the availability and use of port reception facilities. The Directive applies to all ships, including recreational craft, used largely in tourist activities.
- Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS). This Regulation extends the scope of EMAS to all sectors of economic activity (tourism included) including local authorities.
- Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. According to this Directive environmental assessment shall be carried out for all plans and programmes which are prepared for tourism.
- Commission Decision 2002/18/EC of 21 December 2001 establishing the Community eco-label working plan, contained an objective of establishing new product groups, including one for tourist accommodation. As a result, criteria for tourist accommodation have now been developed, and were formally adopted by the Commission in April 2003, making this the first product group for a service sector in the EU scheme.
- Recommendation 2002/413/EC of the European Parliament and of the Council of 30 May 2002 concerning the implementation of Integrated Coastal Zone Management in Europe. This Recommendation lays down the principles which Member States should follow to ensure integrated coastal zone management in Europe.
- Commission Communication COM (2002) 539 final. Brussels, 02.10.2002. Communication from the Commission to the Council and the European Parliament. Towards a strategy to protect and conserve the marine environment. The objective of the Marine Strategy is to promote the sustainable use of the seas and conservation of marine ecosystems, including sea

beds, estuarine and coastal areas, paying special attention to sites holding a high biodiversity value. This overarching objective benefits tourism in coastal zones.

- Agenda 21 for European Tourism: Towards a sustainable tourism development in Europe and globally. Preliminary draft of a discussion document. September 2002. Integrated Quality Management (IQM) of tourist destinations is mentioned.

OSPAR: No specific measure on tourism has been developed. Nevertheless, a set of measures have been adopted which have a significant influence on tourism.

- PARCOM Recommendation 89/4 of 22 June 1989 on a coordinated programme for the reduction of nutrients. This Recommendation establishes *inter alia* a set of measures on waste water treatment plants, with the aim of reduce nutrient loads in coastal areas.
- 1992 OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic. Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area.
- 1998 OSPAR Strategy on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area. The objective of this Strategy is to protect and conserve the ecosystems and the biological diversity of the maritime area which are, or could be, affected as a result of human activities. Among human activities referred to are tourism and recreational activities.
- 1998 OSPAR Guidelines for the Management of Dredged Material.
- 1999 OSPAR Guidelines on Artificial Reefs in relation to Living and Marine Resources. According to this, artificial reefs can be used for creating fish aggregation areas for fisheries, sport anglers and diving.
- OSPAR Recommendation 2000/2 on Best Environmental Practice (BEP) for the Use of Pesticides on Amenity Areas. The purpose of this Recommendation is to prevent and eliminate pollution of the marine environment by the application of the BEP for the use of pesticides on amenity areas.

Actions developed by other supranational organisations

Council of Europe: It should be mentioned that Council of Europe work on tourism has been conducted, since 1995, within the Pan-European Biological and Landscape Diversity Strategy, which is part of the European implementation of the Convention on Biological Diversity, 1992 (Council of Europe, doc. CO-DBP(2002)3, 2002).

- Resolution (73) 29 on the Protection of coastal areas. Council of Europe Committee of Ministers. 1973. It establishes the principle that coasts can only be protected effectively if multiple interests and problems are taken simultaneously into account (e.g. maintaining the ecological and biological balance, promoting economic and tourist development and conserving natural resources).
- Recommendation No. R (85) 18 concerning Planning policies in maritime regions. Council of Europe Committee of Ministers. 1985. This Recommendation advocates rational organisation of tourism so that the development of recreation is prevented from causing irreversible deterioration of the natural environment in European coastal regions.
- Recommendation No. R (94) 7 on a General Policy for sustainable and environment-friendly tourism development. Council of Europe. Committee of Ministers. 1994. It sets out a set of principles and measures to manage tourism development in a sustainable and environment-friendly manner.
- Recommendation No. R (97) 9 on a Policy for the development of sustainable environment-friendly tourism in coastal areas. Council of Europe. Committee of Ministers. 1997. This

recommends that member governments base their tourism development policies in coastal areas on the principles and measures set out in the Appendix to Recommendation. Among the principles referred are: “protection of noteworthy coastal habitats and areas, particularly the wetlands” and “free access to the coast while respecting natural values”. Among the measures referred to implement these principles, it can be mentioned: “(to) provide for areas where building and activities are strictly controlled and for other areas where building is completely prohibited” and “(to) ensure that beaches are regularly cleaned”.

- Model Law on sustainable management of coastal zones. 1999.
- European Code of conduct for coastal zones. 1999. The Code is meant to provide practical assistance and guidance in the achievement of sustainable development in coastal zones. It focuses on twelve socio-economic sectors, including one devoted to “Tourism and Recreation”. Impact of tourism in coastal areas is analysed and after that a set of practical guidelines for tourism development in coastal areas is proposed. This deals with, *inter alia*, construction, water conservation, transport, beach maintenance, etc.
- Recommendation No. R (99) 16 on the Development of environmental management training for those involved in the tourism sector, including future professionals. Council of Europe. Committee of Ministers. 1999.
- Recommendation No. R (2000) 17 on the Code of sustainability in sport: a partnership between sport and the environment. Council of Europe. Committee of Ministers. 2000.

Helsinki Convention (HELCOM):

- HELCOM Recommendation 15/1 of 8 March 1994 on Protection of the coastal strip.
- HELCOM Recommendation 15/5 of 10 March 1994 on System of coastal and marine Baltic Sea Protected Areas (BSPA).
- HELCOM Recommendation 16/3 of 15 March 1995 on Preservation of natural coastal dynamics.
- HELCOM Recommendation 21/3 of 20 March 2000 on Sustainable and environmentally friendly tourism in the coastal zones of the Baltic sea area.

International Maritime Organisation (IMO):

- International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78). The North Sea (1991) has been designated as MARPOL Special Area for the purpose of Annex V (prevention of pollution by garbage from ships), and the dumping of all garbage and litter from ships is prohibited.
- London Convention (1972) and its Protocol (1996) on the Prevention of Marine Pollution by Dumping of Wastes and other Matter.

Other supranational organisations

United Nations (UN):

- Decision 7/3. Tourism and Sustainable Development. New York, 19-30 April 1999.

Economic and Social Commission for Asia and the Pacific (ESCAP):

- Guidelines on Environmentally sound Development of Coastal Tourism 1995; and Guidelines on Integrated Planning for Sustainable Tourism Development 1999.

United Nations Environmental Programme (UNEP):

- Principles for the Implementation of Sustainable Tourism, 2000.

Convention on Biological Diversity (CBD):

- 2001 International Guidelines for Sustainable Tourism.

5. CHOICE OF POSSIBLE ACTIONS FOR THE DEVELOPMENT OF SUSTAINABLE TOURISM IN COASTAL ZONES OF OSPAR MARITIME AREA

OSPAR is primarily concerned with the marine environment. It has competence to deal with landward environmental issues only in so far as they impact on the marine environment. Likewise, many issues relating to the landward aspects of tourism fall firmly within national competence, and raise no transboundary issues requiring international consideration. It is necessary to keep these two points firmly in mind in considering possible action within the framework of OSPAR in relation to tourism.

There are, nevertheless, a number of points of departure which can be used in developing agreed action on the implications of tourism for the marine environment. Foremost among these is the EC Recommendation on Integrated Coastal Zone Management (ICZM). OSPAR should base its programme of work in relation to tourism on the assumption that the Contracting Parties will be applying either this ICZM Recommendation or (for the non-EU Contracting Parties) the principles upon which it is based.

Against this background, the aim should be to promote the development of national, regional or local systems of ICZM that take appropriate account of the needs for the protection and conservation of the marine environment, and the international interests and commitments related to it. To guide the development of tourism as part of sustainable ICZM in the coastal zones of OSPAR maritime area, the following approaches are suggested for further examination:

Controlling coastal tourism development

- a. OSPAR should assume that the implementation of the ICZM principles in relation to tourism will ensure that:
 - (i) there is a strategy for sustainable tourism at the national, regional or local level as appropriate and that tourism in coastal zones will be planned and managed on the basis of this strategy/these strategies;
 - (ii) tourism planning in coastal zones will not be undertaken in isolation. It will be integrated with general development planning of such zones. All major tourist developments and activities in coastal zones will be subject to prior comprehensive Environmental Impact Assessment;
 - (iii) tourist activities in coastal zones will be planned at the appropriate levels (local or other). All levels of planning will be co-ordinated; Tourism management plans in coastal zones will be adaptive in order to be able to respond to new information and conditions, and will provide for appropriate zoning so that incompatible uses and areas of various tourism intensity can be separated into different zones;
 - (iv) tourism development in coastal zones will be managed within the carrying capacity of the sites. Where existing tourist activities exceed the carrying capacity, all efforts will be made to reduce the negative impacts from tourist activities and to take measures to restore degraded environments;
 - (v) Contracting Parties will encourage tourism developers to modernize or rehabilitate existing buildings where practical rather than construct new buildings. Building permits will be issued only subject to guarantees as to the respect for natural habitats and landscape. Specific rules should be adopted with the aim of integrating building architecture with the local environment in coastal zones;

- (vi) All relevant stakeholders (administration, international organisations, local community, and the tourism industry) will be consulted at all levels of the tourism-planning process in order to ensure their full involvement throughout the planning process.
- b. To ensure that proper attention is given in this process to the marine environment, OSPAR should explore the possibilities of promoting:
 - (i) the compilation of inventories of marine natural resources before planning programmes for coastal tourism development are finally settled and implemented;
 - (ii) integration into the ICZM process of the designation of marine protected areas (including landward areas of importance to marine species such as sea birds) in accordance with general OSPAR Guidelines on the identification, selection and management of marine protected areas, in order to ensure the conservation of the coastal zones and preserve its biological and landscape diversity;
 - (iii) the achievement of the management objectives of marine protected areas through the management of tourism;
 - (iv) strict control of all construction of tourist facilities on the immediate sea margin (that is, the strip of land, extending at least to 100 - 300 metres inland from the highest sea level/tide line) along the whole of the coastline;
 - (v) particular protection to dunes, marshes, beaches, and breeding and spawning areas.

Monitoring and combating pollution

- c. In respect of waste water generated by tourism development, the OSPAR Strategy for Combating Eutrophication is based on the implementation of, *inter alia*, the EC/EEA Urban Waste Water Treatment Directive. In considering the potential pollution impact from tourism, OSPAR can therefore assume that:
 - (i) all significant tourist settlements in coastal zones will be connected to collecting systems for waste water. Waste water systems and waste water treatment plants will be appropriate to the nature of the site and the number of tourists;
 - (ii) waste water entering collecting systems will, before discharge, be subject to appropriate: primary, secondary, tertiary or other treatment.
- d. Likewise, given the EC/EEA Bathing Water Directive, OSPAR can assume that a bathing-water quality-monitoring network will be established in order to check regularly the quality of bathing waters and that the results of the checks will be presented to the general public.
- e. Furthermore, given the EC Directive on Port Reception Facilities, and similar commitments by non-EU Contracting Parties, OSPAR can assume that:
 - (i) there will be available adequate marina/harbour waste-reception facilities to meet the needs of the recreational crafts normally using each marina/harbour;
 - (ii) an appropriate waste reception and handling plan will be developed and implemented for each marina/harbour, following consultations with the relevant parties, in particular marina/harbour users.
- f. Since special precautions on the discharge of waste water (even where it has been treated) may be justified where such discharges could affect specially sensitive areas (such as marine protected areas), OSPAR should investigate the possibilities of including in the guidance on the management of such areas material on how to establish appropriate precautions for specific cases.
- g. In following up the pilot project on marine litter, OSPAR should consider the possibilities of promoting local beach-cleaning services.

- h. In order to ensure the effective protection of coastal marine protected areas and other coastal zones where noise or similar pollution could have an adverse effect on the marine environment (wetlands, breeding and spawning areas, etc.), OSPAR, taking into account the UN Convention on the Law of the Sea and IMO and EU regulations, should consider the possibilities of promoting the regulation, where they can impact on such areas, of:
 - (i) the use of motorboats (speed boats, power boats, jet skis, etc.);
 - (ii) the use of motor-vehicles in the immediate sea margin (as defined above);
 - (iii) recreational activities (scuba diving, underwater fishing, diving, etc.).
- i. In order to protect coastal aquifers important for the marine environment from saline intrusion, the possibilities should be explored of developing guidance to those responsible for water management on the recycling of waste water for irrigation and similar purposes.
- j. OSPAR should consider whether and, if so, how the impact of tourism on the marine environment could be monitored. To this end, the possibilities should be examined of:
 - (i) establishing indicators for measuring the overall progress of tourist sites in coastal zones towards sustainable coastal tourism development;
 - (ii) consulting tourist areas on how to define target values for any such indicators through a participatory process, involving all stakeholders, and action plans might be developed to define how and when such targets might be achieved;
 - (iii) where Environmental Impact Assessments of new developments have been carried out, monitoring to verify the actual level of environmental impact against that predicted.

Building environmental awareness

- k. The possibilities should be examined of arranging that:
 - (i) principles of sustainable tourism development are incorporated in training programmes for those involved in the management of the tourist sites in coastal zones;
 - (ii) awareness-raising campaigns are addressed to both those engaged professionally in tourism and to the general public, in order to inform them about the impacts of tourism on coastal zones and good practice in these zones;
 - (iii) practical reference documents on sustainable tourism development in coastal zones (“white-books”, “good-practice guides”, etc.) are produced and distributed.

Using economic instruments and incentives

- l. As part of the development of ICZM, the possibilities should be considered of:
 - (i) changes in tax incentives and subsidies to remove any incentives for unsustainable tourist projects in coastal zones;
 - (ii) fees for access to biological resources in coastal zones, for example by charging entrance fees to protected areas and fees for particular tourist activities such as diving, underwater fishing, and scuba diving;
 - (iii) the implementation of sustainable tourism certification programmes in coastal zones.

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