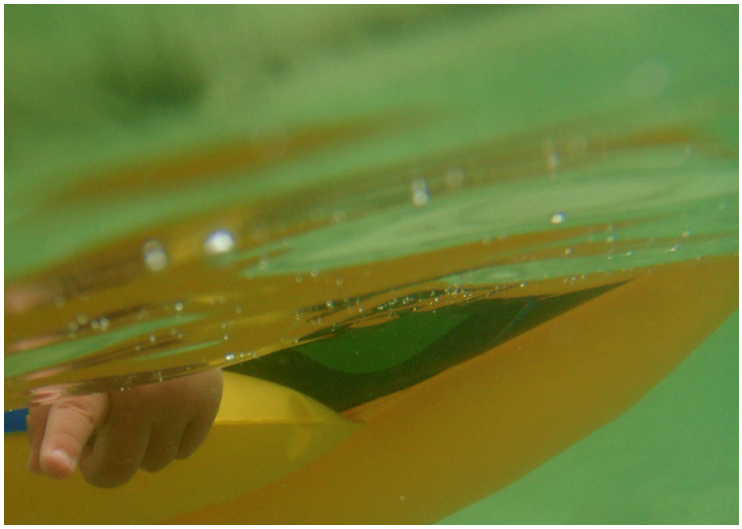
OSPAR COMMISSION

Assessment of impacts of tourism and recreational activities

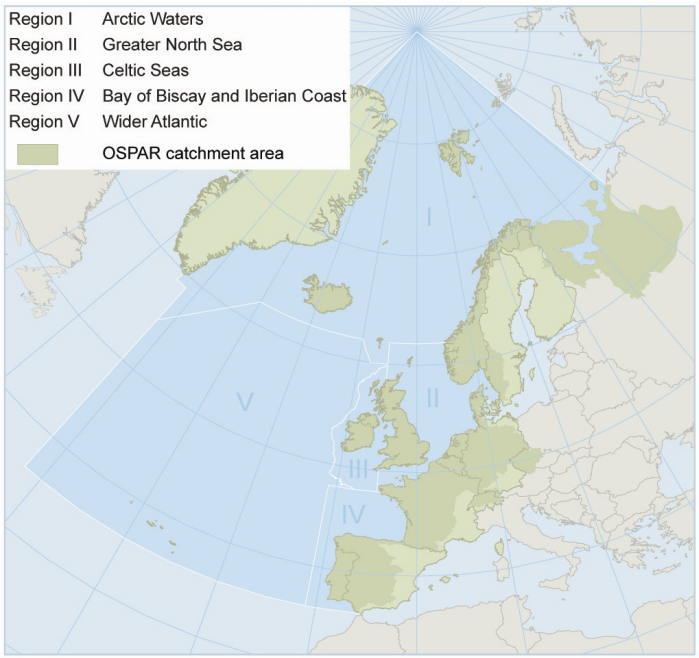


Biodiversity Series

2008

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.



The OSPAR maritime area and its five Regions

Photo: courtesy of Jennifer Labédie

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Executive summary

Today

Tourism in the OSPAR region is notably increasing and with it also the negative and positive implications that this activity has in the coastal and marine environment. At present, Europe is the world's largest holiday destination and it is still growing. The most popular destinations in the region are coastal zones where fragile ecosystems may suffer greatly from tourism-related impacts. With respect to tourist arrivals in the OSPAR area, Regions II and IV sustain the highest level of tourism pressure and have experienced the largest increase in the number of arrivals during the 1998-2006 period.

The pressure on coastal ecosystems is increasing

The most relevant problems associated with tourism are those related to the large number of tourists which, added to the coastal population, particularly in the summer, greatly increases pressure on littoral ecosystems and fosters infrastructure and urban development on the coast. Artificial surfaces spread as a result of residential expansion (especially in Portugal, France and Ireland, but also in the United Kingdom, Belgium, Denmark and Sweden) and the greater need for services, recreation, coastal defences and harbours (especially in the North Sea). Other problems arise from increased demand for water resources (especially during the summer in southern Europe) and over-frequentation of natural sites – a main issue in areas with high value ecosystems which are exceptionally delicate, such as wetlands, sea-cliffs, coastal dunes and beaches. Beach nourishment is one of the alternatives carried out to counteract the effects of coastal erosion and to maintain the extension of beaches. Other relevant activities can have adverse environmental impacts and effects, such as: recreational boating – probably the most widespread form of marine tourism; whale-watching – a growing industry in Europe, significantly contributing to the marine tourism sector (in 2002, 62 050 people went whale-watching in Iceland, approximately 30% of all visitors to the country); and cruise-travelling, a sector of tourism that has been increasing systematically and is expected to grow even more in the coming years, especially in northern Europe.

Impacts of tourism and recreational activities are adequately covered by international and national measures

No specific measures on tourism have been developed by OSPAR apart from the evaluation of the activity, an assessment of the impact of tourism on the OSPAR Maritime Area and the OSPAR Pilot Project on Monitoring Marine Beach Litter (2000–2006). The latter has been the first region-wide attempt in Europe to develop a method for monitoring marine litter on beaches and to assess the presence of marine litter on the beaches in the OSPAR region. Other actions, such as the designation of Natura 2000 sites under the EU Habitats Directive, are being taken by individual Contracting Parties in order to preserve the coast from excessive development and the related impacts of tourism. However, efforts have to be made in order to increase the surface of marine areas designated under the Natura 2000 network, so that protection of marine and coastal habitats from tourism and other impacts is ensured.

Both coastal and offshore recreational activities have negative impacts on the marine environment

Most impacts of tourism are related to littoral areas. Negative coastal environmental impacts result from the presence of a high number of people on fragile systems, pressure on limited local resources and increased invasion of natural areas. These activities result in distressed animals, erosion and other impacts. Other recreational activities (angling, boating, whale-watching, scuba-diving, cruise travelling, etc.) are developed directly in the sea, and therefore can have a more direct impact on the marine environment caused by, for example: disturbances due to boat bottom colour, noise, anchorage, garbage and other waste, releases of hydrocarbons, TBT, and other substances, introduction of non-indigenous species and illegal sub-aquatic fishing. In general terms, land degradation and land-use change, as well as habitat loss and different impacts and effects on biodiversity result directly from the construction of tourist facilities and infrastructure through the clearing of wetlands and the extraction of building materials.

Not everything is bad news

On the other hand, tourism has the potential to create beneficial effects on the environment by contributing to environmental protection and conservation. It is also a way of raising awareness of environmental values and it can serve as a tool to finance protection of natural areas, such as Marine Protected Areas, and increase their economic assets. Tourism also plays an important role in development, generating growth and employment in the region, which explains why “sustainable tourism management”, “eco-tourism” and “green tourism” will be so important in the future. A key contribution to coastal planning and therefore to the control of tourism impacts is Integrated Coastal Zone Management.

Récapitulatif

Situation actuelle

Le tourisme est en nette augmentation dans la région OSPAR avec toutes les implications positives et négatives que cela peut avoir pour les milieux côtier et marin. L'Europe représente actuellement la destination des vacances la plus populaire au monde et cela ne cesse de s'accroître. Les destinations les plus recherchées de la région sont les zones côtières où les écosystèmes fragiles risquent de souffrir énormément des impacts liés au tourisme. En ce qui concerne la zone OSPAR, les Régions II et IV subissent les pressions du tourisme les plus importantes et dont le nombre de touristes a le plus augmenté entre 1998 et 2006.

La pression sur les écosystèmes côtiers augmente

Les problèmes les plus pertinents associés au tourisme sont ceux liés au nombre important de touristes qui, ajouté à la population côtière, en particulier en été, augmentent grandement les pressions sur les écosystèmes du littoral et entraînent le développement urbain et d'infrastructures sur la côte. Les surfaces artificielles se répandent du fait de l'expansion résidentielle (surtout au Portugal, en France et en Irlande mais également au Royaume-Uni, en Belgique, au Danemark et en Suède) et du besoin croissant de prestations, de loisirs, de défense côtière et de ports (en particulier dans la mer du Nord). D'autres problèmes découlent de la demande accrue de ressources en eau (en particulier en été dans l'Europe méridionale) et de la visite intensive de sites naturels, ce qui représente une question importante dans les zones qui possèdent des écosystèmes de grande valeur et particulièrement délicats. Il s'agit notamment des marécages, des falaises maritimes, des dunes côtières et des plages. Le réapprovisionnement des plages constitue une des solutions permettant de neutraliser les effets de l'érosion côtière et de pouvoir agrandir des plages. D'autres activités pertinentes peuvent avoir des impacts et des effets négatifs sur l'environnement. Il s'agit notamment de la navigation de plaisance – probablement le type le plus répandu de tourisme marin; l'observation des baleines – une industrie en expansion en Europe, qui contribue de manière significative au tourisme marin (en 2002, 62 050 personnes sont allées observer des baleines en Islande ce qui représente environ 30% des personnes visitant le pays). Il s'agit également des croisières, un secteur du tourisme qui a augmenté systématiquement et qui augmentera encore plus dans les années à venir, en particulier dans l'Europe septentrionale.

L'impact des activités liées au tourisme et aux loisirs est couvert de façon adéquate par des mesures nationales et internationales

OSPAR n'a développé aucune mesure spécifique pour le tourisme, en dehors de l'évaluation de cette activité, d'une évaluation de l'impact du tourisme sur la zone maritime OSPAR et du Projet pilote OSPAR sur la surveillance des déchets marins rejetés sur les plages (2000–2006). Ce projet constitue la première tentative en Europe, à l'échelle de la région, de développer une méthode de surveillance des déchets marins sur les plages et d'évaluation de la présence de ces déchets dans la région OSPAR. Certaines Parties contractantes agissent individuellement et prennent des mesures afin de protéger la côte des développements excessifs liés au tourisme ainsi que de leurs effets. Il s'agit par exemple de la désignation de sites Natura 2000 dans le cadre de la Directive relative aux habitats de l'UE. Il faudra cependant s'efforcer d'augmenter la surface des zones marines désignées dans le cadre du réseau Natura 2000 pour assurer la protection des habitats marins et côtiers du tourisme et d'autres impacts.

Les activités de loisirs, soit côtières soit au large des côtes ont des impacts négatifs sur le milieu marin

La plupart des impacts du tourisme portent sur les zones littorales. Les impacts négatifs sur le milieu côtier résultent de la présence d'un nombre élevé de personnes qui fréquentent des systèmes fragiles, des pressions exercées sur des ressources locales limitées et de l'invasion accrue des zones naturelles. Ces activités causent beaucoup de détresse aux animaux, entraînent une érosion et engendrent d'autres impacts. D'autres activités récréationnelles (pêche à la ligne, navigation de plaisance, observation des baleines, plongée sous-marine, croisières, etc.) ont lieu directement dans la mer et peuvent donc avoir un impact plus direct sur le milieu marin. Ceci est causé par exemple par des perturbations dues à la couleur de la coque du bateau, au bruit, à l'ancrage, aux ordures et autres déchets, aux émissions d'hydrocarbone et d'autres substances, au TBT, à l'introduction d'espèces non indigènes et à la pêche subaquatique illégale. D'une manière générale, la dégradation de la terre et les modifications de l'exploitation de la terre ainsi que la perte d'habitats et les divers impacts et effets sur la biodiversité résultent directement de la construction de prestations et d'infrastructures destinées au tourisme en défrichant les marécages et en extrayant des matériaux de construction.

Il n'y a pas que des mauvaises nouvelles

Cependant, le tourisme peut avoir potentiellement des effets bénéfiques sur l'environnement en contribuant à sa protection et à sa conservation. Il constitue également un moyen de sensibiliser l'opinion sur la valeur de l'environnement et peut constituer un outil permettant de financer la protection de zones naturelles, telles que les zones marines protégées et d'augmenter leur actif économique. Le tourisme joue également un rôle important dans le développement en générant croissance et emploi dans une région ce qui explique pourquoi « la gestion durable du tourisme », de « l'écotourisme » et du « tourisme vert » seront si important dans l'avenir. La gestion intégrée des zones côtières représente une contribution essentielle à la planification côtière et donc au contrôle des impacts du tourisme.

1. Introduction

This assessment of tourism and recreational activities has been prepared by Spain as lead country within OSPAR. It is a contribution to the series of assessments of human activities under the 2003 OSPAR Joint Assessment and Monitoring Programme (JAMP) and ultimately to the Quality Status Report 2010. The purpose of the assessments of human activities is to provide the basis for deciding whether the human activity in question should be identified for the development of OSPAR programmes and measures to control the activity. The assessments should consider the extent, intensity, and changes of the activities, and also how far effects seen in the marine environment can be linked to the activity.

Tourist arrivals in Europe, the world's most important and most mature destination region, with a share of over 50% of all international tourist arrivals, grew in 2007 to reach the figure of 480 million arrivals. According to the latest data from the United Nations World Tourism Organization (UNWTO, 2007a,b,c, 2008), international tourist arrivals in Europe have undergone an average annual growth of 2.7% from 2000 to 2006. For the 2005-2006 period, the region where international tourist arrivals increased at a greater rate was northern Europe, although tourism demand for the traditional sun and sea destinations of southern and Mediterranean Europe remained buoyant as is reflected in the results for Spain (+4%) and Portugal (+6%). The growth in Europe for the first eight months of 2007 was around 4%. This average masks some wide variations for individual countries, like Iceland, whose exceptional performance (+15% in arrivals) is attributed to its roller-coaster business and investment environment (see Figure 1).

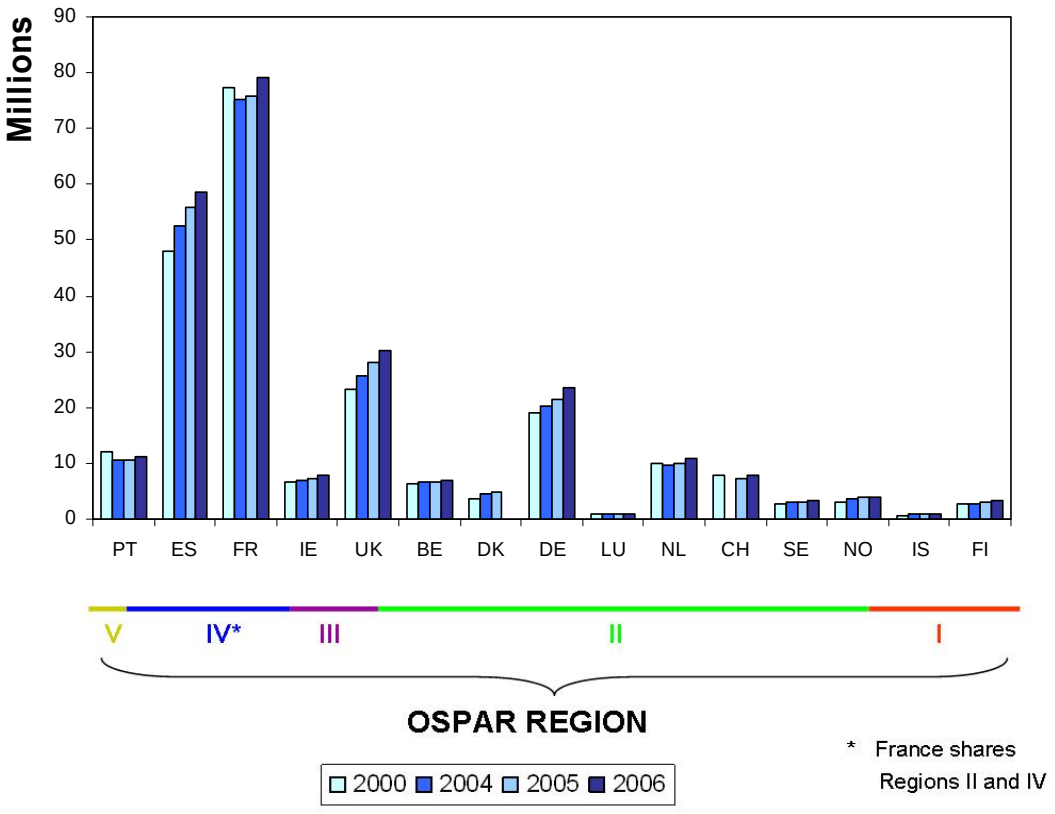

Figure 1. International tourist arrivals by country of destination (OSPAR Contracting Parties).
Source: UNWTO, 2007b

Tourism is a fast-growing industry and a major source of income for some European countries. The most popular destinations in the region are coastal zones, where tourism and recreation are one of the human activities most directly related to the environment, since it is precisely the natural characteristics of the coast that attract tourists. But the diversity and fragility of these coastal and marine ecosystems may suffer greatly from tourism-related impacts. Most environmental impacts arise from the construction of infrastructure for tourism (housing, marinas, transport, waste and water treatment facilities, etc.), from recreational activities (golf courses, water sports, and massive frequentation of coastal areas such as dunes, wetlands, beaches and sea-cliffs) and from the excessive concentration of tourists (with a great demand for resources such as water, food, energy and construction material, and increasing waste and wastewater generation).

On the other hand tourism plays an important role in development. Infrastructure created for coastal and maritime tourism purposes contributes to local development and job creation. It can make a significant contribution to the economy of coastal areas and islands, proof of which is the growth forecast of 3% per year for 2005-2009 for the whole European Union (EU) GDP (EC, 2008a).

Tourism is indeed one of the economic activities with most significant potential to generate future growth and employment in the EU and it is particularly important when it comes to offering job opportunities to young people (EC, 2007a).

For this reason, sustainability is a key factor for the competitiveness of destinations and the welfare of their populations, as well as for the preservation and enhancement of the natural and cultural attractions and for the creation of employment. This is why sustainable tourism plays a major role in the preservation and enhancement of the cultural and natural heritage, which in turn impacts in a positive way on employment and growth creation (EC, 2006a).

Tourism trends also reflect new issues, like emerging destinations or impacts in the tourist industry for environmental reasons. International interest in the Arctic has grown substantially in recent years. The North is viewed as one of the few unspoiled natural regions left in the world and more and more people want to experience it first hand. Some changes in tendencies can be observed in recent years, and although the number of tourists travelling to the North is still relatively small, some areas are seeing mass tourism-like development in a fragile environment as the Arctic is.

Tourism resources are also at risk from climate change factors, such as increasing summer temperatures, drought and even a rise in sea level. Urban settlements are also vulnerable to floods and sea storms. This may affect the choice of destination for future visitors. It is also likely to have an impact on the way built up areas on the coast will develop in the future.

Climate change is now seen as a fundamental issue with major implications for tourism, requiring the industry to reduce its contribution to greenhouse gas emissions and destinations to adapt to changes, especially coastal tourism destinations, in the pattern of demand and in the type of tourism they can offer.

The number of arrivals of residents and non-residents (NUTS[1] 2), and the number of establishments, bedplaces and bedrooms (NUTS 3), has been collected in the EU (Eurostat, 2007). These data can give us some information on the pressure exerted by tourism in each OSPAR Region.

As it can be observed in Figures 2 and 3, Regions II and IV sustain the highest level of tourism pressure and have experienced the largest increase in number of arrivals during the 1998-2006 period. Region III shows a decreasing tendency in the number of arrivals. This is consistent with the trend in number of establishments, bedplaces and bedrooms.

[1] *NUTS*: Nomenclature of territorial units integrating socio-economic data for statistics. The NUTS classification is hierarchical in that it subdivides each country into three levels: NUTS levels 1, 2 and 3. The second and third levels are subdivisions of the first and second levels respectively. The NUTS level to which an administrative unit belongs is determined on the basis of population thresholds as follows: NUTS 1: 7 million-3 million; NUTS 2: 3 million-800 000; NUTS 3: 150 000-800 000.

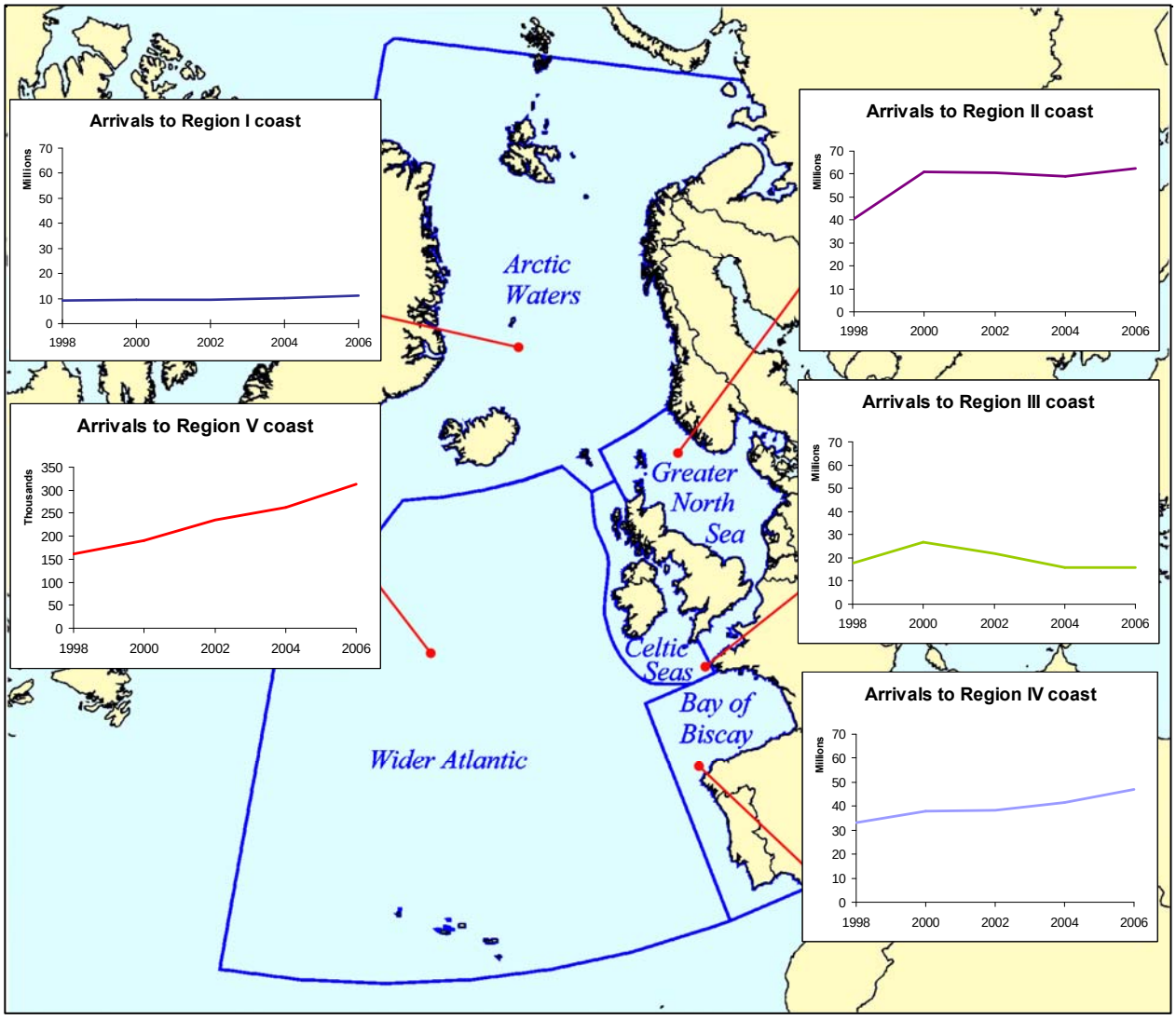

Figure 2a. Tourist arrivals to the OSPAR coastal regions in 1998-2006. Note: the graph's scale for Region V is different for display purposes. Data source: Eurostat, 2007.

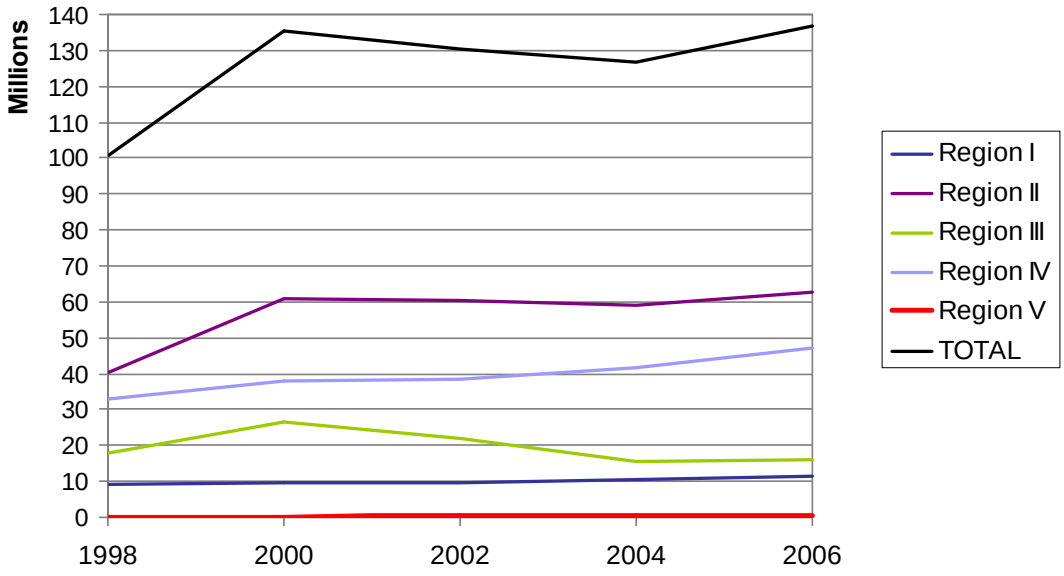

Figure 2b. Tourist arrivals to each OSPAR coastal region and total, 1998-2006 period. Data source: Eurostat, 2007.

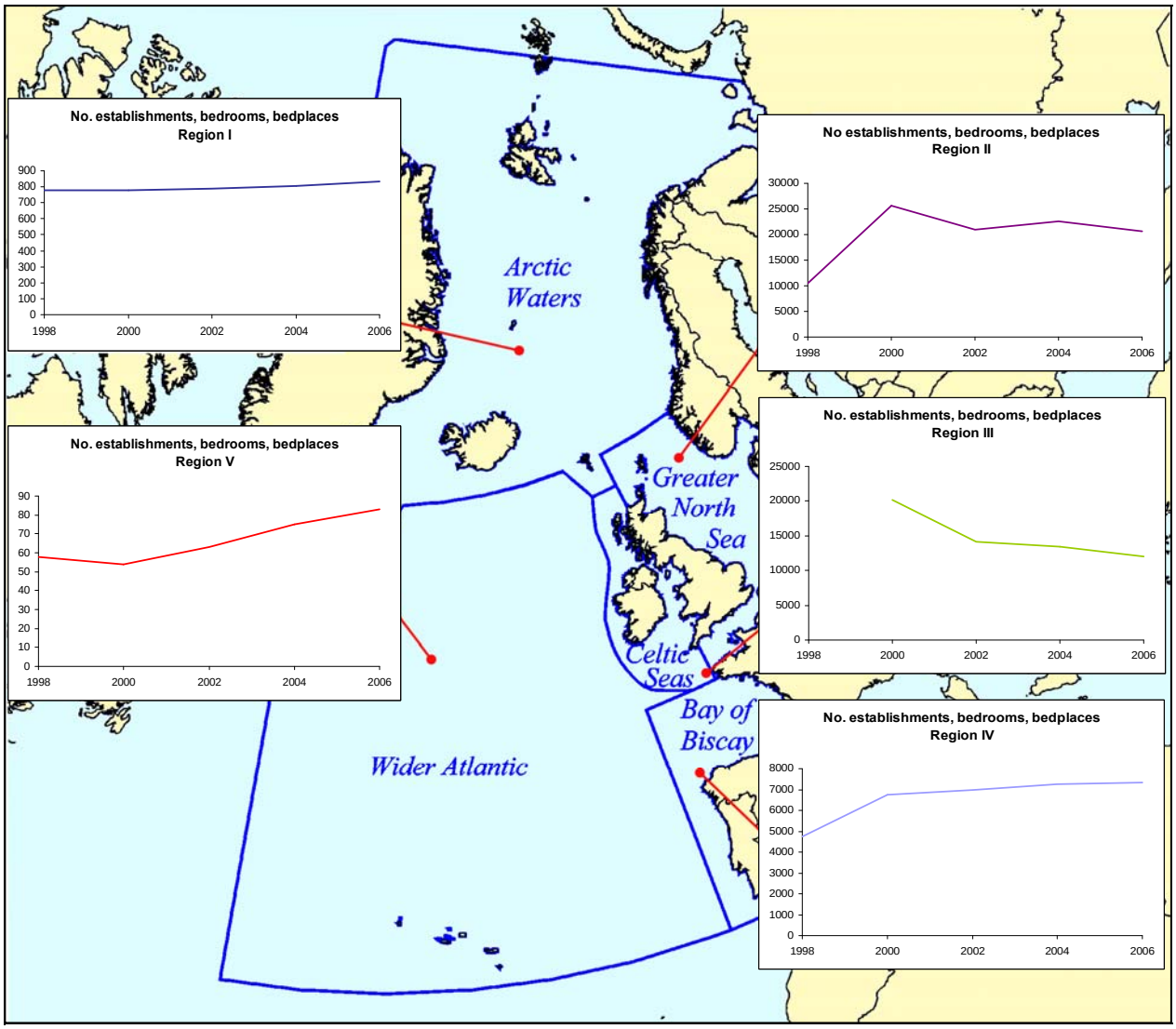

Figure 3a. Time series of number of establishments, bedrooms and bedplaces in the OSPAR coastal regions. Note: No available data for Region III in 1998. Data source: Eurostat, 2007.

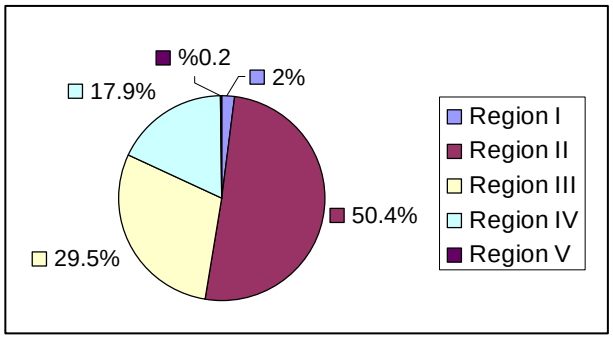

Figure 3b. Percentage share of establishments, bedrooms and bedplaces in OSPAR Regions in 2006. Data source: Eurostat, 2007.

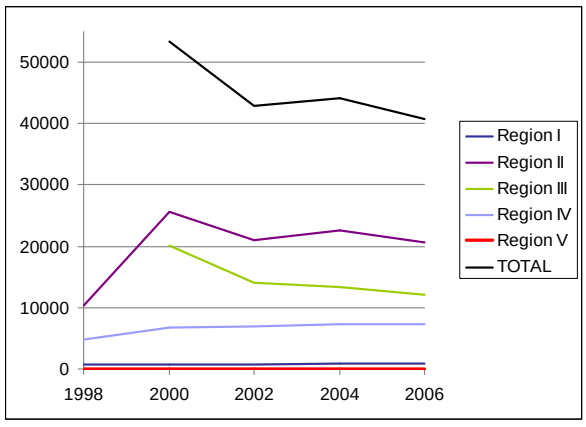

Figure 3c. Time series of number of establishments, bedrooms and bedplaces in the OSPAR coastal regions, and total. Note: No available data for Region III in 1998. Data source: Eurostat, 2007.

2. What are the problems?

The world's coastal regions are densely populated and environmentally vulnerable. In addition to tourism, they are subject to increasing pressures from many other sources, including industrial development, urban expansion and the exploitation of marine resources.

Today, large parts of the coast follow a development model based on a very high degree of land conversion to artificial surfaces. This development is often decoupled from population growth and driven by the demands of tourism, the most dynamic economic sector on the coast.

Water resources are also greatly affected by tourism, since overexploitation caused by tourist demand of water (for human use, golf courses, swimming pools, etc.) can cause fresh water shortages and degradation of groundwater reserves through saline intrusion.

Sea level rise and an increase in the strength and frequency of storms and floods, caused by climate change, are likely to exacerbate these problems. Even more significant than the direct loss of land caused by the sea level rising are the associated indirect factors. These include damage to coastal infrastructure, suboptimal functioning of the sewage system of coastal cities (with resulting health impacts), loss of littoral ecosystems and loss of biotic resources.

Attractive natural settings remain particularly sensitive to tourism development. Degradation, sometimes irreversible, can affect natural resources in some popular and mass destinations because of tourist over-frequentation (*e.g*. beaches). Beach nourishment is one of the activities some countries carry out in order to maintain the extension of beaches, which are often where most tourism and recreational activities take place.

Tourism's relationship with the environment is complex. Natural resources, biodiversity, and ecosystem function may be threatened by the uncontrolled development of tourism as it involves many activities that can have adverse environmental impacts and effects (see Table 1).

Table 1. Nature of tourism and leisure activities. Source: Marine Institute of Ireland

Active water-based pursuits	Passive water-based pursuits
Pleasure boating	Beaches and coastal recreation
Sail training	Visits to islands
Wind/board surfing	Coastal passenger boats/pleasure cruises
Water skiing	Inland passenger boats/pleasure cruises
Scuba diving	Aquaria
Sea angling	Maritime museums/interpretative centres
Game angling	Nature tourism
Coarse angling	Marine mammal watching
Sea kayaking	Marine archaeology
Canoeing	Coastal/lake touring routes
Swimming	Cruise ships

2.1 Population

Although OSPAR countries are diverse, population densities are usually higher on the coast than inland as people tend to be concentrated in certain areas, more favourable for trade, marine industry or recreation (see Figure 4). In Europe, population densities of the coastal regions are on average 10% higher than inland. In the OSPAR region, the Iberian and the North Sea coasts have the highest population densities, with more than 500 inhabitants/km^2.

The EU DG Joint Research Centre has estimated that the population living in the 0–10 km coastal zone is 86 million inhabitants (19% of EU total population). Calculated from redistributed population values for the 0–10 km coastal zone, population densities on the coast (see Figure 5) are twice as high as total population densities of EU countries (Gallego, 2006).

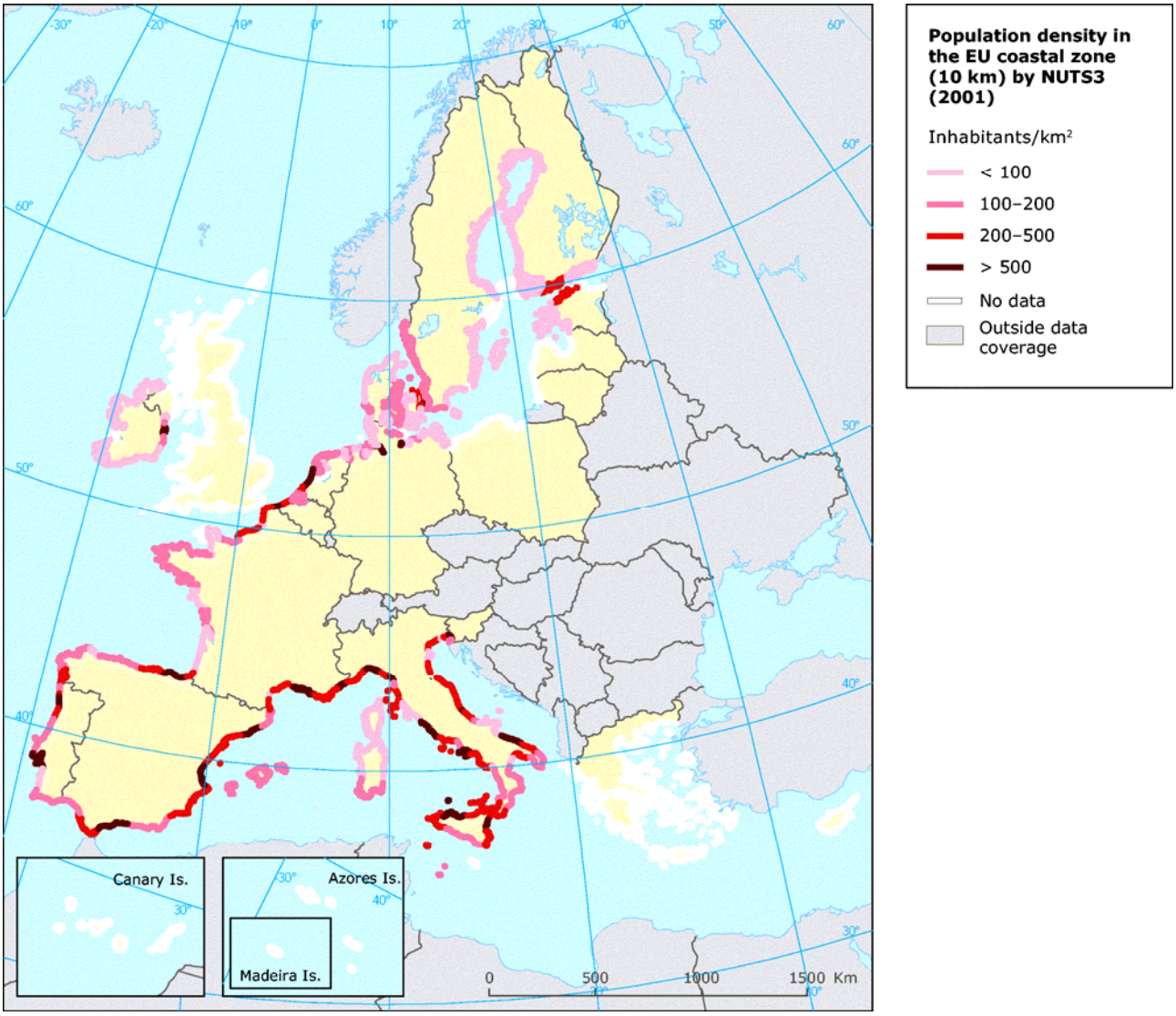

Figure 4. Population density in the European coastal zone (0-10 km) in 2001. Source: EEA, 2006.

The rates of population growth are also higher on coastal strips than inland. The highest population increases have taken place in Ireland, and along the Atlantic rim in France, and in some coastal regions in Portugal (EEA, 2006).

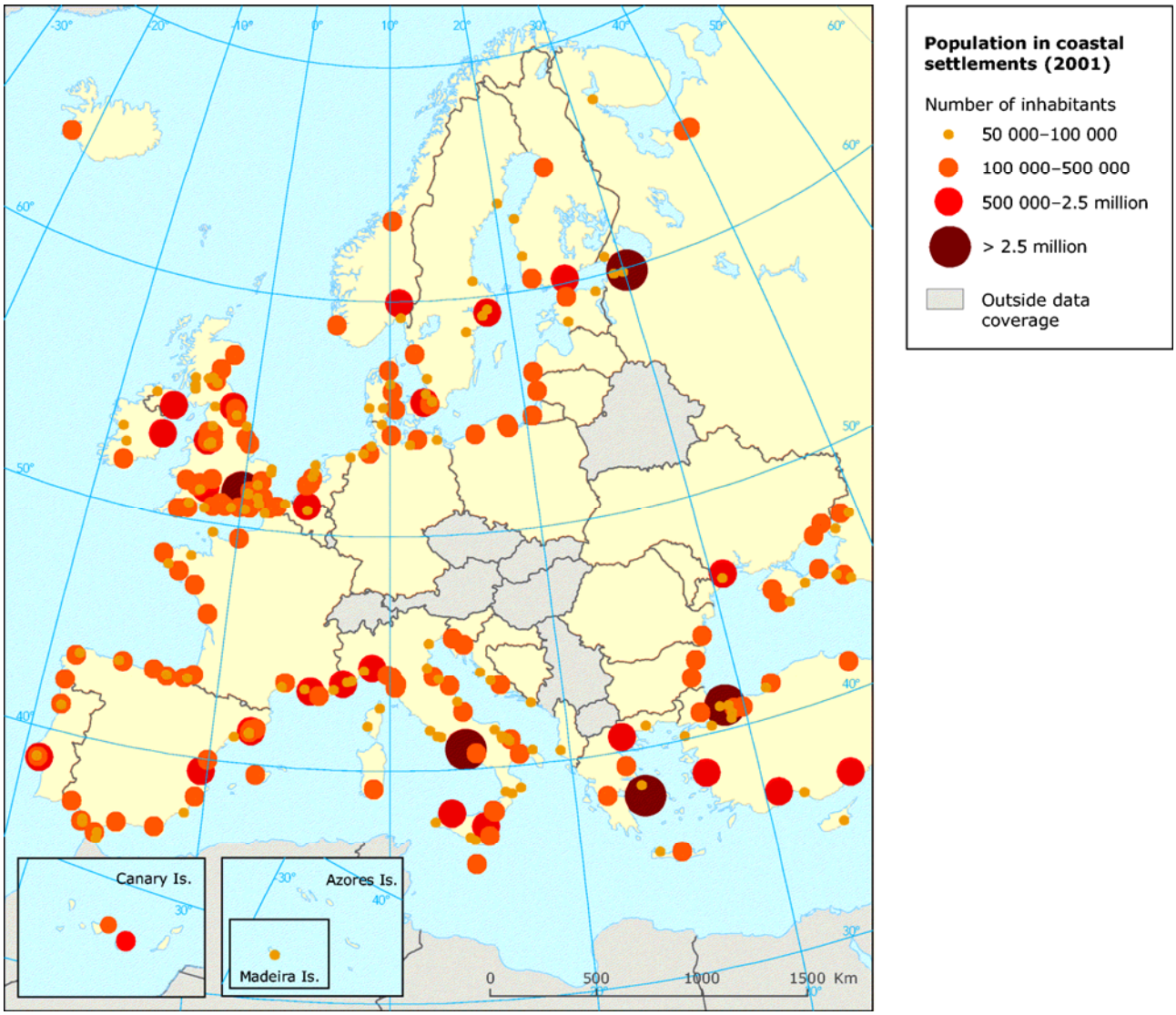

Figure 5. Population in coastal settlements in 2001. Source: EEA, 2006.

It is obvious that tourism significantly adds to population density in coastal areas, particularly in the summer, therefore increasing pressure on littoral ecosystems and fostering infrastructure and urban development on the coast.

2.2 Artificial surfaces

The spread of artificial surfaces due to housing, services and recreation in the coastal zones of the region is evident. Considering the coastal zone on a 10-km stretch from the sea inland, urban surfaces are dominant on the first kilometre from the shoreline. Therefore, the immediate coastal strip receives most pressures. These pressures are especially intense in some coastal areas in the Atlantic, where the entire French coast, the Spanish Atlantic regions (especially the Basque country and Huelva) and certain stretches of the Portuguese coast are occupied. Many North Sea coasts are also very intensively built-up, such as the Netherlands and Belgium (EEA, 2005).

There is an increasing demand for investment in coastal residences due to tourism and leisure in northern Europe. In addition to this, there is domestic demand from the inland population, *e.g.* the retired.

It is generally known that residential expansion began in some areas of the Mediterranean regions 30 years ago (*e.g.* French Riviera, Costa del Sol and Costa Brava in Spain), but that in the past 10 years this expansion has spread to the coasts of other regional seas, for example the Atlantic coast (Portugal, France, Ireland) and the southern North Sea (the United Kingdom, Belgium, Denmark, Sweden), see Figure 6 (EEA, 2006). Often these new residential quarters are only used in summer and remain empty for the rest of the year.

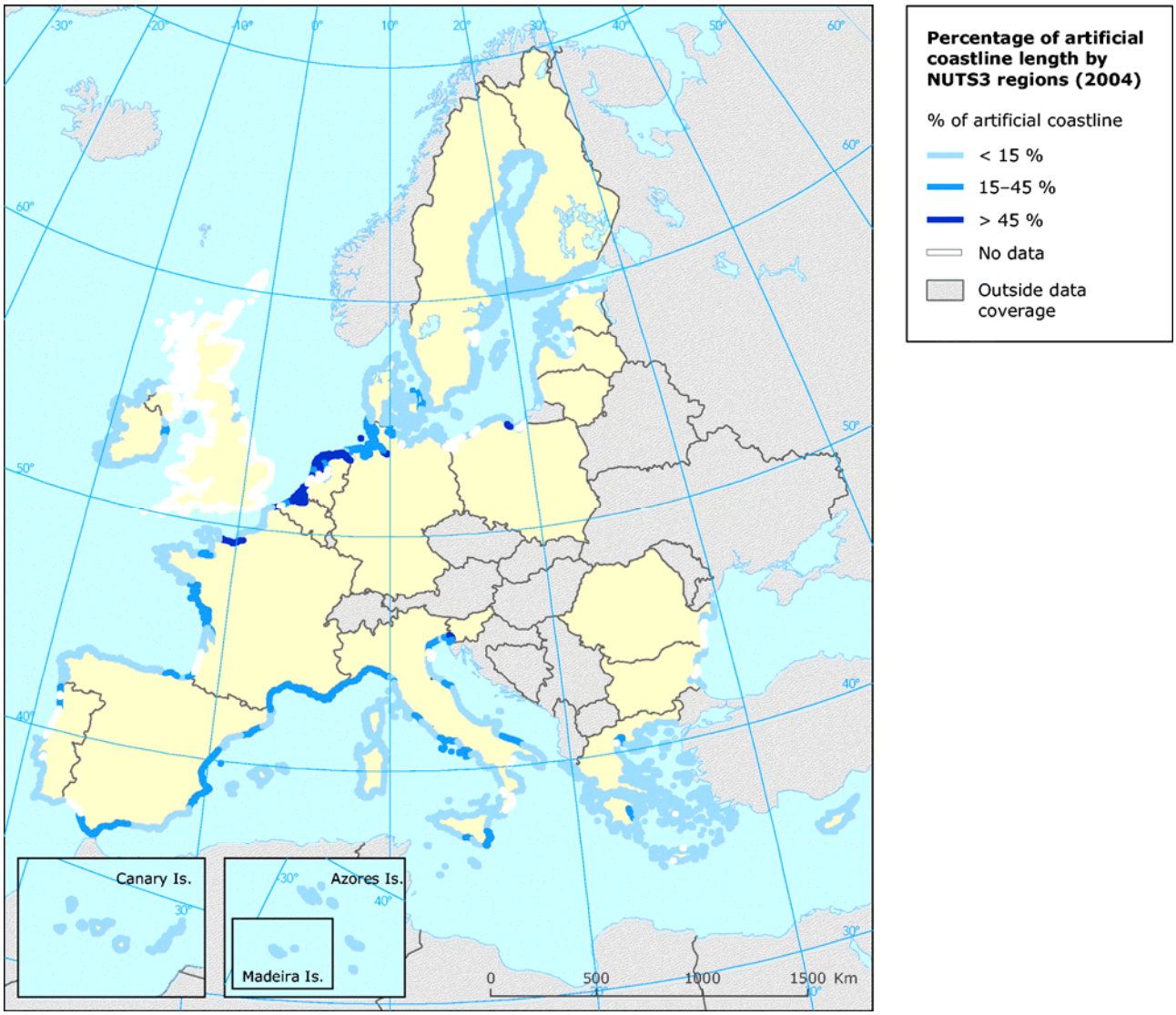

Figure 6. Percentage of artificial coastline length. Source: EEA, 2006.

Another problem of concern related to construction is the high level of armouring of the shorelines by coastal defences and harbours. This is especially important in the North Sea (16%) where, on average, the conversion of the coastline into artificial areas (*e.g.* harbours, marinas, artificial beaches and other artificial constructions such as dams or sea walls) is very high. The coastal armouring is closely related to the coastal erosion process affecting the stability of coasts of the whole region.

Densely populated countries with relatively short coastlines (*e.g.* the Netherlands, Belgium) have the most shoreline conversion to man-made surfaces. Due to the irreversible nature of land cover change from natural to urban and infrastructure development, these changes are seen as one of the main threats to the sustainability of coastal zones.

2.3 Demand of water resources

The development of coastal tourism leads to increased water demand (for human use, golf courses, swimming pools, air-conditioning, etc.), especially during the peak season in southern Europe (Portugal and Spain) when the water deficit can increase. Therefore, scarcity of fresh water is a real challenge in certain parts of the OSPAR region.

An important pressure coming from the leisure and tourism industry is golf. Golf courses are important consumers of herbicides, nitrates and water, especially in the south where it is difficult for grass to grow without these inputs. Besides, golf courses represent the elimination of natural communities and their transformation into simpler ecosystems.

When natural water resources start to run scarce, the desalination of seawater becomes an option. However, it involves a number of problems such as the great use of energy and the brines disposal to sea, increasing the salinity and, in some cases, the content of nutrients or other substances around the area, which may adversely affect coastal water quality and threaten littoral ecosystems.

Eutrophication has been recognised over many years as one of the most important problems facing European coastal waters. However, it displays significant regional and seasonal variability. Increased discharges of sewage water due to the rising population levels during the summer caused by tourism could cause an additional deterioration in the waters' trophic state.

2.4 Over-frequentation of natural sites

Coastal development and tourism intensification are leading to the over-frequentation of natural sites both on land and at sea. This is a main issue in areas with high value ecosystems that are exceptionally delicate, as wetlands, beaches, sea-cliffs and coastal dunes; hence tourism becomes even more damaging.

Dune losses have been reported in many coastal areas, exacerbated by new motorised forms of leisure (*e.g*. all-terrain vehicles), which are very destructive when used on forest paths and dunes. Camping sites are also damaging these ecosystems as they are often installed on dune fields (Spain, Portugal or Germany). Furthermore, dunes have also suffered degradation because of over-frequentation in the United Kingdom and the Nord-Pas de Calais. In the United Kingdom, for example, the ecological status of dune habitats, which comprises 54 500 ha in total, is currently classified as 'unfavourable with some improvements' at national level.

Other valuable ecosystems, such as sea grass meadows, remain continuously under threat and could be damaged by the frequent anchorage of recreational boating. Diving activities without control can also deeply alter underwater ecosystems, especially when coupled with illegal gathering of coral or fishing.

On the other hand, tourism has the potential to create beneficial effects on the environment by contributing to environmental protection and conservation. It is also a way to raise awareness of environmental values and it can serve as a tool to finance protection of natural areas, as Marine Protected Areas (MPAs), and increase their economic importance.

2.5 Beach nourishment

Over-frequentation of certain areas (*e.g*. beaches) can also affect littoral ecosystems. Beach nourishment is one of the alternatives some countries carry out in order to counteract the effects of coastal erosion and to maintain the extension of beaches, which are often where most tourism and recreational activities take place. The seabed dredging and the subsequent disposing could cause negative effects on the water quality and benthic communities. Other compartments of the marine ecosystem are usually not affected by these activities.

The ICES Working Group on the Effects of Extraction of Marine Sediments on the Marine Ecosystem gathers information on marine sediment extraction activities in the OSPAR area. Some OSPAR Contracting Parties provide information on dredging activities and amount of sediments extracted from the seabed. In some cases, specific data are provided on volume of sand used for beach replenishment (see table 2).

Table 2: Volume of sand (m^3) extracted in the OSPAR area. Source: ICES, in press.

Country	Purpose of marine sediment extraction	2000	2001	2002	2003	2004	2005
BE	Total	1 900 974	1 911 057	1 619 216	1 653 804	1 551 000	1 364 165
DE	Construction	0	0	0	89 968	146 961	115 571
	Beach nourishment	1 046 077	501 875	509 186	603 043	626 448	723 581
DK	Total	7 116 343	5 413 210	5 574 213	6 185 859	6 460 000	11 050 000
	Beach nourishment	2 500 000	2 540 000	2 800 000	2 800 000	2 600 000	5 710 000
ES	Beach nourishment	410 000	298 295	83 500	1 191 016	792 660	48 662
FI	Total	0	0	0	0	1 600 000	2 388 000
FR	Total	2 600 000	2 400 000	2 400 000	n/d	3 000 000	n/d
IE	Beach nourishment	51 267	183 500	0	0	0	0
NL	Total	25 419 842	36 445 624	33 837 614	23 887 937	23 589 846	28 757 673
	Beach nourishment	7 568 785	13 142 950	16 179 309	10 460 271	10 625 337	14 124 734
NO	Total	n/d	n/d	n/d	115,000	n/d	n/d
SE	Total	0	0	0	0	0	0
UK	Total	13 889 690	13 712 245	13 213 062	13 389 199	12 981 178	12 781 708
	Beach nourishment	1 300 647	147 760	618 435	719 839	916 634	921 984

2.6 Recreational boating

Recreational boating is probably the most widespread form of marine tourism. For example in Ireland in 2003, sailing at sea accounted for an estimated 606 000 day trips and 82 500 overnight trips, generating domestic revenue of €24.7 million.

According to the recreational boating industry, it experienced steady growth during the past years and forecasts point to a 5-6% annual growth within the EU (EC, 2006b). In some coastal regions important navigation and boating traditions are key issues. For example, sailing schools have been active for many years in Brittany and La Rochelle in France, the United Kingdom, Denmark, Sweden, Finland and Norway. In Sweden, sailboats are used very intensively amongst the archipelagos. It is often a sustainable way for transport from Stockholm to small cottages near the coast or to visit different islands. In Spain, this tradition is not as old and has only recently started to gain momentum.

An indication of the magnitude of this activity is the number of berths and moorings available for recreational vessels. The SAIL (Schéma d'Aménagement Intégré du Littoral) partnership has been established by Belgium, France, the Netherlands and the United Kingdom for the development of ICZM principles. Figure 7 shows ICZM indicator 4, Pressure for coastal and marine recreation, applied to the area under the SAIL project, the southern North Sea.

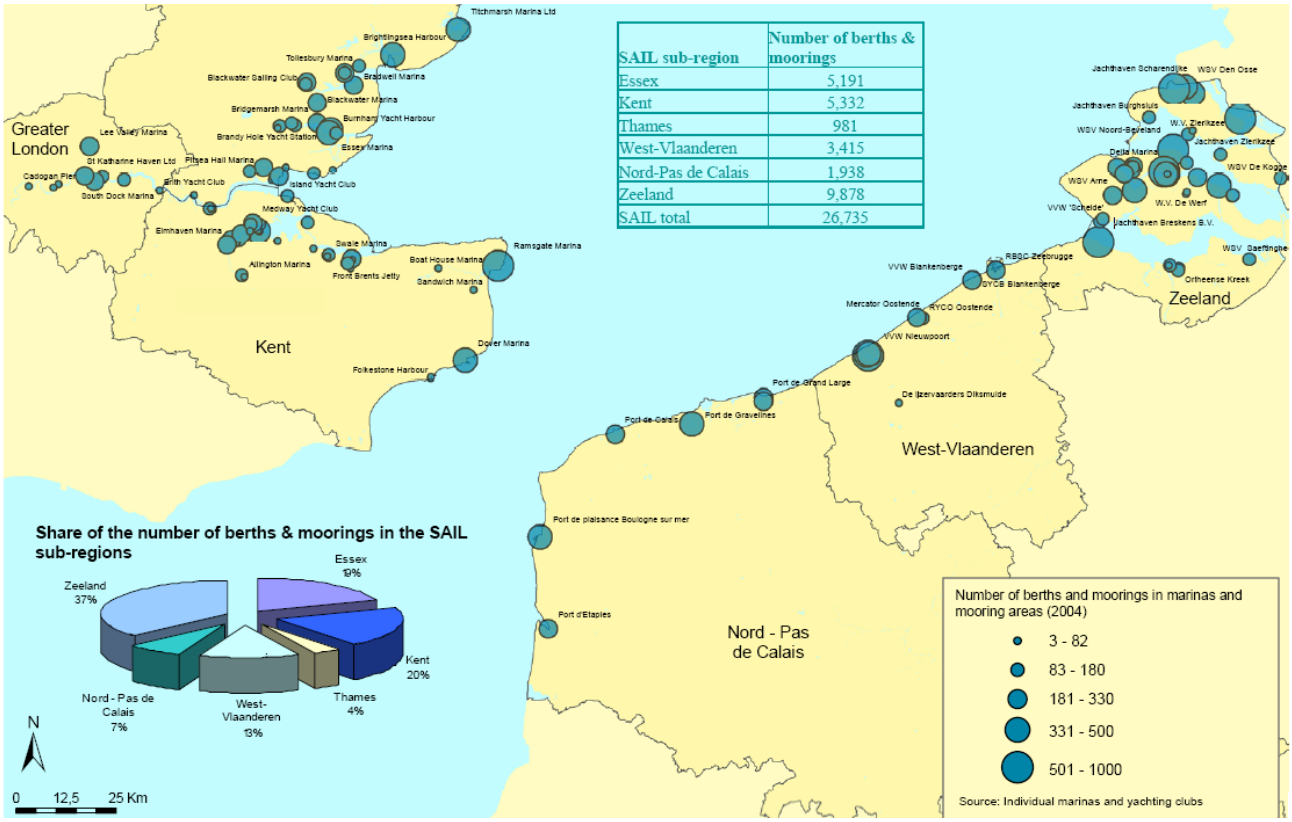

Figure 7. Number of berths and moorings in marinas and mooring areas (2004). Source: SAIL, 2004

Impact of yacht harbours and marinas on the European coast

According to Benoit et al 2005, yacht harbours have a serious negative impact on the environment due to the consumption of land, degradation of surrounding shallow waters, disturbance of the dynamics of coastal currents and chemical pollution. Marinas imply serious externalities as they constitute barriers for littoral drift. They also retain the sediments upstream, which induces significant local erosion down drift. Even boats that only go out 3–4 days per year disturb habitats that are inaccessible by other means, *e.g.* rocky coves. Damage can be done to these areas in a variety of ways (for example, anchor impacts on sea-grasses).

Other negative impacts of boating reported in Sweden and other places include disturbances due to boat bottom colour, noise, and wear and tear. Anchorage, waste and illegal sub aquatic fishing are another typology of the widespread problems associated with recreational boating (EEA, 2006).

In terms of the environmental impacts of recreational boating, ten phenomena linked to nautical activities should be considered:

- hydrocarbon releases and other substances;
- oily and bilge water;
- noise disturbances;
- sewage (water from toilets);
- grey water (washing waters);
- garbage and other waste;
- antifouling paints;
- physical damage to the environment;
- introduction of non-indigenous species; and
- depletion in fish stocks.

2.7 Whale-watching

Whale-watching is also a growing industry in Europe, significantly contributing to the marine tourism sector. According to EUCC - The Coastal Union, every year in Europe more than 2 million people participate in a trip to see whales and dolphins. This means an expenditure of over €200 million. For example in 2002, 62 050 people went whale-watching in Iceland, approximately 30% of all visitors to the country (Hoyt, 2003). About

36 species of cetaceans, 42% of the 86 cetacean species currently known around the world, can be seen in European waters.

When whale-watching is conducted on a sustainable basis - especially in or near a cetacean MPA and with other guidelines and regulations in place - it has the capacity to take a strong leading role in the development of an island-based ecotourism industry. To help make whale-watching sustainable, a complete cost-benefit analysis is therefore necessary (Hoyt, 2004). The categories of potential benefits from whale-watching include educational, scientific, recreational, cultural, heritage, social, aesthetic and financial benefits, as well as benefits accruing to ecological services. Potential costs from whale-watching include pollution from boats, litter, trampling of sensitive coastal areas, exhaust emissions from transport of visitors to a site, the immediate social or long-term environmental strain on a community's infrastructure, and, more directly, the possible disturbance to individual whales or the reduced fitness of whale populations (Hoyt, 2001; 2004).

One of the most valuable ways to promote and manage successful wildlife ecotourism is through the establishment of a marine protected area. MPAs with cetaceans attract more tourists and provide a framework for management that can involve all stakeholders. MPAs that feature or include cetaceans have the added attraction of protected area designation (International Fund for Animal Welfare, 1999). The MPA designation becomes a statement of the importance of the area and the whales that live there, as well as a way to sell whale-watching and marine tourism.

Table 3. Extent of whale watching, Marine Protected Areas and sanctuaries on Atlantic islands. Source: Hoyt, 2005.

Island or archipelago	Whale watchers x 1000	Whale watch expenditure x millions US$	MPAs with cetaceans	Proposed MPAs with cetaceans
Svalbard (Norway)	Low, inc.	Low	10	1
Iceland	30.33	6.47	1	1
Greenland (Denmark)	2.50	2.75	2	0
Faeroe Islands (Denmark)	Low	Low	0	0
United Kingdom	121.13	8.231	0	6
Ireland	177.60	7.119	0	8
Sylt (Germany)	Low, inc.	Low	2	0
Azores (Portugal)	9.50	3.37	17	0

Low, inc. = low but increasing income.

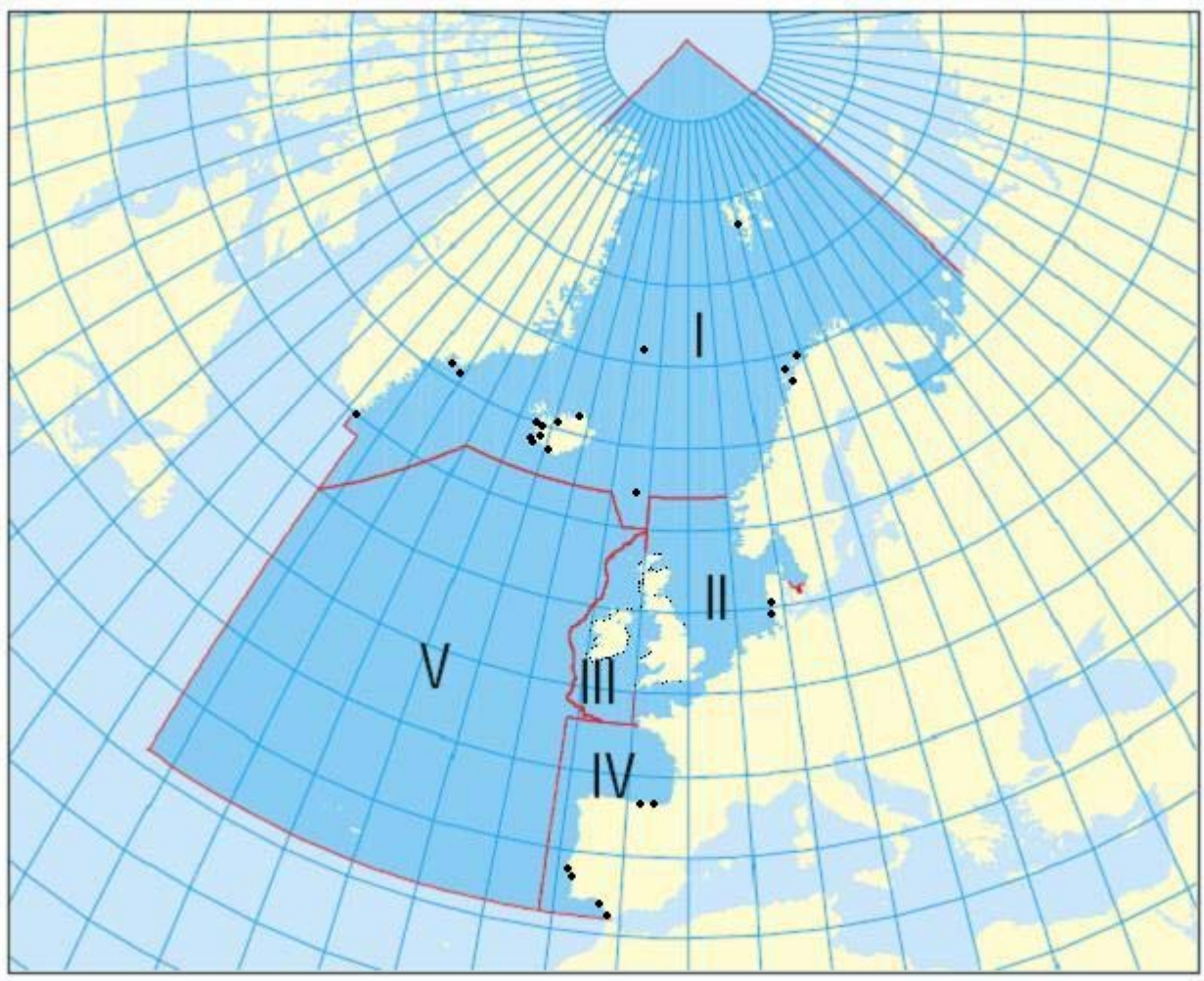

Figure 8. The most important ports and land-based sites for whale-watching in the OSPAR Region. The sites for whale-watching in the United Kingdom are shown with small dots. Source: Hoyt, 2003.

Under the auspices of the Convention for Migratory Species, two regional marine agreements specific to cetaceans have been concluded: the 1992 Agreement for Small Cetaceans of the Baltic and North Seas (ASCOBANS) which has been amended to include Ireland, Portugal and Spain, and the 1996 Agreement on the Conservation of Cetaceans of the Black and Mediterranean Seas and Contiguous Waters (ACCOBAMS). At the first meeting of ACCOBAMS Parties, a resolution providing a detailed code of conduct for whale-watching was passed. The consequences in practice of the "soft law" provided by such resolutions can only be gauged over time. The guidelines for whale watching agreed by the ACCOBAMS parties are unusual in that they are provided as an exemplary regime for states in the agreement area to follow. Some countries have developed specific legislation in this regard, *i.e.* Spain has approved Royal Decree 1727/2007, of December 21st, establishing protective measures for cetaceans. This basic tool has been enacted on the basis of the obligations assumed with the Convention on Biological Diversity (CBD).

2.8 Cruise travelling

This is a sector of tourism that has been increasing systematically and is expected to grow even more in the coming years. Lines are now deploying more berths than ever before, with the number of ships undertaking European itineraries growing. Next to the Caribbean, the regions of the Baltic and the North seas are already among the world's favourite cruise destinations.

According to the European Cruise Council (ECC), 3.4 million Europeans took cruises in 2006 with the most popular destinations being the Mediterranean and the Baltic Sea, although the number of calls in northern Europe is rising steadily, by about 10 to 15 percent per year. However, in certain areas such as Scandinavia, the cruise industry has undergone a 20% growth from 2004 to 2006 (595 000 cruisers).

The figures reveal that, in 2006, cruising was most popular with holidaymakers from Britain (1.2 million) and Germany (705 000), but there is also strong growth from other countries. The number of Scandinavian and Benelux cruise passengers both increased by more than 20 000 last year and Spanish passengers by 12 000. Furthermore predictions for 2008 for the United Kingdom market show that the trend for growth

continues, with anticipated numbers of cruisers reaching 1.55 million. The main driver for this growth in 2008 is the capacity that will be brought in by a range of new ships targeting the United Kingdom market.

According to the ECC, this rapid growth is expected to continue, and to reach 4 million by 2010 and 5 million by 2015, as cruise lines throughout the world continue to invest in new ships. The expansion of the cruise industry can be attributed to a number of factors, including a growing awareness of the quality and quantity of cruise products available. Significantly, the number of first time cruisers is making a marked increase and they, in turn, are becoming repeat bookers.

The growth in the cruise industry has led to more destinations. Interest in Arctic cruising has been growing as well. Cruise tourism in the Arctic as a case study is presented in the Annex to this report.

The 2008 "European Cruise Contribution" report – commissioned by the ECC and its partners in order to analyse the cruise industry's impact on the European economy – showed that cruise companies, shipbuilding yards, cruise passengers, ports and suppliers accounted for €10.8 billion of direct expenditure in Europe in 2006 and 225 000 jobs. These jobs produced almost €24 billion in total output and received €7.6 billion in remuneration. Both expenditure and output increased more than 20% from 2005 to 2006 (GP Wild International Limited and Business Research & Economic Advisors, 2008).

Also, the cruise industry in Europe has greatly expanded over the last years with an annual growth rate of more than 10%. Moreover, cruise ships are virtually all built in Europe (EC, 2006b).

Figure 9. Ports for cruise ships in north-western Europe. Source: Own elaboration on the basis of the existing information at http://www.cruiseeurope.com

Figure 9 shows that ports generally used by cruising ships are distributed in the OSPAR coast in a homogeneous way. The ports for cruise ships having the highest number of berths in the OSPAR region are, among others, Bergen, Tromsø, Ålesund, Stavanger and Kristiansand, with 8, 7, 6, 5 and 4 berths respectively, all of them in Norway; Dublin (Ireland) with 7 berths; Lisbon (Portugal), Brest (France), Aberdeen and Dover (UK), the four of them with 5 berths; and Copenhagen and Esbjerg, in Denmark with 4 berths.

The effects and impacts derived from cruises are innumerable and could be very relevant. International ships are one of the world's largest, virtually uncontrolled sources of air pollution. According to a report by the International Council on Clean Transportation, worldwide, ocean-going vessels produce at least 17% of total emissions of nitrogen oxide and contribute more than a quarter of total emissions of nitrogen oxide in port cities and coastal areas.

Cruise ships have been described as 'floating cities', whose per capita pollution is actually worse than that of a city with the same population. This is largely due to weak pollution control laws, lax enforcement and the difficulty associated with detecting illegal discharges at sea. An average sized, 3000 passenger cruise ship generates the following amounts of waste on a typical one-week voyage (*Surfrider Foundation*: www.surfrider.org/a-z/cruise.asp):

- 3800 m^3 of 'grey water'
- 800 m^3 of sewage
- 100 m^3 of oily bilge water
- almost 0.5 m^3 of hazardous or toxic waste
- 50 tons of garbage and solid waste
- diesel exhaust emissions equivalent to several thousand automobiles
- large quantities of ballast water, which can introduce invasive species (a typical release of ballast water amounts to 1000 tons).

The building of deeper ports, toxic paints, and anchor damage are other causes of pollution and habitat destruction. The implications of this pollution and waste are obvious (UN Atlas of the Oceans, 2004).

3. What has been done? Did it work?

No specific measures on tourism have been developed by OSPAR apart from the evaluation of the activity, for example through background documents on tourism (OSPAR, 2003, 2004) and an Assessment of the Impact of Tourism on the OSPAR Maritime Area (OSPAR, 2006). Some other OSPAR initiatives have an influence on this activity:

- PARCOM Recommendation 89/4 of 22 June 1989 on a coordinated programme for the reduction of nutrients
- 2003 OSPAR Biological Diversity and Ecosystems Strategy, agreement 2003/21
- Revised OSPAR Guidelines for the Management of Dredged Material, agreement 2004/08
- OSPAR Guidelines on Artificial Reefs in relation to Living Marine Resources, agreement 1999/13
- OSPAR Recommendation 2000/2 on Best Environmental Practice (BEP) for the Use of Pesticides on Amenity Areas
- OSPAR Pilot Project on Monitoring Marine Beach Litter – Monitoring of marine litter in the OSPAR region, publication number 306/2007.

3.1 Marine litter

The OSPAR Pilot Project on Monitoring Marine Beach Litter (2000–2006) (OSPAR, 2007) has been the first region-wide attempt in Europe to develop a method for monitoring marine litter on beaches and to assess presence of marine litter on the beaches in the OSPAR region. The monitoring method developed within the pilot project has proved functional for the purpose of providing data on marine litter on beaches. It provides a feasible approach and could be used as a cost-effective means to monitor marine litter on beaches – quantities, composition and trends – in the OSPAR region.

Five major sources of marine litter – activities that generate solid waste ending up as marine litter on beaches – in the OSPAR region were identified (in alphabetical order) in the pilot project: fishing, including aquaculture; galley waste (non-operational waste from shipping, fisheries and offshore activities); sanitary waste/sewage-related waste; shipping including offshore activities (operational waste); tourism and recreational activities. In the statistical analyses of the beach data, specific indicator marine litter items were used to pinpoint five possible sources of the marine litter found on beaches. It has proven difficult to create a direct relationship between indicator items from the five different sectors. It has not been practically or statistically possible to identify the full proportion of marine litter from each sector, as some marine litter items can originate from sources in more than one sector and the sets of indicators cannot be directly compared.

Due to regional differences (habits, products) it can be difficult to identify one set of indicators for tourism-recreational activities and one might have to identify different items for different regions. This is probably the most difficult of the five sources, where the selection of indicators will have the lowest level of credibility. As well as litter dropped by beach-users, this source also includes recreational boating which, by definition, is not a beach activity but a shipping activity. In addition, items selected as indicators of tourism-recreational activities could originate from shipping or fishing.

There are a number of items of special interest that could, possibly, be used as indicators. For example, party rubber balloons is an item that occurs frequently, as a result of organised festivities or fundraising events, which can result in marine litter, regardless of the event proximity to the coastline. Other items that

appear to occur more and more frequently on beaches and could indicate new habits are wet wipes (frequently found on United Kingdom beaches) and disposable barbeques/grills (frequently found on Danish, Swedish and United Kingdom beaches). However, for the tourism-recreational source of marine litter analysed during the project period, no statistically significant trend in number of indicator items could be demonstrated.

In order to further refine the analysis of marine litter sources for possible future monitoring of marine litter on beaches in the OSPAR region, the efforts to identify relevant indicator items needs to continue. This holds particularly true for indicators of the probably most difficult of the five sources identified in the pilot project (tourism-recreational activities), as well as for the identification of a few relevant general indicators of marine litter.

3.2 Natura 2000 sites

Other actions are being undertaken by individual Contracting Parties in order to preserve the coast from excessive development and the related impacts of tourism. The designation of Natura 2000 sites under the EU Habitats Directive (92/43/EEC) will surely constitute an effective management and conservation tool for natural areas. Figure 10 (ICZM indicator 8) illustrates the terrestrial and marine surface covered by the Natura 2000 network (Sites of Community Importance and Special Areas of Conservation). All EU members that are OSPAR Contracting Parties have designated marine Natura 2000 sites. However, the proportion of terrestrial sites is still much larger. Efforts have to be made in order to increase the surface of marine areas designated under the Natura 2000 network, so that protection of marine and coastal habitats from tourism and other impacts is ensured.

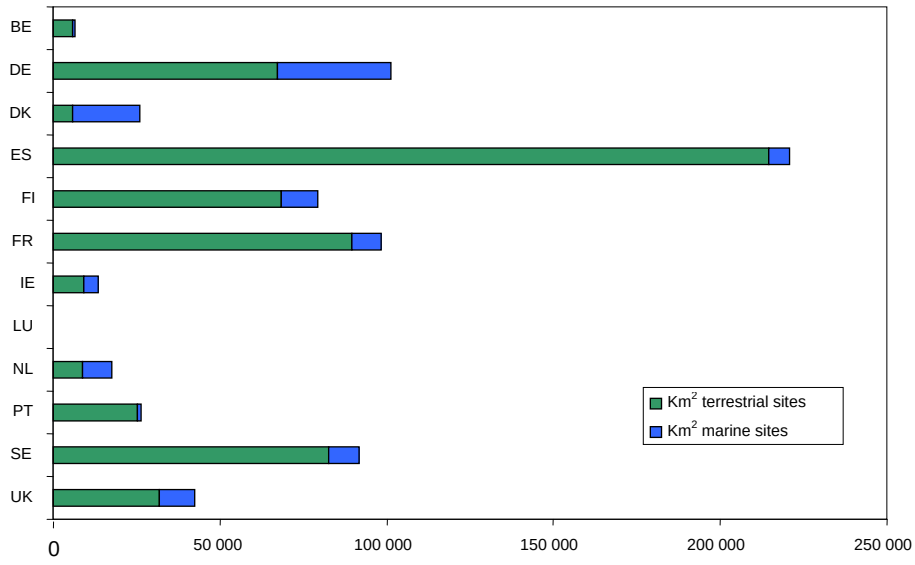

Figure 10. Surface covered by Natura 2000 sites (SCIs+SPAs) in terrestrial and marine habitats. Source: EC, 2008b.

3.3 Bathing water quality

In relation to water quality, great improvements have been achieved. A very high percentage of coastal waters currently comply with the Bathing Water Directive (76/160/EEC), as shown in Figure 11 (ICZM indicator 16), which lays down rules for the monitoring, assessment and management of the quality of bathing water and for the provision of information on that quality.

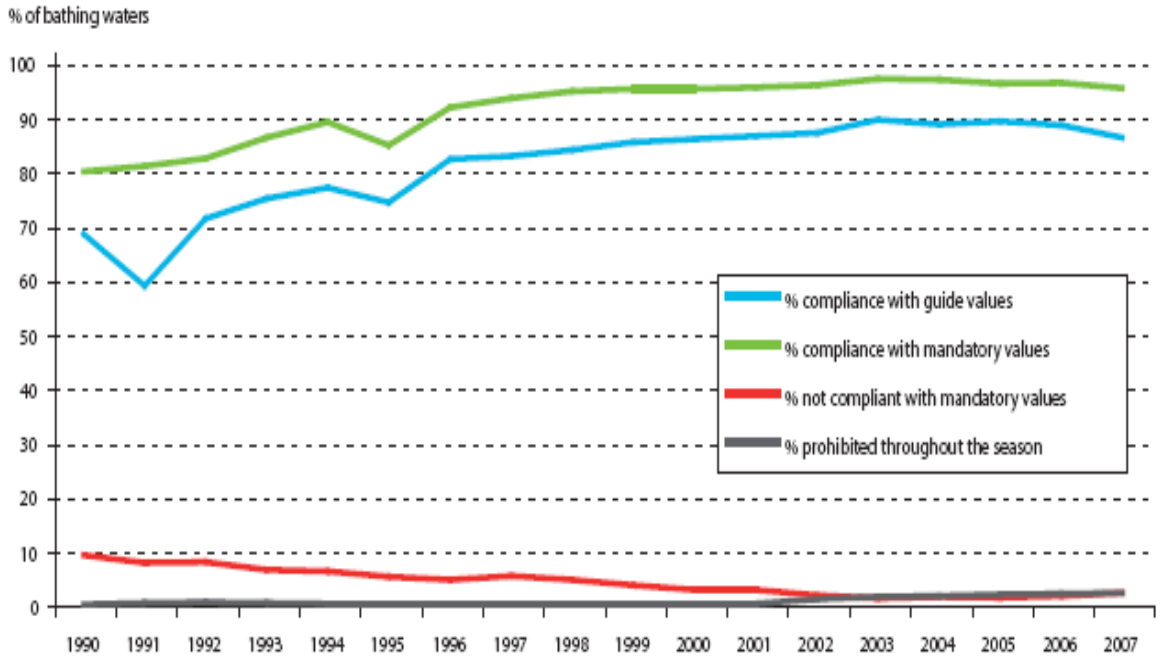

Figure 11. Percentage compliance of EU coastal bathing waters with mandatory values of the Bathing Water Directive 1990 to 2007 for the whole EU. Source: EC, 2008c

3.4 Urban waste water

Due to their volume, discharges of urban waste water are one of the most serious causes of the pollution of waters by eutrophication. This is the reason why the Urban Waste Water Treatment Directive (91/271/EEC), which seeks to harmonise measures relating to the treatment of such waters at European Community level, is being implemented in the Member States.

3.5 Integrated Coastal Zone Management (ICZM)

A key contribution to coastal planning is ICZM, in the framework of the Communication by the Commission to the Council and the Parliament on Integrated Coastal Zone Management: a Strategy for Europe (COM/2000/547), and the Recommendation on ICZM (2002/413/EC). There are several ICZMs and sustainable tourism initiatives in the European Union context that can have very positive impacts on coastal tourism in the OSPAR region. Furthermore, the 27 proposed ICZM indicators can help to evaluate the situation of coastal areas and the impacts, like tourism, that act upon them. In 2006 an evaluation of the implementation of ICZM has been completed, concluding that ICZM can play an intermediary role between the terrestrial/coastal management as stipulated in the Water Framework Directive (2000/60/EC) and the new Marine Strategy Framework Directive (2008/563/EC) as part of the European Maritime Policy, an aspect that can also be very useful in tourism planning.

DEDUCE (Développement durable des Côtes Européennes) is a transnational project concerning Integrated Coastal Zone Management, co-financed by the European Commission and the participating regions, in the framework of Interreg IIIC South[2]. Its main objective is to evaluate the utility of indicators for optimal decision-making on the coast, following the principles and criteria established by the EU Recommendation on ICZM. The project has developed a set of 27 indicators in order to measure the sustainability of coastal development at local, regional, national and European levels by applying a common methodology. Nine partners representing all decision-making levels (European, national, regional and local) carried out the project, which ran from October 2004 to June 2007.

With the objective to control further development of the coasts as appropriate, and based on the indicator of pressure for coastal and marine recreation, it has been proposed to evaluate the number of berths, moorings and dry-sack storage capacity for recreational boating in that project (DEDUCE, 2007).

[2] Interreg IIIC is an EU-funded programme that helps Europe's regions form partnerships to work together on common projects.

3.6 Sustainable tourism

The CBD has produced a set of Guidelines on Biodiversity and Tourism Development (http://www.cbd.int/guidelines/). These Guidelines focus specifically on biodiversity but do refer to much broader topics such as water and waste pollution, energy consumption, coastal resource management, participation of local communities, biological diversity, including economic, social and environmental impacts. The document clearly acknowledges that biodiversity is just one of the many important aspects of sustainability. The guidelines cover all forms and activities of tourism, which all come under the framework of sustainable development, in all geographic regions. These include conventional mass tourism, ecotourism, nature-and-culture-based tourism, cruise tourism, leisure tourism and sport tourism.

4. How does this field affect the overall quality status?

Negative coastal environmental impacts result from the implications of tourism development, such as frequentation of a high number of people on fragile systems, pressure on limited local resources and increased invasion of natural areas. Distressing animals, erosion and other impacts are the results of these activities.

Most impacts of tourism are related to littoral areas, as the tourist industry is based on land. However, some recreational activities (angling, boating, whale-watching, scuba-diving, etc.) are developed directly in the sea, and therefore can have more direct effect and impacts in the marine environment.

The most important effects caused by the activities already explained are of different importance and extension among the countries in the OSPAR region. In the southern countries, above all, the most important impacts are those related to water resources. These are greatly affected by tourism, since overexploitation caused by the increased demand of water (for human use, golf courses, swimming pools, etc.) can cause fresh water shortages and degradation of groundwater reserves through saline intrusion. Also, both freshwater and coastal waters are subject to pollution due to discharges from sewage treatment plants or direct disposal of wastewater, resulting in some cases in eutrophication. The degradation of water quality may bring about the alteration of coastal and marine ecosystems, causing the death of organisms and the disruption of species composition in marine communities.

In the North Sea countries, such as the Netherlands, Denmark and Belgium, beach nourishment is one of the alternatives carried out in order to counteract the effects of coastal erosion and to maintain the extension of beaches, which are often where most tourism and recreational activities take place (see table 2). Sand used for beach replenishment is usually extracted from the seabed, and this dredging can cause the following effects on the marine environment:

- Alteration of seabed topography
- Impact on the hydrodynamics
- Alteration of substrate composition and distribution
- Modification of coastal physical processes
- Increased turbidity
- Increase in organic matter in the water column
- Elimination and alteration of benthic communities

Coastal erosion has also a major impact on the coasts. It is largely caused by human activity in the form of river dams, intensive development and the use of sand for construction and engineering purposes. A particular form of land loss and coastal erosion directly related to construction consequence of tourism expansion, is caused by the location of buildings and linear infrastructures (roads and railways) too close to the shoreline or inadequate development of coastal infrastructures (marinas and harbours), resulting in the disturbance of coastal dynamics, the retreat of the shoreline and the subsequent loss of ecosystems and biodiversity. Coastal defences as well as the aforementioned beach nourishment procedures designed to overcome this problem may further affect coastal biological communities if they are not carried out with environmental standards in mind. According to Eurosion (2004) (see Figure 12), about 25% of European coastlines experiences erosion.

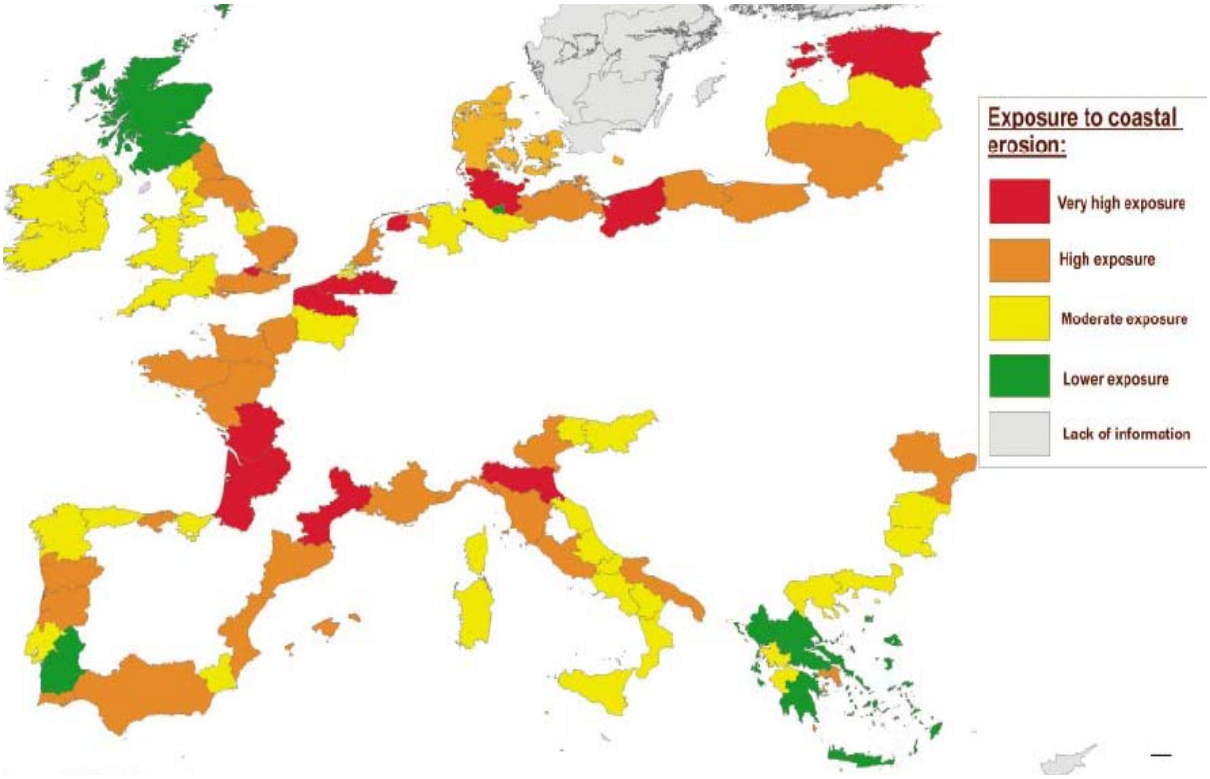

Figure 12. Exposure of European regions to coastal erosion. Source: Eurosion, 2004.

In general terms, land degradation and land-use change, as well as habitat and biodiversity loss, result directly from the construction of tourist facilities and infrastructure through the clearing of wetlands and beaches, and the extraction of building materials.

Different impacts and effects on biodiversity are also a consequence of tourism. They can be observed for example in the Wadden Sea where despite extensive protection regimes, disturbance of roosting birds occurs in all parts of this sea. Especially, outdoor recreation occurs around many roosting sites and its volume, along with conflicts between tourism and nature conservation, is expected to increase in future (De Jong et al., 1999). As a result of recreational activities which expand more and more to spring and autumn (although still peak during summer holidays in July and August), potential conflicts between waterbirds attending high tide roosts and recreational activities around these roosts are especially to be expected in May and in July-October. Both are critical periods to birds as they involve pre-migration and pre-breeding fattening and moulting in late summer (Koffijberg, 2003). Another aspect which deserves attention is the hunting of small mammals in the vicinity of roosting sites. Although major achievements have been made concerning phasing out hunting of migratory waterbirds in the Wadden Sea in the past decades, any hunting activity (either of birds or mammals) close to birds' roosting sites causes disturbance. Moreover, hunting affects natural flight distances, and increases the disturbing impact of other anthropogenic activities. In the Baltic Sea coastal areas, as in northern areas of the OSPAR region, tourism peaks in the summer months. The establishment of bird and seal sanctuaries constitutes important parts of the regulatory measures needed to protect the wildlife from disturbance during the sensitive breeding period (ICES, 2003).

5. What do we do next? / Lessons learnt

Apart from the environmental impacts already mentioned the effects of which are revealed at local level, tourism can also have a positive impact in the marine and coastal areas, as gradually tourists become more aware of ecological issues, and demand higher aesthetic values and environmental quality. Therefore, it is important that Contracting Parties develop environmental education programs aimed at the tourist population as well as at the local population of popular tourist destinations**.**

"Sustainable tourism", "eco-tourism" and "green tourism" have been promoted by Contracting Parties over the past decade as ways of obtaining environmental benefits from tourism while at the same time providing much needed jobs and social investment.

5.1 Sustainable tourism

The 1992 Earth Summit of Rio de Janeiro recognised in its Agenda 21 the need for environmental action for oceans and coastlines (Chapter 17), and committed coastal nations to the sustainable development of their coastal areas and implementation of integrated coastal zone management. Therefore, sustainable development is an overarching objective for the present and future of the OSPAR region.

For a tourism activity or development to be sustainable, it has to take into account and balance not only its economic interests but also its impact on the natural and socio-cultural environment of the destination.

According to the World Tourism Organization, sustainable tourism:

a) refers to tourism activities and development within the broader concept of Sustainable Development. The three pillars of sustainability are culture, environment and economy, and any development that claims to be sustainable needs to address all of these aspects equally effective;

b) meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future. It is envisaged as leading to management of all resources in such a way that economical, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems.

The response of tourism businesses to sustainability has been quite variable. Some larger companies in the sector are pursuing sustainability by introducing corporate social responsibility strategies. Only a small proportion of small tourism businesses have sought to become recognised for their environmental and social policies and practices. The last few years have seen a considerable increase in consumer awareness of the impact of holidaymaking. A number of surveys in different European countries have revealed that when asked the majority of travellers say that, other things being equal, they would be more likely to choose enterprises that care for the environment and the local community.

So, an essential aspect in the control of tourism impacts to the marine and coastal environment is the establishment of planning initiatives and strategies for the development of this activity in littoral areas, especially in newly arising tourist destinations that can still be preserved from irrational expansion.

5.2 Ecotourism

There is no generally accepted definition of ecotourism, but it is widely understood that it is nature-based, small scaled or operating with small groups, contributing actively to nature conservation, offering excellent nature interpretation of the area it is based in, and actively involving and benefiting the local community.

In the field, well-planned and managed ecotourism has proven to be one of the most effective tools for long-term conservation of biodiversity when the right circumstances are present.

According to the Quebec Declaration on Ecotourism, ecotourism: "embraces the principles of sustainable tourism... and the following principles which distinguish it from the wider concept of sustainable tourism:

- Contributes actively to the conservation of natural and cultural heritage;
- Includes local and indigenous communities in its planning, development and operation, contributing to their well-being;
- Interprets the natural and cultural heritage of the destination to visitor;
- Lends itself better to independent travellers, as well as to organized tours for small size groups".

In the framework of the EU, the integrated approach of the new Maritime Policy will provide the basis for elaborating further action to enhance sustainability and competitiveness in the maritime and coastal tourism sector. The European Commission will focus its attention on this sector by assessing the effects of fast growing segments such as cruise tourism, examining the inter-linkages between the cruise industry, port facilities, marinas and other maritime industries, and of issues concerning competition between land and maritime uses in coastal environment (EC, 2007a)

5.3 No need for specific OSPAR measures

The conclusion of the preliminary Assessment of the Impact of Tourism on the OSPAR Maritime Area (OSPAR, 2006) is that issues relating to tourism are adequately covered in both international and national regulations and requirements, so that additional comprehensive work by OSPAR is unlikely to significantly increase knowledge in this field. However, further development of ICZM schemes is likely to improve the management of the coastal and marine tourism industry and to limit the impacts of this activity in the OSPAR marine environment. Other appropriate strategies for the correct management of tourism include marine spatial planning and management and designation of protected areas. Based on this assessment OSPAR

concluded in 2006 that no further action should be taken by OSPAR on this issue until new information indicates that such action is essential.

6. General conclusions

Tourism is an activity that implies negative effects and impacts on the coastal and marine ecosystems affecting in different ways and levels the Regions of the OSPAR maritime area.

In the past 10 years residential expansion has spread to the coasts of the Atlantic in Portugal, France and Ireland, but also in the North Sea (the United Kingdom, Belgium, Denmark, Sweden). The time is now to avoid these – and other – new tourist zones to be developed and expanded in a non-sustainable way as the Mediterranean French, Iberian and Italian coasts did 30 years ago.

Planning initiatives and strategies are an essential tool for the development of tourism in littoral areas, especially in newly arising tourist destinations that can still be preserved from irrational expansion.

A key contribution to coastal planning that can also be very useful in tourism management is Integrated Coastal Zone Management (ICZM), an approach based on coordination and on the protection of the coastal area and its economic and socio-cultural development.

There are several ICZM and sustainable tourism initiatives in the European Union context that can have very positive impacts on coastal tourism development in the OSPAR Region.

Another appropriate tool for the correct management of tourism includes, for example, the designation and management of protected areas in the framework of Marine Spatial Planning. This cross-cutting activity developed at present by OSPAR, will constitute the basis for the implementation in the future of the new Marine Strategy Framework Directive.

In the framework of the EU, the integrated approach of the new Maritime Policy will provide the basis for elaborating further action to enhance sustainability and competitiveness in the maritime and coastal tourism sector.

A more exhaustive and complete evaluation of the magnitude and effects of tourism in the OSPAR maritime area could be achieved if reliable and comparable data were available for all Contracting Parties. For example, it was attempted to include an indicator based on number of berths and moorings, but data was only submitted by Ireland and Germany, so this evaluation was not possible. It would be very useful to obtain this and other information in order to develop good indicators, as the ones proposed under ICZM.

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Annex. Case study: Cruise tourism in the Arctic

International interest in the Arctic has grown substantially in recent years. Despite its remoteness and harsh climate, the Arctic attracts more and more visitors who want to experience it first hand.

Ship-based tourism in the Arctic traditionally has been a small-scale expedition-type of travel and overall numbers have been comparatively low. However, the global cruise industry has seen significant growth in the past, a development that has led to bigger vessels, more destinations and more experienced cruise travellers. As a result, interest in Arctic cruising has been growing as well. In the last few years, Svalbard, one of the most popular cruise destination in the Arctic, have been visited by increasingly bigger vessels, and other parts of the OSPAR Region, as Greenland, start seeing regular cruise ship visits in the summer months.

The information below is an extract from a report by WWF International Arctic Programme (WWF, 2004).

Cruise tourism in Svalbard, Norway

Ship-based tourism has a long history on Svalbard. This easily accessible archipelago, located between the Norwegian mainland and the North Pole, has seen vessels with tourists since the 1890s. But it was not until 2001 that reporting statistics for the two main cruise activities – overseas cruises and coastal cruises – were combined and gave a picture of overall cruise traffic.

The region has benefited from the recent global boom in cruise tourism. In 2003, 69 691 passenger landings were made by 28 190 passengers. The number of sites where cruise tourists went ashore has increased from 138 in 2001 to 162 in 2003. The increase in the number of sites visited is an indication of the spreading 'footprint' of cruise tourism.

The biggest single threat posed by ship-based activities on Svalbard is from a major oil spill. Svalbard's characteristics, its climate and remoteness, make it extremely difficult to counter an oil spill before it does significant damage. Oil response capacity, provided by the authorities on Svalbard, is also limited. Cruise ships mainly operate close to the shore and during the most productive season, thus increasing the likelihood of severe environmental damage if an accident occurs.

Figure 1 Map of Svalbard
Source: WWF, 2004

Other environmental threats from cruise tourism are based on cumulative impacts: sites visited by cruise ships over a number of years show signs of degradation, both of cultural and historical remains, as well as vegetation. Wildlife disturbances are harder to quantify, but in the harsh arctic climate, where other factors increasingly challenge a species' survival, strict and precautionary measures must be taken to avoid negative impacts. In addition, cruise ships also represent a source of pollution in pristine areas that are not otherwise directly affected by air emissions or waste discharges. The energy requirements of cruise ships, together with their function as floating hotels, means the vessels produce considerable amounts of emissions and large quantities of sewage, garbage and waste water. The extent to which such discharges cause pollution depends on a number of things, among them technical equipment and a ship operator's policy and practices.

Cruise tourism characteristics in Svalbard

All recreational ships coming to Svalbard, whether commercial or private, are required to notify the Governor of Svalbard and obtain approval for their travel plans in advance of their trip. After each journey, and before leaving Svalbard's waters, commercial operators are required to file a report detailing their activities with respect to landing and anchoring sites.

For reporting purposes, the Governor of Svalbard has categorized all cruise activities into three groups: private yachts, coastal cruises, overseas cruises.

Private yachts: This category comprises individual ship-based travels organized by private persons.

Coastal cruises: Vessels in this category are comparatively small and thus able to land people ashore outside of settlements and the few established landing sites. The non-local operators often combine start and end-of-season trips with other destinations, *e.g*. the Norwegian mainland or Greenland.

Overseas cruises: Overseas cruises often visit Svalbard as part of a "northern" itinerary combining other destinations such as the Norwegian mainland, Greenland or Iceland. Due to their large size and passenger numbers, most of the vessels do not land people outside of settlements or do so at the few suitable sites.

Protected areas on Svalbard

Norway has established the following types of protected areas to conserve the archipelago's natural and cultural values:

- National parks;
- Nature reserves;
- Bird reserves;
- Geological reserves;
- Protected cultural monuments and heritage sites

Where national parks and nature reserves border the sea, their boundaries extend 12 nautical miles out from shore. Cruise activities in these areas are not being addressed by a conservation strategy or management regime, as no specific management plans have been developed for these protected areas. Certain nature reserves, bird reserves and cultural heritage sites have permanent or seasonally restricted access; however, these measures were not intended to specifically address cruise-related activities.

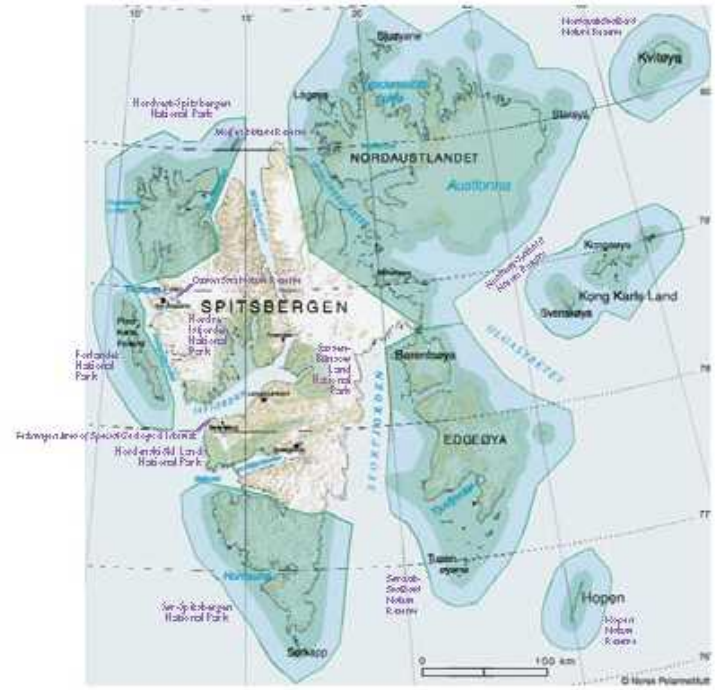

Figure 2: Protected areas in Svalbard. Source: WWF, 2004.

Environmental requirements for ship-based tourism do not currently distinguish between protected areas and non-protected areas. Operators also do not make this distinction when planning or executing their activities. Many operators consider Svalbard to be adequately protected by the comprehensive and relatively new Svalbard Environmental Act (2001), and plan their activities according to these regulations.

Cruise tourism (management) in Ny-Ålesund, Svalbard

Ny-Ålesund, situated in Kongsfjorden on the west coast of Spitsbergen, is the world's northernmost permanent settlement. A former coal mining town, it has evolved into a scientific community where international arctic environmental monitoring and research is conducted. Ny-Ålesund is owned and run by a government-owned company called Kings Bay AS and has a reputation as an environmentally friendly community.

With increasing cruise traffic to Svalbard's west coast, numbers of tourists received by Ny-Ålesund have also jumped accordingly. The community is not only visited by coastal cruisers but also by large vessels, mostly because of the infrastructure provided, *e.g*. a quay. In fact, Ny-Ålesund has become so popular with operators and visitors that tourism has interfered with scientific research programmes. Kings Bay AS and the

research community have had to take measures to encourage conduct that does not have negative impacts on their work and on the environment.

In past years, 15 000 – 20 000 cruise tourists have typically visited Ny-Ålesund each season (mid-June to late August). In 2003, 102 vessels brought 17 487 passengers to the settlement. Larger vessels anchor out in the fjord and use their tender boats to bring passengers ashore.

To prepare for the season, information packages are sent out in May to all ships that have announced their visit to Ny-Ålesund. The information package contains:

- A poster outlining the rules which tourists have to comply with when visiting Ny-Ålesund (see box);
- An agreement, which indicates that tourists wishing to disembark have been familiarized with the information provided. The captain has to sign this contract and deliver it to Kings Bay AS upon arrival, and the tourists receive a sticker indicating they have been informed.

During the high season, Kings Bay AS employs about three to four extra persons to deal exclusively with tourism and harbour services, such as the souvenir shop and post office and to take care of vessels visiting the settlement. In addition, it is not unusual for local residents in Ny-Ålesund to take time from their work to help "guide" tourists in designated areas.

To reduce the impacts of freely wandering tourists, Kings Bay AS supported by Svalbard Reiseliv AS, has established a 1.5 kilometre-long path with cultural and environmental information about the settlement posted along the way. Tourists have to stick to this path and not venture outside the designated area to protect the tundra, wildlife and scientific work, and themselves from possible polar bear encounters. Apart from the path, there is a museum that can be visited.

Cruise ships are only allowed to anchor in Ny-Ålesund for a few hours to decrease impacts, including those on atmospheric research.

Ny-Ålesund visitor rules

- Do not walk anywhere except on path and roads. The arctic tundra is extremely vulnerable
- Do not disturb nesting birds by walking too close. They are all protected
- Do not touch scientific instruments. They are extremely sensitive to human activity
- Do not throw cigarette butts or other litter on the ground. Use garbage containers
- Be careful around constructions and buildings that are protected by the cultural heritage act. The Amundsen mast and the old locomotive are protected buildings in Ny-Ålesund, as are 20 others. Do not enter buildings marked "Private" or "No Admittance". Many of these buildings are private; others are research stations
- Do not walk outside of the settlement because of the polar bear danger.

Ten principles for Arctic tourism

The Ten Principles for Arctic Tourism were developed in a multi-stakeholder process facilitated by the WWF. Representatives from local communities, governments, different sectors of the tourism industry, conservation organisations and scientific institutions used their experience to create these guidelines for arctic tourism.

1. Make tourism and conservation compatible
   Like any other use of the environment, tourism should be compatible with and a part of international, national, regional, and local conservation plans.
2. Support the preservation of wilderness and biodiversity
   Vast areas of wilderness without roads or other traces of development are a unique characteristic of the Arctic. These areas are both environmentally valuable and one of the main reasons why tourists come to the Arctic.
3. Use natural resources in a sustainable way
   Conservation and the use of natural resources in a sustainable way are essential to the long-term health of the environment. Undeveloped areas in the Arctic are a non-renewable resource - once developed, it is impossible to return them to their original state.

4. Minimise consumption, waste and pollution
   Reducing pollution and consumption also reduces environmental damage. This improves the tourism experience, and reduces the high cost of cleaning up the environment.
5. Respect local cultures
   Tourism should not change the lifestyles of peoples and communities unless they want it to do so.
6. Respect historic and scientific sites
   Archaeological, historic, prehistoric and scientific sites and remains are important to local heritage and to science. Disturbing them diminishes their value and is often illegal.
7. Arctic communities should benefit from tourism
   Local involvement in the planning of tourism helps to ensure that tourism addresses environmental and cultural concerns. This should maximise benefits and minimise damage to communities. It should also enhance the quality of the tourism experience.
8. Trained staff are the key to responsible tourism
   Staff education and training should integrate environmental, cultural, social, and legal issues. This type of training increases the quality of tourism. Staff should be role models for tourists.
9. Make your trip an opportunity to learn about the Arctic
   When tourists learn about communities and the environment, tourism provides the most benefits for all concerned and does the least damage. Knowledge and a positive experience enable tourists to act as ambassadors for Arctic environmental protection.
10. Follow safety rules
    The Arctic can be a treacherous environment and everyone involved in Arctic tourism needs to exercise caution and follow safety rules and practices. Failure to do can result in serious injury and costly rescue or medical intervention that burdens communities.

The future of tourism in Svalbard

It is not easy to predict the future of tourism on Svalbard, but it is likely that at least a moderate level of growth will occur and Svalbard will continue to be a popular cruise destination. Northern European and polar cruises in general are currently successful products for cruise operators, and if this trend continues, it is likely that more and more cruise trips will include Svalbard in their itineraries and that capacities on existing trips will increase. There is also a possibility that larger ice-class vessels will visit Svalbard in the future. Although these ships may not be able to land as frequently as smaller ships, they are able to travel to less accessible and potentially more vulnerable areas than large vessels do today.

Another development that could influence the amount of cruise traffic around Svalbard in the future is a reduction in the amount of summer sea ice due to climate change. This would make the more remote parts of the archipelago accessible even to non-ice-class ships.

Cruise tourism is big business on Svalbard and is by no means the only, or even the single biggest threat to Svalbard's environment. Climate change, toxic pollution, and destructive and excessive fishery activities will continue to have greater impacts on the archipelago and its biodiversity.

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