

MINISTRY OF THE ENVIRONMENT, PHYSICAL PLANNING AND PUBLIC WORKS

REPORT OF GREECE  
ON COASTAL ZONE MANAGEMENT



ATHENS, MARCH 2006



## FOREWORD

Since the ancient times, the sea and the coasts have always been a source of life for Greek people:

- The sea offered fresh and healthy food, natural resources, communication through navigation, recreation opportunities, sports, job and income opportunities, a beautiful, harmonious and healthy environment, inspiration to artists and cultural life, ...
- The coastal zones offered proximity to the sea and its benefits, splendid landscapes, historic and archeological sites, picturesque human settlements, mild climate, recreation opportunities, favorable conditions for a great number of human activities, rich biodiversity, additional inspiration to artists and cultural life, ...

In consequence, the rational and sustainable use and management of coastal zones and the islands has always been a major priority for Greece, given its very lengthy coastline and the big number of its islands.

Greece has participated in the demonstration projects phase launched by the European Commission with six projects in the 90's and has supported the idea of agreeing on an EC Recommendation on Integrated Coastal Zone Management (2002) observing at the same time the subsidiarity principle. Furthermore, Greece has participated in several related activities within the framework of MAP/UNEP.

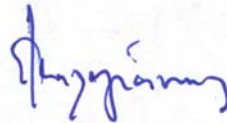
At national level, and under the auspices of the Ministry for the Environment, Physical Planning and Public Works, a considerable number of relevant studies have been carried out on the issue and management plans have been developed, covering – among other types of land – the coastal zones of different geographical areas of the country. A special report was drafted in 2000, with the intention to launch and prepare a special framework for the integrated management of coastal zones. Several factors, explained in this Report, have led Greece to integrate the principles of the ICZM Recommendation in other broader plans (e.g., the 12 Regional Spatial Plans).

Currently, we are expecting the completion of four new major Spatial Plans (a Global one for the entire country and three thematic ones dealing with renewable Energy, Industry and Tourism). The choice of the appropriate tools

to use in the future for ICZM in Greece will be influenced to a great extent by the conclusions and proposals of these four Spatial Plans and will also take due account of the development priorities for the forthcoming period 2007-2013.

In this perspective, and in our effort to ensure ultimately sustainable and realistic results, we are open to constructive ideas coming from the side of scientists and NGOs, and we look forward to a fruitful exchange of experience among Member-States on implementation aspects.

STAVROS KALOGIANNIS



Deputy Minister

for the Environment, Physical Planning and Public Works

The National Report of Greece on Coastal Zone Management was prepared for submission to the European Commission / DG Environment, in the context of the *Recommendation on Integrated Coastal Zone Management* (2002/413/EC, Chapter VI, paragraph 1).

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# 1. INTRODUCTION

## a. NATIONAL FEATURES

Greece has a coastline of more than 16,500 kilometres <sup>1</sup> (almost equal to that of the African continent), the longest of any other Mediterranean or European country. Almost half of this coastline corresponds to the continental part of the country and a little more than half to the archipelagic complexes of the Aegean and Ionian Seas (about 3,000 islands, a few hundreds of which are inhabited – more than 9,800 if we also count the rocky formations). The Greek coastline represents, thus, about 25% of the coastline of the European Union with its current 25 Member–States.

The coastal zone is of particular importance for Greece. The country is characterised by its high coastal concentration. The population living on a relatively narrow strip of land 1–2 kilometres wide (in coastal Municipalities) is representing 33% of the total population. If one considers the population living in areas with access to the coast (45 minute drive or up to 50 km from the seashore) then the coastal population is estimated to 85% of the total. The remaining 15% of the total population live in the interior of the country (CEU, 1995). It is also interesting to note that 40% of the population and almost 70% of the industrial activity of the country are gathered in the region of Athens and Thessalonica. Twelve out of the thirteen Regions of the country are coastal or insular. Almost all the big urban centres of the country (Athens, Thessalonica, Patras, Heraklion, Volos, Kavala etc) are located in the coastal zone (*see Annex <b> at the end of the Report – MAPs 1 and 2*), as well as 80% of the industrial activities, 90% of tourism and recreation, most of fisheries and aquaculture, 35% of agricultural land (often of high productivity), and an important part of infrastructure (harbours, airports, roads, electricity network, telecommunications etc).

On an indicative basis, one could mention that in Greece there are <sup>2</sup>:

- 20 ports with more than one million tonnes of cargo per year each,
- total catches of fish, of about 96,000 tns,
- a fishing fleet of 19,000 vessels (~ 20% of the E–25 fleet),
- an aquaculture production of 258,000 € (~ 10% of the E–25 production), and

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<sup>1</sup> 18,000 km following CORINE 2000, which calculates also the estuaries

<sup>2</sup> 2002 data, EC fiches

- a high concentration of tourist bedplaces (i.e., in Crete and the islands considered separately: more than 200 bed-places per 1,000 inhabitants. In some islands in particular, the summer population becomes twice to ten times as much as that of the winter, because of domestic and international tourism).

As regards the shipping activities in particular, as of 15.3.2005 <sup>3</sup>,

- Greek interests control 3,338 vessels of various categories, of 182,540,868 total DW and 109,377,819 total GT, including 338 newly built vessels of 15,839,299 GT of various categories on order from shipyards.
- The Greek-owned fleet registered under the Greek flag, comprised 969 ships in 2005, including 171 impressive ships on order from shipyards.
- Internationally, Greek interests now control around 8.7% of the world's total number of vessels in service and on order, 16.5% of the world fleet dead-weight, or 14.1% of the world fleet expressed in gross tons (against 9.1%, 18% and 15.5% respectively, last year).
- In terms of ships on order, Greek interests account for 7.8% of the total in number of vessels, and 12.2% of the total DW, or 10.2% of the total GT.

The coastal and marine environment of Greece is characterised by its beautiful landscapes and important ecosystems with numerous rare species needing protection. At the same time, it is vulnerable because of some natural hazards (i.e., erosion), as well as pressure due to some human activities and conflictual land-uses (overexploitation of natural resources, urbanisation, pollution, etc).

On an indicative basis, one could mention that in Greece there are <sup>4</sup>:

- More than 6,000 species of flora (considerable part of them in coastal zones and islands), 13% of which is endemic (36 endemic species existing on the Aegean islands); 263 of them are considered rare and threatened on the basis of the IUCN Red Book 1995;
- More than 670 species of vertebrates;
- 436 bird species (covering almost all those mentioned in the EC Directive 79/409);

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<sup>3</sup> Ministry of Mercantile Marine

<sup>4</sup> "Birds of the Aegean", Greek Ornithological Society, 1996

- 81 Specially Protected Areas for Avifauna covering insular areas (out of the 151 of the entire country), since the small islands and rocky formations constitute a valuable shelter and biotope for sea-birds.

The Greek seas, as part of the Mediterranean Sea, are oligotrophic and they have the physical characteristics of semi-closed seas. The closed seas are more vulnerable to human pressures than the open ocean. The coastal waters are renewed rather fast (80 years needed for the entire Mediterranean), while the vertical mixture is completed in 250 years. Thus, the problems of ecosystems due to geomorphology existing in the Baltic or the Black Seas are not present in the Mediterranean and – consequently – in the Greek seas. Pollution problems of industrial, urban or shipping origin are of rather local character, though in some few cases they can be important. Measures taken during the last decades have decreased considerably the importance of the pollution problems and their impacts on the coastal zones, without eliminating them completely however.

It must be underlined that, because of Greece's unique geographical features, the country's territorial and social cohesion depends directly on the existence of frequent and reliable coastal shipping services, which annually perform an extraordinary work of serving 94 islands, 144 ports and 36,000,000 passengers <sup>5</sup>.

For all the above reasons, Greece has demonstrated on many occasions a particular interest in the Integrated Coastal Zone Management (ICZM), since this could ensure the sustainable development not only of the coastal zones themselves, but also of the entire country. It is clear that taking concrete measures in an integrated and sustainable way for the coastal zones in Greece is a matter of high national priority and not a simple action of local or regional importance.

Furthermore, and given the great importance of coastal tourism for Greece, as well as the fact that the new trend in the market of tourism is related to quality and the natural and cultural environment of the destination, it becomes obvious that the rational management of coastal zones constitutes a condition for any successful tourism policy as well as for the sustainable development of the country.

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<sup>5</sup> Ministry of Mercantile Marine

## b. THE PROCESS AND THE METHODOLOGY

Greece demonstrated an **interest** in the Community ICZM activities from the outset, as the 6 preparatory studies (in 6 different related areas) carried out in 1996 can indicate. These have covered the following issues:

1. “Programme for the Integrated Management of Coastal Areas in Cyclades” / (LIFE project), by the Aegean University, Laboratory of Environmental Planning
2. “Awareness, cooperation and conditions for the sustainable development of coastal areas in Magnesia” / (LIFE project), by the Development Company of Magnesia
3. “Integrated Management of Coastal Areas in the Gulf of Strymonicos / (LIFE project), by EKBY/ETHIAGE
4. “Integrated Management of Coasts in Stereia Ellada” / (TERRA project), by the Region of Sterea Ellada
5. “Strategies for the management and cooperation in the metropolitan and suburban coastal areas of Saronicos Gulf” / (TERRA project), by the Organisation of Athens
6. “Integrated Management of coasts in Kavala” / (TERRA project), by the Prefecture Kavala.

Greece has also participated in several parallel related activities within the framework of the Mediterranean Action Plan (MAP/UNEP). These activities were covering a very wide range: from monitoring of the marine waters pollution and quality in general (MED POL programme) to Management Plans for the Protection of Threatened Marine Species (i.e., *Caretta caretta* and *Monachus monachus* under the SPA Programme) as well as Coastal Areas Management Projects (i.e., Pilot CAMP of Rhodes under PAP/MAP, contribution of Greek experts in drafting proposals on related legislation and management guidelines). At international co-operation level, Greece is also active in the SMAP activities (in the EMP context); ICZM is one of the SMAP five priority fields of action.

Furthermore, there were additional activities like the “Programme of Sustainable Development of Coastal Zones and Islands” (1997–99) and a “Background Report for the proposal of a Legal Instrument (Special Framework for the Sustainable Development of Coastal Zones)” (2002) that contributed to a clearer picture on the needs and a more comprehensive approach of the policies required and the measures to be taken. Another indication of the Greek interest in the issue is the fact that, during the latest

Hellenic Presidency of the EU, an International High Level Conference on “Coastal Areas and Cities in Europe” was convened in Crete, on 29–31 May 2003.

The studies and programmes mentioned above as well as the current action programmes of the related Ministries offered valuable **information** for the preparation of this Report. Further information on the implementation was sought through contacts with representatives of various competent authorities, mostly at the central government level that assumes the co-ordination role, in addition to views expressed and collected already in the context of the previous years exercises mentioned above.

For the needs of this Report, the Environment Ministry combined related procedures and took advantage of **consultations** convened in 7 different contexts related to the subject:

- The Special Framework for Coastal Zone Management that was drafted but not institutionalised (pending the updating of the 12 Regional Spatial Plans and the outcome of the 4 new studies launched by the Ministry and mentioned below).
- The 4 studies currently under preparation, which cover
  - The Global Framework for the National Spatial Plan
  - The Special Framework for Spatial Planning of Industry
  - The Special Framework for Spatial Planning of Renewable Energy, and
  - The Special Framework for Spatial Planning of Tourism.
- The Interministerial Committee on the Maritime Policy established in order to prepare coordinated national views on the Green Paper under preparation by the EC for the Community Marine Policy.
- The recently created Hellenic Network on Coastal Research (HENCORE), which is the Greek branch of the European Network ENCORA on the same issue, and which brings together a wide range of Universities, Research Institutes and NGOs in the country.

As regards the **Matrix** with Progress Indicators, proposed by the Indicators Working Group and the Commission to Member States (MS) for use, in order to facilitate interpretation of the Greek answers (*see Annex <a> – Table – at the end*), one should take into account the following remarks:

- a) The information was collected on the basis of bilateral contacts with colleagues from different competent authorities, since there was no

possibility to organise a meeting of stakeholders at this stage for some technical reasons. Given the fact that legislation and physical planning are to a very great extent decided at a central/governmental level, there was no risk to miss important information that would change the replies of the matrix on the current situation just because no such meeting has been convened.

- b) All people involved in the exercise expressed concerns on the types of possible reply (Yes, No, Don't Know). There are many cases that could not be reflected accurately with any of the three types. Some of these were answered with a "No" and some with a "Don't Know" – none of the two being 100 % correct. At least a fourth reply ("Partly" or "In progress") might have been a better solution giving a more precise picture, in particular in "ambiguity" cases where procedures have started but have not been completed and institutionalised yet.

Finally, the **structure** of the Report follows the guidelines prepared to this end and circulated by the European Commission to the Member–States.

## 2. CONCLUSIONS FROM THE NATIONAL STOCKTAKING

### a. THE STATE OF THE COAST

One could consider as indicative elements for the evaluation of the state of the Greek coast the following factors:

- A. The state of the Coastal and Marine Ecosystems,
- B. The results of the monitoring of Bathing Waters,
- C. The results of the Blue Flags operation,
- D. The Coastal Erosion rate,
- E. The Urbanisation rate in coastal zones.

A. With regard to the **Ecosystems and other natural characteristics** of the Greek coasts, one could pinpoint the following <sup>6</sup>:

- The Greek coasts are of high biological, geophysical, aesthetic, cultural, and economic value, while at the same time they constitute a natural resource and a common heritage of Mediterranean/European and often International importance, which should be safeguarded for the present and future generations in a perspective of sustainability.
- The Greek coastal and marine ecosystems are characterized by high production (in particular the lagoons, river estuaries and deltas, meadows of Posidonia, wetlands, sand dunes etc). They constitute the biotopes of numerous species of fauna, the survival of which is precious for the conservation of biological diversity. Yet, some loss of biodiversity has been observed (in particular of fish–stocks of both types: territorial waters and open seas).
- Coastal zones often favour the existence of positive microclimates and the development of agriculture, which is particularly important for the islands that are relatively isolated geographically speaking, and need a boosting of their local economy.
- These zones often include coastal forests and bushes that create – in combination with the sea – a landscape of high aesthetic value, while they contribute at the same time to the minimization of floods, erosion and other natural hazards.
- The coastal zones, being a complicated dynamic natural system, are affected by the forces of aquatic currents, storms and flows of alluvial material. They are particularly vulnerable to the intense climatic

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<sup>6</sup> Ministry for the Environment, Physical Planning and Public Works: “Special Framework for Sustainable Land-Use Planning of the Coastal Zones”, May 2003

changes, in particular the rise of sea level, to the changes of frequency and intensity of storms, as well as to the increasing coastal erosion and floods.

- As regards pressure put on the coastal zones from the human activities, one could identify four types of problems: *concentration* of population and activities in rather limited and sensitive space, frequent *conflicts* of incompatible uses in the same or adjacent areas, *overexploitation* of natural resources and *weaknesses* in decision-making, policy implementation and in co-ordination of competent authorities.

Three main **types of coasts** can be recognised throughout the whole country: beaches, rocky coasts and coastal wetlands (deltas, lagoons, etc), which are considered as the most vulnerable types of coastal areas <sup>7</sup>.

- **Beaches and sand-dunes:** A variety of fauna and flora can be found along these areas. Due to their natural characteristics – both abiotic and biotic– they represent the areas where most of human activities are located. *Sand-dunes* constitute a particularly sensitive ecosystem, because they change easily under the least environmental pressure. Their value is ignored most of the times, fact that results to losses of many sand dunes in coastal zones that are now-a-days over-populated. Tourist growth puts a lot of pressure on dunes, and the same stands for recreation installations, road constructions for rapid access, urbanisation etc. In several cases sand dunes have been destroyed. It is only during the last decade that the value of these ecosystems has been widely recognised. No significant measures for their protection have been adopted yet.
- **Rocky coasts:** They represent 70 % of the Greek coastline. The fauna and especially the flora of these areas are significantly different, but still appear to be of high biodiversity (Economidou, 1994)
- **Wetlands:** Different types of wetlands can be found throughout the whole country. It should be noted that some of the wetlands can be considered as groups including other smaller wetlands. Many rare species of birdlife can be found in the wetlands, such as the White-tailed Eagle (*Haliaeetus albicilla*), the Spotted Eagle (*Aquila clanga*) and the Dalmatian Pelican (*Pelecanus crispus*). More specifically:

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<sup>7</sup> University of the Aegean: Research Programme “Management of Coasts – Impacts of Tourism”, April 1995

- 24 *lagoons* exist in Greece, with a total surface of 24,500 ha. 10 % of this surface is natural, 85 % partially natural and 5 % man-made. There are also *marshes* with a total surface of 70,900 ha. Wetlands are among the most threatened environmental elements. A lot of detrimental impacts have been observed as a result of intensive agriculture, aquaculture, industry, overexploitation of the water resources, pollution due to human activities and urbanisation, intense pasturing as well as over fishing.
- There are 8 large *deltas* in Greece with a total surface of 10,512 ha. 60 % of this surface is natural, 34 % partially natural and 6 % man-made. These ecosystems are exceptionally fragile and constitute the biotope of a big number of species. They are of extreme importance for the migratory species and in particular for migratory birds (i.e., during the nesting period).

Furthermore, one could mention the following formations with special interest for Greece:

- **Coastal forests:** Some 16 % of the Greek coastal areas are covered by forests or maquis – a total area of 1,568,000 ha. (H. Marchand, 1988).
- **Islands:** Islands constitute a particular case of coastal areas calling for a special management approach. With the exception of some big islands (Crete/Kriti, Evia, Lesvos, Chios), where other activities besides tourism are being developed, all other small islands depend upon tourism for their future development. The main factors of attraction of the Greek islands are their natural assets: the sun, the beaches and clean seas, as well as the beauty of their built environment: the picturesque villages with a human scale and their architecture well adapted to the landscape.

**B.** As regards the **Bathing Waters**, Greece is monitoring its coastline – in accordance with the EC Directive 76/160 – in 40 Prefectures and 343 Municipalities, covering more than 1,500 coasts at approximately 2,000 sampling points with almost 25,000 samples per year. The clear conclusion of this long-lasting programme is that the quality of bathing waters in Greece is very good and further improving every year, as the table below indicates.

TABLE 1

Year	% of Clean Coasts (Acceptable Values)
1998	98.70 %
1999	98.94 %
2000	98.80 %
2001	99.40 %
2002	99.90 %
2003	99.90 %
2004	99.90 %

C. Furthermore, Greece is awarded annually one of the highest numbers of **Blue Flags** for the quality of its organised beaches. The table below illustrates the progress during the last years.

TABLE 2

Year	Blue Flags Awarded
1999	318
2000	319
2001	351
2002	354
2003	373
2004	378
2005	383
2006	411

D. At the same time, Greece is suffering from a high rate of **erosion**. A 28.6 % of the Greek coastline is estimated to be affected by erosion (EC data, 2004 <sup>8</sup>), fact that brings the country to the fourth highest rank among the 18 coastal EU Member States (after Poland, Cyprus, and Latvia). This high rate is due partly to the strong winds and waves of the Aegean Sea and partly to the fact that a very big part of the Greek coastline is sandy. The erosion affects also, as expected, the vulnerable coastal ecosystems and protected areas

<sup>8</sup> Coastal Practice Network Newsletter, Greek Newsletter No 2, 2004, [www.coastalpractice.net](http://www.coastalpractice.net)

(including the coastal wetlands), as well as the port constructions and marinas. Impacts of coastal erosion on housing are very limited in Greece.

E. Statistical data on the **urbanisation rate in coastal zones** are rather limited. The total urbanised coastal area is estimated of around 1315 sq. km, which is 1.31 % of the total surface. This corresponds to a relatively small part of the Greek coastline and at the same time it demonstrates a high utilisation of land considering the geomorphology of the country (70 % of the coastline is rocky, as mentioned above). Prospects about coastal urbanisation indicate a further increase in the mid and the long term (year 2025). The share of urban coastal population is expected to rise from 59.37 % in 1985 up to 86.47 % in 2025 according to the worst scenario of the Blue Plan/UNEP-MAP study (University of the Aegean, 1993).

In the last 20 years, there was an increase in second home building (mostly for summer vacations) and hotels along the coastline, with a preference to some 20 Prefectures (like: Chalkidiki, Corfu/Kerkyra, Cyclades, Dodecanissa, Kriti, Samos, Lefkada, Zakynthos, Cefalonia, Preveza, Corinthos, Argolida, Magnissia, Pieria, Evia etc) <sup>9</sup>, in addition to Athens and Thessalonica. The vacation housing rate has followed the fluctuation of the general building rate over this period in the above mentioned areas with 10 to 16 new vacation houses per 1,000 inhabitants depending on how favourable was the general economic situation in the country. Coastal density is 88 inhabitants per sq km, while the average density for the country is 75; this indicates that the inland density is considerably lower (*see Annex <b> - MAP 2*).

Several attempts by the successive governments were made to manage these trends through legislation and planning. It is worth-mentioning that, during the period 1983–2005, some 80 Zones of Land Development Control (ZOE) were established by law in the country, more than 60 among them regulating building and land-use in coastal (including insular) areas. Furthermore, a number of studies and plans have been carried out on the initiative of the Ministry of Physical Planning and the Environment and in co-operation with some research institutes, from the late '70s until the late '90s, in an effort to co-ordinate in a rational and operational way the private initiatives for Vacation Housing and Urban Development (*see Annex <b> - MAP 3*).

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<sup>9</sup> Centre of Planning and Economic Research – University of Thessaly: "Vacation Housing and Urban Development in Greece", Athens, 1997

It goes without saying that, since the late '80s, permits for the installation of hotels require approval of Environmental Impact Assessment (EIA), on the basis of the Community Directives and related national legislation.

## b. THE MAIN LEGAL FRAMEWORK

The coastal zone management in Greece is ruled mainly by the following national Laws having a direct reference to the coasts:

- Law 1337/1983, "Spatial and Urban Planning",
- Law 1650/1986, "Protection of the Environment",
- Law 2242/1994, "Urban Development of secondary Housing in Zones of Urban Control and Environmental Protection",
- Law 2508/1997, "Sustainable Urban Development of Cities and Settlements of the Country",
- Joint Ministerial Decision 33318/3028/1998 – Harmonisation with Directive 92/43/EC "On the Conservation of Natural Ecosystems as well as Wild Fauna and Flora",
- Law 2742/1999, "Spatial Planning and Sustainable Development" (very much influenced by the European policy/ESDP),
- Law 2971/2001, "Seashore, Coasts and other provisions",
- Law 3028/2002, "Protection of Antiquities and the Cultural Heritage in general ",
- Law 3201/2003, "Re-establishment and Protection of the Natural and Built Environment on Islands, as regards the competence of the Ministry of the Aegean",
- Law 3199/2003, "Protection and Management of Waters – Harmonisation with Directive 2000/60/EC (European Parliament and Council, 23 October 2000)".

One should also take account of the relevant provisions of the Laws creating the Organisations of the Athens and Thessalonica Master Plans and Environmental Protection (1985), the Ministerial Decisions approving the 12 Regional Spatial Plans (2003), as well as the Ministerial Decisions setting out the Zones of Land Development Control mentioned above (*see, on an indicative basis, Annex <b> – MAPs 4 to 7, illustrating development options for Kriti and Peloponissos*).

It must be stressed that there are also several additional pieces of legislation (Presidential Decrees, Ministerial Decisions or other Laws) that are referring to other issues or sectors and, thus, are affecting indirectly the coastal zones. Some of them refer to the delimitation and management of Protected Areas with a Management Body – others to the organisation of the Port Facilities, Shipping, Industry, Tourism, Fisheries etc.

Furthermore, there are Laws ratifying relevant International Conventions, Agreements or Protocols, which are complementary to the above mentioned legal framework. The following are listed on an indicative basis:

- Decree 191/1974, ratifying the Ramsar Convention on Wetlands, 1971,
- Law 855/1978, ratifying the U.N. Convention on the protection of the Mediterranean Sea, signed in Barcelona in 1976 and its attached Protocols,
- Law 1335/1983, ratifying the Bern Convention, on the conservation of Wild Life and its natural environment in Europe, 1979,
- Law 1634/1986, ratifying the Protocol on the Mediterranean Specifically Protected Areas, 1982,
- Law 2204/1994, ratifying the U.N. Convention on the Biodiversity,
- Law 2321/1995, ratifying the Convention on the Law of the Sea 1982.

Needless to mention that national legislation is enriched by the harmonisation to all the EC Directives, Decisions and policies. Therefore, all related EC provisions are also in force in Greece. As regards in particular Directive 2001/42 "On the Strategic Assessment of the Environmental Impacts", it is in the process of being transposed and integrated in the national legislation too.

### c. THE MAJOR STAKEHOLDERS

Planning in Greece remains to a great extent within the competence of central government. Though the main responsibility for spatial planning and protection of the environment lies with the **Ministry of the Environment, Physical Planning and Public Works**, the following bodies are also involved in the coastal zone management in the country, at different levels:

- Central Government: Ministry of Development (covering also Industry, Energy and Research), Ministry of Mercantile Marine, Ministry of Rural Development and Food, Ministry of the Aegean and Insular Policy, Ministry of Tourism, Ministry of Culture, Ministry of Economy and Finance.
- Regional level: the 12 (out of 13) Regional Authorities.
- Local Authorities of 1<sup>st</sup> and 2<sup>nd</sup> tier: Municipalities (to a lesser degree because of limited resources – 451 coastal out of 1033 “Kapodistrian” Municipalities) and 41 coastal Prefectures (out of the 51 of the country).

On an indicative basis, one could mention the following **competencies of the Ministries** involved in issues related directly or indirectly to the Marine Environment and the Coastal Zones:

- The Ministry of the Environment, Physical Planning and Public Works (YPEHODE) assumes responsibility for Coastal Zone Management as well as for setting out the policy framework and priorities regarding the marine environment protection (including management of ecosystems and conservation of threatened species). YPEHODE bases its national policies to a great extent respectively on the EC Recommendation on Integrated Coastal Zone Management, the EC Directives 79/409 and 92/43 as well as on commitments undertaken within the Barcelona Convention and its related Protocols. With the exception of the Dumping and the Emergency Protocols (pollution due to ships) mentioned below, YPEHODE is the focal point for all activities covered by the Barcelona Convention system and the Mediterranean Action Plan, including for the Mediterranean Ecosystems and Species Protocol. YPEHODE has launched a programme of environmental studies for the most vulnerable NATURA and bird sites and has established already 27 Protected Areas with a Management Body, 13 of which are coastal and/or marine. There is close co-operation between YPEHODE and the Ministry of Mercantile Marine for the control of possible illegal activities and the implementation of protection measures concerning these coastal/marine protected areas.
- In the field of the marine environment protection from pollution due to navigation, it is the Marine Environment Protection Directorate of the Hellenic Ministry of Mercantile Marine that has been nominated as the Greek Operational Focal Point and, in this capacity, is entitled to act on behalf of Greece in relation to measures of mutual assistance and cooperation between Parties in the framework of the implementation of the 2002 Protocol concerning Cooperation in Preventing Pollution from

Ships and, in case of emergency, in Combatting Pollution of the Mediterranean Sea (Prevention and Emergency Protocol). Moreover, under the approved national organisational structure, the Hellenic Coast Guard performs the necessary government functions aimed at an effective marine environment control by using a modern fleet of air operational means (aircrafts and helicopters), which survey the Greek territorial waters for, among others, tracking down and preventing illegal discharges from ships. The Hellenic Coast Guard (H.C.G.) has general duties for policing ships, either at sea or in ports (subject to the relevant provisions of UNCLOS), and enforcing the law not only in sea areas but also in land areas (coastal zones) of its competence.

- Government functions in respect to maritime transport in any sense have been assigned to the Ministry of Mercantile Marine. This Ministry is also responsible for Safety of Navigation issues and for monitoring the maritime traffic in the Hellenic seas. A VTMS system is in operation covering a large part of the Greek waters, whereas its extension to the remaining sea areas is in progress. There is also a Hellenic Search and Rescue Centre (JRCC) operating in Piraeus, with personnel from the Hellenic Coast Guard, the Air Force and the Hellenic Navy.
- Cross-border cooperation has been declared on issues relating to the protection of the Marine Environment (Barcelona Convention and bilateral agreement with Italy) and search and rescue (bilateral agreement with Italy).
- The Ministry of Rural Development and Food is competent for the implementation of the Common Agriculture and Fisheries Policies in Greece, while the Ministry of Mercantile Marine, through the Hellenic Coast Guard, conducts controls and inspections for preventing and combatting, when necessary, any illegal fishing activity.
- The Ministry of Culture has competence for the protection of coastal and marine archeological sites and monuments.
- The Ministry of National Economy and Finance is responsible for awarding permits for the use of beaches and seashores (e.g., during the swimming period or for broader investments)
- Customs activities (including implementation of the CITES provisions) are carried out by the Ministry of National Economy and Finance (Customs Authorities).
- Matters relating to immigration, policing and border protection constitute a joined activity, which is carried out by the Ministry for Internal Affairs and the Ministry of Public Order.

Furthermore, several organisations of the **civil society** are active in the field, representing Universities, Professional Chambers or Trade Unions and Non-Governmental Organisations (NGOs – mostly dealing with the environmental and cultural heritage). They organise occasionally public awareness meetings or scientific workshops, they lead coastal cleaning campaigns or run small environmental management plans, express views on specific management problems, participate in networks as well as in public hearings (in the context of issuing environmental permits, in particular in ecologically vulnerable areas), or they participate in the Administrative Councils of the Management Bodies of the 27 Protected Areas (13 of which are coastal and/or marine). Some of them participate in related European Networks and projects (e.g., the NGO “Mediterranean SOS” participates in the Coastal Practice Network-CoPraNet, as well as in a LIFE project in co-operation with the Elefsis Municipality and in INTERREG IIIC activities together with the insular Municipalities of Sifnos and Samothraki).

There is a long tradition of expressing views formally among central government services when preparing new legislation and/or policies, as well as when implementing more complex policies (including environmental management, land-use planning and location of new activities). Regional authorities are regularly consulted, as well, for some specific actions (planning, EIA, Management Bodies of Protected Areas etc). Universities and NGOs organise quite frequently meetings to discuss scientific aspects of a very broad range and provide technical support and advice, or to raise awareness (e.g., 8<sup>th</sup> Pan-Hellenic Oceanographic Symposium and parallel Round Table Discussion on the Coastal Zone Management in Greece, convened in Thessalonica in 2006).

More recently, the Hellenic Network of Coastal Research (HENCORE) was created, as part of the European Platform for Sharing Knowledge and Experience in Coastal Science, Policy and Practice (ENCORA). HENCORE ([www.hencore.gr](http://www.hencore.gr)) will be financed by EC (under the 6<sup>th</sup> Framework Programme for Research) for the years 2006–2009. A considerable number of scientists from almost all Greek Universities and Research Centres (including the National Centre for Marine Research, with a long and sound experience in the field) are involved in HENCORE, which foresees also co-operation with competent authorities and NGOs (e.g., the National Centre for Biotopes and Wetlands – EKBY).

#### d. IMPLEMENTATION: ACTIONS AND IMPACTS

The following actions could be mentioned by sector, as an indication of progress towards integration of environmental considerations in the sectoral policies:

##### ***FISHERIES***

The sector of Fisheries, being a sector of primary production, is considered as important for the national economy, despite its small contribution to the GNP (0.36 % for the year 1997) because it contributes to the social and economic cohesion of extended parts of the country (coastal areas, Aegean and Ionian Islands). Approximately 40,000 people are occupied in this sector, while the annual production in all categories (sea fisheries, aquaculture, lagoons) amounts in 231,000 tons (1999).

The coastal ecosystems of the country are under important pressure due to several different activities (tourism, overexploitation of fisheries, urbanisation etc), which results in reduction of the fish-stocks. For the protection and growth of the fishing resources near the coastal zones, some technical works have been constructed these last years including artificial reefs to delimitate the marine protected areas.

Thus, in the framework of the Operational Programme "Fisheries" (E.P.AL.) 1994-99, an *artificial reef* has been placed in the coastal waters of Vistonikos Gulf and a five-year monitoring period has started. At the same time, five feasibility studies have been financed for artificial reefs construction in the coastal waters of the island Kalymnos (Dodekanissa), the Gulf of Ierissos (Chalkidiki), the Lagoon of Messolonghi (Etoloakarnania), the estuaries of Alfios (Ilia), and Preveza (Ionian Sea). These studies were considered essential to identify the necessity and justify the possibility of construction of other additional artificial reefs for the protection and growth of fishing resources.

In the framework of E.P.AL. 2000-2006 (Measure 3.1 for the Protection and growth of fishing resources), several actions are foreseen with the following main objectives:

- Protection and growth of fishing resources of coastal areas at a distance of 15 kilometres from the coast and the increase of local fishing production by 10 % in the first five-year period.
- Increase of biodiversity and biomass in the areas of implementation.
- Maintenance of employment in the fisheries field in the areas of implementation beyond the first five-year period too.

For the achievement of these objectives, the projects/actions that will be included in the programme for funding should be of collective interest, not have negative impacts to the environment, be carried out by public or other collective agencies and foresee a five-year scientific monitoring. The actions will be first realised at the areas mentioned above, for which the five feasibility studies have been carried out within the framework of E.P.AL. 94-99, not excluding - however - the possibility of interventions in other regions too, if needed.

For the implementation of Measure 3.1 "Protection and growth of fishing resources", a financial envelope of 1,234-3,702 million Euros has been allocated that corresponds to 1-3 % of the Public Expenditure for Priority Action 3 of the 2000-2006 Programme.

As regards **aquaculture** in particular, Greece has a long tradition since the 1960's (mostly trout at the time) that was expanded in the '80s with extensive farming in lagoons. Yet, the considerable growth of the sector started after 1985, when the country promoted specific additional programmes making best use of the National and Community incentives policy, the ideal geological/climatic and environmental conditions, the high investment interest, the favourable conditions of the market, the improved related technologies, and the farming techniques.

The aquaculture sector has contributed substantially to the reduction of fisheries deficit in Greece and it has created a socio-economic network, which occupies directly more than 4,800 people and indirectly more than 7,500 people. It is of interest to note that aquaculture activities are in place even in regions where a demographic shrinking has been observed and no investment interest exist for other economic activities.

It is obvious that operators interested in aquaculture investments have to present an Environmental Impact Study when applying for a permit, and they have to respect the environmental terms put by the competent authorities for the operation of their units.

The future actions in the sector of aquaculture will be oriented towards:

a) the identification of aquaculture zones in order to minimise any problems due to incompatibility with other uses and activities,

b) the promotion of appropriate environmental monitoring techniques, so that the aquatic resources will be protected, maintained, managed and developed in the most effective way and with full respect of the ecosystems.

As regards the period 2007–2013 <sup>10</sup>, the "Sustainable Growth of Coastal Aquaculture Areas" (Priority Axis 4) is among the four basic sectoral priorities for Fisheries development. More specifically, the measures proposed aim at:

- the maintenance of the economic and social prosperity of these regions, as well as the promotion of products of fisheries and aquaculture;
- the maintenance and the increase of employment in coastal aquaculture areas through the support that is provided or the economic and social restructuring of areas that face socio-economic difficulties because of changes in the sector of fisheries;
- the restructuring and the reorientation of economic activities (in particular focussing on ecotourism);
- the promotion of quality of the coastal environment;
- the support and increase of collaboration between national and international coastal aquaculture regions;
- the local promotion of sea food;
- the reconstitution of the productivity potential in the sector of fisheries.

The above actions will be implemented with the use of Teams of Coastal Action, following similar experience from the LEADER Programme.

### ***MARINE TRANSPORT***

The importance of marine transport is particularly high in Greece, because of the very long coastline and the existence of so many islands. The development of a modern network of ports and marine transport system constitute a fundamental condition to ensure the social and economic

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<sup>10</sup> Orientations of National Strategic Development 2007-2013.

cohesion of the insular part of the country, as well as for the elimination of inequalities that are particularly present in the Greek insular Regions <sup>11</sup>.

It is known that the marine transport is usually friendly to the environment and causes less environmental implications in comparison to other means of transportation. In principle, the state of the environment in the areas adjacent to ports can be considered satisfactory. Nevertheless, the continuous increase of the transported volume has led to the saturation of a great number of ports in the country including the Western Gates and the big islands ports. This fact, combined with the lack of sufficient land space and appropriate access, leads to an increase of potential negative effects to the marine environment and to the devalorisation of the built-up areas near port installations.

The development perspectives of the sector are estimated as particularly encouraging because of the continuing increase of both passengers and cargo. This is due to the increase of the international and domestic tourism resulting from the economic growth in the EC in general and in Greece in particular. It is worth-mentioning that, according to the statistical data of the Ministry of Mercantile Marine for the period 1987 - 1995:

- ✓ Ship arrivals and moorages were increased by 43 %.
- ✓ Passengers arrived from domestic ports increased by 42 %.
- ✓ Passengers arrived from abroad increased by 54 %.
- ✓ Unloading of cargo has increased by 52 %.
- ✓ Lorries transported by ships have increased by 21 %.

The existing harbours, with the exception of that of Piraeus, are not yet equipped with all the necessary installations to prevent and combat pollution. However, the modernisation of the existing harbours and the upgrading of their infrastructure, as it is foreseen in the Operational Programme "Road Axes, Harbours and Urban Growth" 2000-2006, include also the construction of the essential "Port Reception Facilities" (for oil residues and ballast waters). This was already foreseen by the provisions of related national legislation in place (L. 1269/82 ratification of the MARPOL, Laws 743/77 and 1147/81, Presidential Decree 167/86). With the construction and operation of these facilities, it is expected that the marine environment will be protected despite the increase of navigation.

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<sup>11</sup> Operational Programme "Road Axes, Harbours and Urban Growth ", 2000-2006

Additional interventions for the upgrading and modernisation of both passenger and merchandise ports are included in Measure 7.1 "Harbours". They apply more specifically to the ports of Piraeus (with the contribution of private resources too), Patras as well as smaller ports like those of Mykonos, Lavrion, Volos, Souda and Rhodes. The interventions in question are supplementing those for the ports of Igoumenitsa and Heraklion (proposed to be co-financed by the Cohesion Fund), Thessalonica and Alexandroupoli (proposed to be co-financed by the PEP), as well as Corfu (proposed to be co-financed by the Community initiative INTERREG).

Furthermore, additional possibilities for the appropriate environmental management of the dangerous and polluting substances and waste, at the ports as well as along the marine transport corridors, are provided with:

- ✓ the extension and operation of a National Vessel Traffic Management Information System (VTMIS) and the equipment of ships in order to combat marine pollution,
- ✓ the building of infrastructure at Elefsis to store material and equipment for the combatting of marine pollution of caused by shipping, and
- ✓ the creation of regional stations for the prevention and/or combatting of pollution, with the essential equipment to this end (proposed by Measure 8.1 "Safety of Navigation – Research and Rescue in the Sea" Priority Axis 8 of the Operational Programme "Road Axes, Harbours and Urban Growth").

TABLE 3

<b>FINANCING PROPOSED</b>					
<b>OPERATIONAL PROGRAMME "ROAD AXES, HARBOURS AND URBAN GROWTH", 2000-2006</b>					
<i>(000) Euro</i>					
	<b>Total Cost</b>	<b>Public Expenditure</b>	<b>Community Contribution /FEDER</b>	<b>National Public Expend.</b>	<b>Private Contribution</b>
Priority Axis 7 Measure 7.1	211,346	181,999	90,997	91,002	29,347
Priority Axis 8 Measure 8.1	120,495	120,495	60,246	60,249	120,495

## *TOURISM*

The tourist sector constitutes for Greece one of the main sources of national wealth, since it contributes annually to more than 18 % of the GNP, generating approximately 700,000 jobs and contributing decisively to regional development. The tourist infrastructure in Greece is developed to an important extent, though it is still characterised by mass tourism as in the passed decades. In the National Strategic Development Plan under preparation for the period 2007–2013, part of tourist activities are focused on forms of alternative tourism and agro–tourism, in an effort to achieve the right balance.

The increase of tourist travelling numbers on an annual basis, over the last 20 years, has created new conditions for the management of the touristic development of the coastal and insular regions of the Mediterranean and more specifically in Greece. This increase combined with the predominance of a model of holidays, which seeks the sun and the sea during the summer period, has transformed many Greek coastal areas and islands into touristic zones. These zones have developed progressively a special type of production and environmental features; everything is directly or indirectly linked with (and even depending on) tourism. Some times, there are negative environmental implications that require high cost interventions and conflicts of land–uses are caused – mainly with the rural sector – because of the high demand for expansion of tourist activities to new grounds. The high profits offered by tourism, however, attract more and more businessmen to this sector. It is not by chance that in many touristic zones serious efforts have been made in order to introduce a sustainable planning system, with the participation of the local stakeholders, which would take into account the special socio–economic, cultural and environmental features of each respective zone <sup>12</sup>.

The impacts of tourist activities on the urban (built up) areas could be described briefly as follows <sup>13</sup>:

- Intense urbanisation of coastal zones (not always following the best possible planning standards), which is expected to be continued also

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<sup>12</sup> Tsartas P.: "Local and Regional Development in Coastal and Insular Areas", 2003.

<sup>13</sup> University of the Aegean, Research Programme: "Management of Coasts – Impacts of Tourism", April 1995.

the next years, with an impact on the landscape, natural resources and the potential for future development.

- Seasonal pollution and degradation of the adjacent sensitive ecosystems corresponding to the above-mentioned urbanisation beyond control.
- Seasonal demographic increase in small geographic areas, which are not sufficiently equipped with all the necessary facilities to deal with this.
- Seasonal pressure on the coastal resources, degradation of the coastal environment (air, water, soil, etc), negative impacts on the aesthetic quality of the landscape and built environment as well as effects on the well-being of the humans.

The impacts of tourist activity on the natural environment could be briefly as follows:

- Disturbance of the ecosystems functions because of the expansion of the built up areas,
- Decrease of the species diversity because of the pollution,
- Decrease of the important species population and changes in the structure of the biocommunities,
- Changes of natural characteristics of the aquatic ecosystems (turbidity, smells, reduction of oxygen),
- Increase of the levels of organic matter and nutrient salts,
- Change of balance in the sedimentation cycle resulting in erosion,
- Pollution of sand and ground water,
- Decrease of aquatic reserves,
- Erosion of coasts because of technical works (harbours, streets, tourist installations),
- Loss of coastal forests because of the building activities that increase chances for forest fires.

## ***INDUSTRY***

The last decades are characterised by an increase of the industrial production index (125.9 in 2002 compared to 100 in 1995) and a concentration of industry in bigger units, with more workers and higher production, located mostly along the development axis Patras–Athens–Thessalonica. This facilitates on the one hand their accessibility to the markets, the human resources and the raw materials needed, and occasionally the sea front. On

the other hand, in principle, it also allows adaptations to environmental requirements in an easier way.

There are on-going efforts these last years to improve the environmental performance of Greek industries, as reflected also in the National Strategic Plan for Development 2007–2013.

Such improvement requires changes in the operation of enterprises at the technical level (Anti-pollution, Clean Technologies), at the organisational level (Systems of Environmental Management), as well as at the level of planning of their production (Ecological Labelling). At the same time, institutional and other types of initiatives would be necessary to activate appropriate environmentally friendly responses of the market (environmental rewards, voluntary agreements, systems of marketing of pollutants etc), in order to internalise environmental costs. The Special Framework for Spatial Planning of Tourism, which is under preparation, pays particular attention to the above-mentioned issues.

## ***ENERGY***

The consumption of energy in Greece increases permanently, particularly in the coastal areas where most of the population and the development activities are concentrated. 75 % of the final consumption of energy is directed in the transport and the building sector, fact that makes difficult any effort to restrict the demand <sup>14</sup> despite the fact that consumption can be curbed.

Greece is committed by the objective of Directive 2001/77/EC to achieve generation of electricity by 2010 by 20.1 % from Renewable Sources of Energy (RSE), for which the country has a rich potential. At the same time, the need for conformity with the provisions of the Kyoto Protocol requires important efforts to be made for the improvement of energy efficiency and for the development of environment-friendly forms of energy production, since the energy sector remains very dependent on the traditional fuels. The Special Framework for Spatial Planning of Renewable Energy, currently under preparation, is paying special attention to the energy needs, the wind

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<sup>14</sup> National Centre for the Environment and Sustainable Development: "Draft Report on Indicators – Greece, 2003"

potential as well as the landscape sensitivity/vulnerability of the coastal and insular areas.

For the programmatic period 2007–2013, the obvious objectives are an important promotion of natural gas in the generation of electricity and in particular for domestic use, as well as a substantial increase of RSE in the energy map of the country <sup>15</sup>.

## ***ENVIRONMENT***

The *Greek coasts* are considered among the cleanest in Europe, as demonstrated by the rates of compliance to the Bathing Waters Directive and the Blue Flags awarded over the several last years (see Chapter 2a above).

With regard to the protection of *marine species and ecosystems*, one could recall that Greece has the second bigger biodiversity of superior plants (17.9 % compared to 21.8 % of Spain and to 13.8 % of the European mean) among the EC–15 countries and is characterised by a very high endemism. Furthermore, there is a very important diversity of biotopes and ecosystems ranging from the Central–European to the Mediterranean and hypotropical ones, thanks to the rich combinations of marine, coastal and terrestrial habitats. In Greece, there have been identified 109 out of the 244 types of biotopes of the Directive 92/43/EC, 26 of them being of Community priority. It is estimated that the diversity of species has not presented considerable change over the past decade, despite the fact that some individual species face pressure on their population or their habitats. The percentage of threatened fauna species in Greece (22 %) is very close to that of Europe (25 %), while the corresponding percentage of flora species is lower (4 %).

The areas for protection included in the national catalogue of Greece as part of the Community network NATURA 2000 correspond approximately to the 16.5 % of the land surface of the country – a considerable part of which is coastal, while there are also some marine sites (the Sporades Park for the monk seal *Monachus monachus* and the Zakynthos Park for the marine turtle *Caretta caretta* being the ones most widely known).

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<sup>15</sup> Orientations of National Strategic Development 2007-2013.

The policy orientations for these areas <sup>16</sup> favour mild human interventions that would allow for maintenance of the existing biodiversity. Actions foreseen in this direction are as follows:

- Development and adoption of National Strategies for the Biodiversity, harmonised with the orientations of the related European Strategy;
- Establishment and completion of a national system of management of the protected areas;
- Support to the operation of the first Management Bodies created for the protection of 27 priority areas, in order to ensure their long-term sustainability;
- Sustainable management of all protected areas and species, including those covered by the EC Directive 79/409 (Birds Directive).

Funding allocated for these actions is given in the following table:

TABLE 4

<b>OPERATIONAL PROGRAMME "Environment», 2000-2006</b>				
	Total Cost	Public Expenditure	Community Contribution / FEDER	National Public Expenditure
Measure 8.1	52,910,602.2	52,910,602.2	36,064,278.65	16,846,323.55 Euro

As regards the future <sup>17</sup>, the aims are:

- Stopping of loss and protection of the biodiversity;
- Improvement of the state of conservation of ecosystems and of threatened populations presenting an ecological interest;
- Designation and maintenance of natural landscapes of high aesthetic value;
- Sustainable management of agricultural land and forests.

Such protection and management is aimed through actions at different levels, including environmental provisions in the Operational Programme "*Fisheries*" 2000–2006. Among other actions:

<sup>16</sup> Operational Programme "Environment", 2000-2006

<sup>17</sup> Orientations of National Strategic Development 2007-2013.

- 42 stations have already been equipped, which – progressively and on an annual basis – will provide data for the quality of waters with regard to several aquatic organisms.
- Information actions, including seminars and awareness campaigns, are scheduled and convened on Marine Fisheries in relation to the protection of threatened species (e.g., *Monachus monachus*) at Prefectures level, addressing local institutions and the organisations of fishermen.
- When selecting areas for aquaculture, the Natura 2000 areas are taken into account as well as the potential impacts of the activity on them.

The quality of *surface and ground waters* is considered satisfactory at national level <sup>18</sup> as regards the criterion of compatibility with the Community standards related to eutrophication. Still it is necessary to minimise some discrepancies recorded at local level. Phenomena of water pollution near big urban settlements are decreasing to the extent that sewage treatment plants are created and operating. In some areas, over-pumping for irrigation has resulted in increased salinity of ground waters and soil.

**TABLE 5: Quality of Surface Waters (2001)**

Concentration of nitrates < 25 mg/l	98,8 %
Concentration of phosphates < 0.125 mg/l	71,4 %
COD < 20 mg/l	81,1 %

The distribution of Water Resources in Greece as regards the main uses is as follows: Agriculture 87 %, Water supply 10 %, Industry – Energy etc 3 %. In the 92 % of the existing irrigation system, losses exceed 50 % of the water used. This, in combination with a lack of adequate pricing policy, results in an overexploitation of the water table. Given the geographical distribution of the population and the areas preferred by tourists, the demand for water supply comes mostly from the Central–Southern Greece (in particular Attica) and the coastal/insular part of the country, where the water needs are increasing in particular during the dry summer months. Still, generally speaking and despite the seasonal shortage that is observed at local level, the availability and quality of the water resources at national level is satisfactory. For the years 2007–2013, priority is put on:

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<sup>18</sup> Intermediate Evaluation Report of the Operational Programme "Environment", 2000-2006

- The completion of processes – through co-operation of competent Ministries – for the implementation of the Community Directives 2000/60/EC (management of water resources) and 91/271/EC (collection, treatment and disposal of urban liquid waste), that have been already transposed in the national legislation.
- The upgrading and extension of related infrastructure aiming at: a) the reduction of water losses, b) the extension of sewage treatment and c) the completion of the National Network of Water Quality by putting in place the necessary mechanisms and networks by river basin, including the creation of a National Bank of Hydrological and Meteorological Information.

Funding allocated for these actions is given in the following table:

TABLE 6

<b>FINANCING TABLE</b>				
<b>OPERATIONAL PROGRAMME "Environment", 2000-2006</b>				
	Total Cost	Public Expenditure	Community Contribution / FEDER	National Public Expenditure
Measure 1.1	11,226,600	11,226,600	8,156,995	3,069,605 Euro

Furthermore, as regards the protection of marine environment from pollution that emanates from land-based sources and from shipping (Objectives of Measure 3.3), the following financial provisions were made to cover anti-pollution equipment and other necessary actions:

TABLE 7

<b>FINANCING TABLE</b>				
<b>OPERATIONAL PROGRAMME "Environment", 2000-2006</b>				
	Total Cost	Public Expenditure	Community Contribution / FEDER	National Public Expenditure
Measure 3.3	7,733,430	7,733,430	5,800,072.5	1,933,357.5 Euro

The Orientations for the National Strategic Development 2007–2013, currently under preparation, are putting a great emphasis on maintaining a high quality level for all water systems (surface, marine and groundwater) and managing them in a rational and sustainable way.

As regards *liquid waste*, significant progress has been recorded during the last years for the collection and treatment of both urban and industrial

waste, thanks mostly to Community funding (Cohesion Fund and 2<sup>nd</sup> Community Framework). As an indication, one can mention the following:

- the capacity of sewage treatment plants (of at least secondary treatment) in the country correspond to 6.1 million units of equivalent population (UEP)
- the capacity of sewage networks correspond to 6.5 million UEP
- the percentage of population served by sewage treatment plants of all three degrees exceeds 70 % (a very big part of it living in coastal areas).

The related Measure 1.2. of the Operational Programme "Environment" 2000–2006 covers:

- Actions for water resources saving in water supply systems
- Identification of special interventions in the field of liquid waste management when using natural systems
- Water resources saving through liquid waste management.

TABLE 8

FINANCING TABLE				
OPERATIONAL PROGRAMME "Environment», 2000-2006				
	Total Cost	Public Expenditure	Community Contribution / FEDER	National Public Expenditure
Measure 1.2	9,185,400	9,185,400	6,673,905	2,511,495 Euro

The management of *solid waste* is one of the most important environmental problems that Greece is faced with in the last decades, since several socio-economic changes have resulted in a dramatic increase of the volume of solid waste <sup>19</sup>. Yet, one must underline the positive fact that the average production of litter in Greece (almost 1 kg/inhabitant/day) is lower than that in the USA (approximately 3 kg/inhabitant/day) and in EU-15 (approximately 1.5 kg/inhabitant/day) <sup>20</sup>.

The fact that several proposals for solution of the problems did not get social acceptance had resulted in transitory practices, which had negative environmental impacts including on coastal zones. Several actions and projects carried out after 1994 have already improved to a certain extent the situation.

<sup>19</sup> Operational Programme "Environment", 2000-2006

<sup>20</sup> National Council of Competitiveness and Growth: "Annual Report on Competitiveness 2003", January 2004

Still today 92 % of the urban solid waste is discharged in landfills, while only 8% is recycled. Some 20 % of the population is participating in material separation programmes in the context of waste recycling. In total, 85 % of the urban solid waste produced is collected and discharged in an organised way. The remaining percentage corresponds to rural under-populated areas as well as to some remote mountainous regions. In general, one could say that the coastal and insular areas (and in particular those which are among the most preferred touristic destinations) are covered by proper solid waste disposal systems. Naturally, the programme for future actions in the field foresees further improvements and more efficient schemes by Region.

It is also interesting to note, as regards the *coastal agricultural land*, that the rural areas of islands in particular are receiving high pressure these last decades mostly because of the tourism growth and the related urbanisation<sup>21</sup>. As a result, the most productive agricultural land is gradually decreasing, since it is used for other (not agricultural) needs, and the local economies become less and less self-supported. This land-use change is often accompanied by:

- A dramatic rise of prices of agricultural land
- Splitting of ownerships in many small parcels
- Abandoning of agricultural land
- Not sustainable distribution of population
- Linear intensive urbanisation along the coasts
- Degradation of landscapes
- Environmental impacts including erosion and conflictual water demands
- Decrease of employment in the primary sector (in particular as regards young people and women) in favour of the tertiary sector (and in particular of tourism), without maintaining the competitive advantage of low working cost or developing so far special services with high added value <sup>22</sup>.

The distribution of global **financial allocations by Region** (percentages), under the EC Operational Programme “Environment” for the period 2000–2006, is illustrated in Annex <b> (see MAP 8) and reflects clearly the concentration of investments in the broader Athens area and – to a lesser degree – the broader Thessalonica area.

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<sup>21</sup> Kokkosis H.: “Strategic Action Plan for the Sustainable Development of Coastal Space”, December 1999

<sup>22</sup> Orientations of National Strategic Development 2007-2013.

### 3. STRATEGIES PROPOSED AT NATIONAL LEVEL FOR IMPLEMENTATION OF ICZM

#### a. OBJECTIVES AND PRIORITIES

The problems and the development potential of the coastal areas in Greece call for rational management in a perspective of strategic sustainable development. In this scope, the role of spatial planning is decisive in order to achieve co-ordination, compatibility of sectoral policies, efficiency of infrastructures and, at the same time, protection of natural resources and ecosystems.

It is understood that the existing legislative framework, though it includes many relevant laws and legal provisions dealing partly with the coastal areas, is not sufficient because of its fragmentary approach. It becomes even less effective because of the big number of different services and institutions that are involved with overlapping roles in the planning and implementation of policies and measures concerning coastal areas.

On the basis of the research projects and studies carried out in previous years and mentioned in chapter 1.b. above, a **draft Ministerial Decision was prepared in 2002–2003 for a “Special Framework of Spatial Planning and Sustainable Development of the Coastal Areas”**. This would constitute a national strategy for the entire coastal space including continental and insular parts of Greece. The idea was to develop a policy for the coastal areas at three levels:

- a) *At national level*, there would be spatial planning objectives, orientations and criteria for a further concretisation of the policy at different lower-scale levels of management,
- b) *At regional level*, there would be identification of geographical zones where the policy could be more effectively applied, with more concrete orientations and targets, and
- c) *At local/municipal level*, within specific geographical zones, there would be concrete master-plans and regulatory measures for the management of the specific coastal zones, providing for all relevant sectoral policies and land-use in a sustainable perspective.

Major purpose of this draft strategy was to identify mid-term actions and policies for inclusion in the Operational Programme 2000–2006, so that the Greek coastal areas could be managed in a rational way, sustaining the

population and the necessary development activities and protecting, at the same time, the natural resources and ecosystems. The following specific actions were identified and proposed for funding and implementation:

- 1) Elaboration of Sustainable Development Plans for coastal areas
- 2) Protection of selected coastal areas as natural and cultural reserves
- 3) Special actions in selected coastal areas
- 4) Integrated Management of Islands
- 5) Pilot Projects for the Integrated Management of Coastal and Insular Areas

For the promotion of this policy there were two options: either issuing a Ministerial Decision for a Specific Framework on ICZM, as mentioned above, or integrating the objectives related to CZM into different sectoral policies (i.e., Tourism, Urban Planning, Infrastructure). For a number of reasons, finally, the second option was followed.

The planning instrument used to cover this need, together with many other objectives, was the set of **12 Regional Spatial Plans** developed in the course of 2001–2003 and published after approval in 2003–2004. Sample *maps*, from the Regional Spatial Plans of Crete and Peloponissos, are *annexed* at the end of this Report on an indicative basis (*see MAPs 4 - 7*).

## b. THEMATIC AREAS

The following specific and/or thematic objectives were put forward by the proposed Special Framework on Coastal Areas and taken into account to a greater or lesser degree in the 12 Regional Spatial Plans:

- 1) Rational management of coastal agricultural land of high productivity and coastal forest resources, as well as protection and effective management of marine resources.
- 2) Development and promotion of good practices and guidelines for coastal zones management.
- 3) In particular for islands:
  - a. Increase of accessibility,
  - b. Increase of employment opportunities,
  - c. Protection of their natural and cultural heritage.

- 4) Encouragement of “bottom-up” initiatives and active public participation in coastal zone management.
- 5) Establishment of appropriate follow-up mechanisms and monitoring, as well as dissemination of information to the stakeholders.
- 6) Development of training and education programmes covering integrated coastal zone management and marine environment protection.
- 7) Promotion of
  - mechanisms for purchase of land with a long-term development perspective,
  - agreements with coastal areas users, including industry,
  - social, economic and fiscal incentives as well as mechanisms of regional cohesion.

As regards further concretisation of measures and more specific planning tools for the implementation of the policy targets, Law 2742/1999 provides for the use of a number of Plans having different scale or scope of application, as appropriate (i.e., for Organised Areas of Productive Activities, for Integrated Urban Interventions etc). Such specific planning tools have already been used in a number of cases.

### c. SUPERVISION MECHANISMS

When developing the Special Framework and the Regional Plans mentioned above, the following authorities and stakeholders had been involved and expressed views, including in the context of the **National Council of Spatial Planning and Sustainable Development** (foreseen by Law 2742/1999 and created as a body by Ministerial Decision in 2001):

1. Different services of the Ministry of the Environment, Physical Planning and Public Works (YPEHODE) / (*leading Ministry*),
2. Ministry of National Economy (General Secretariat of Investments and Growth, Directorate General of Public Investments, Regional Policy and Growth, Directorate of Regional Policy),
3. Ministry of Mercantile Marine,
4. Ministry of Culture,
5. Ministry of Agriculture (Directorate General of Fishery, Directorate of Aquaculture),
6. Ministry of Development, Hotels Chamber of Greece,

7. Ministry of Development, Greek Organisation of Tourism,
8. Greek Tourist Enterprises,
9. EKBY (Greek Centre of Biotopes–Wetlands – Goulandri Museum of Natural History),
10. Association of Greek Urban and Regional Planners (SEPOH),
11. Greek Aquaculture Enterprises.

After approval of the Regional Plans, all authorities have to comply with these plans when implementing their sectoral policies, while the Regions and YPEHODE in particular maintain a *co-ordination/supervision role* at regional and national levels respectively.

So far experience has implied the need for:

- Further co-ordination among competent authorities of different levels (different Ministries as well as central, regional and local government) and possible redefinition of roles when necessary,
- Use of a combination of means that would facilitate cohesion and integration of the ICZM objectives in the sectoral policies,
- Developing and use of mechanisms (incentives, monitoring etc) to facilitate implementation of the related provisions included in the Regional Plans,
- Strengthening of co-operation networks of major stakeholders.

#### d. DEVELOPING THE NATIONAL STRATEGIES

Two new elements have influenced the progress of the planning process as regards Coastal Areas these last few years:

- a) It was felt that any sectoral policy or specific (= thematic) framework plan would have more chances to be implemented had a Global National Plan been in place.
- b) The preparation of a National Strategic Development Plan for the period 2007–2013 has started and all Spatial Planning exercises would need to reflect the global policy options.

Thus, and in order to ensure co-ordination of major policy fields, four studies of national scale were launched in autumn 2005 by YPEHODE, as mentioned in chapter 1.c. above, and are expected to be approved by the end of 2006:

- The General Framework for Spatial Planning and Sustainable Development (that would further develop the related draft

proposal of 2002 and would take into account new elements, priorities and needs),

- The Special Framework for Spatial Planning of Industry,
- The Special Framework for Spatial Planning of Renewable Energy, and
- The Special Framework for Spatial Planning of Tourism.

The objectives and targets for Integrated Coastal Zone Management are expected to be incorporated and specified in these on-going studies as appropriate. Only after approval of these new legal instruments there will be discussion on possible need for an additional individual instrument on ICZM. The outcome of these 4 studies might also call for an update and amendment of the 12 Regional Spatial Plans.

An additional fact that has played its role to the same direction is that a Green Paper is under preparation on Maritime Policy at Community level. Greece has already established an Interministerial Committee to prepare co-ordinated national views. Since the purpose of the exercise is to co-ordinate all related sectoral policies at Community level, it was felt that **duplication should be avoided**. Thus, broad public discussions on the Special Framework for Coastal Zone Management have been postponed for the time being, while official positions expressed within the Interministerial Committee for the Maritime Policy as well for the 4 studies mentioned above have been used as valuable input to the consultations procedure needed for this Report.

## 4. MAJOR ACTIONS TAKEN, OR TO BE TAKEN, TO IMPLEMENT THE NATIONAL STRATEGIES

### a. EXISTING MEASURES

The major initiatives and actions taken these last years to implement the policy options mentioned in previous chapters are as follows:

- 1) Over the period 1983–2005, YPEHODE has developed plans that were approved and published in the Greek Official Journal for 80 **Zones of Land Development Control**, more than 60 of which concern coastal and insular areas.
- 2) During the same period, some 30 **Special Land–Use Studies** have been carried out (10 of them financed by ENVIREG), applying also to a great extent to coastal areas.
- 3) The ENVIREG Regulation provided, among other things, for actions in zones within 10 km from the sea. On the basis of this provision, a number of projects has been realised covering mostly **biological treatment plants** (60 % of about 100 million €) <sup>23</sup>.
- 4) Since 1985, the **Organisations of the Athens and Thessalonica for Master Plans and Environment Protection** have carried out a big number of plans for the land management in their respective areas of competence, covering also coastal zones.

One should also add to the above:

- a) the big number of **General Urban Plans** approved and put in force the last decades (many of them covering coastal urban areas / *See Annex <b>, MAP 3),*
- b) the measures taken for the protection and **management of the environment** in compliance with the Community legislation, including the creation of 27 Protected Areas with Management Bodies (13 of which are coastal and/or marine), and
- c) the **Port Reception Facilities** installed at the major ports of the country.

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<sup>23</sup> Efstratoglou P.: " Study of Rural Space, Operational Programme Environment", July 1998

## b. ACTIONS PLANNED

As explained above, at the current stage emphasis is put on:

- a) The implementation of measures taken already,
- b) The completion and approval of the four national scale Spatial Plans, which are under preparation,
- c) Ensuring interaction with the Strategic Plan of Development for 2007–2013, which is under preparation,
- d) Promoting the concept of sustainable development in specific actions (e.g., when granting permits for individual installations), and
- e) Promoting closer co-operation with other stakeholders.

## 5. EVALUATION OF THE EXPECTED IMPACT OF THE NATIONAL STRATEGIES ON THE COASTAL ZONES

### a. INDICATIVE TIME HORIZON – RISKS AND UNCERTAINTIES

With the completion and approval of the four Spatial Plans by the end of 2006, it is expected that a great number of issues related to coastal zones and pressure on them by major economic activities (industry, tourism and renewable energy) will be dealt with in a rational and effective way. The main principles set out in that context, it is expected that the objectives of the ICZM Recommendation could be implemented in a more systematic way. At the same time, the rules of the game will become clearer for potential investors as well, since some zones will be identified, where specific land-uses will be excluded for reasons of sustainability. The updating of the 12 Regional Spatial Plans and any additional planning in the future would only specify more and contribute to the implementation of more concrete targets at local level.

There are a few points, though, that call for attention in order to avoid unnecessary delays in implementation. To deal with possible uncertainties, it would be very helpful to work at the appropriate levels in order to ensure as soon as possible:

- Clearer identification of priorities and more effective and compatible articulation of the sectoral policies in coastal zones, in the context of the Operational Programme 2007–2013,
- Closer co-operation among the different levels of the administration (central, regional and local) and a more complementary way of contributing to the implementation,
- Networking with major stakeholders, including professional/economic associations, scientists and non-governmental organisations, in order to achieve more realistic inputs and documentation/justification when planning and more consensus when implementing,
- Broader awareness campaigns in particular on the expected benefits of the policies proposed and the impacts of non-action or of some alternative activities and policies,
- Involvement of interested stakeholders in a consultation procedure before decision-making,
- Adequate human and financial resources for the implementation of the policies.

## b. EXPECTED BENEFITS – LIKELY CONSTRAINTS – ESTIMATED IMPLEMENTATION COSTS

In general, the **expected benefits** – if the activities planned and described in previous chapters are realised as scheduled – could be as follows:

- Sustainable development of coastal areas with respect to the environment and with a long-lasting perspective,
- Conservation and rational management of national natural and cultural resources,
- Rational management of human activities on the coastal land and the marine zones through appropriate land-use planning,
- Integrated management of sectoral policies and co-ordination of their spatial dimension, harmonising targets and actions.

Furthermore, the following benefits are expected in some specific sectors to the extent that the planned ICZM strategies take place. In particular:

### Agriculture

- Mutual benefits to Agriculture and to Environment, if the multiple compliance foreseen by the new Community Agricultural Policy (CAP) is substantially implemented.
- Protection and conservation of coastal agricultural zones of high productivity.
- Encouragement of mild rural development in the dynamic and wider coastal zones of areas with particular ecological value. Possibility to allow certain cultures in limited zones, after careful examination and on the condition that there will be no degradation of the ecosystems.
- Minimisation of negative impacts on the environment due to agricultural activities and the methods used (including maintenance of the terraces), and reduction of soil erosion and/or desertification risks.

### Fisheries

- Regulation of fishing taking into account the ecological balance. This would allow for mid- and long-term increase of the fish stocks.
- Restriction of fishing in marine areas where the fish stock has decreased dramatically, with the aim of re-establishing fish populations and their important biotopes.

- Specific rules concerning fishing periods and methods would contribute effectively in increase of fish stock. Encouragement of traditional ways of fishing in the areas of particular ecological interest could create some new jobs in addition to ecological benefits.

### Aquaculture

- Banning of aquaculture in areas of particular ecological value and siting of such installations in accordance with the provisions of the Regional Spatial Plans could have a double benefit: for nature conservation and for the related economic activities and investments.

### Industry

- Installation in the coastal areas of only those industries that really require access to the sea. This is expected to free some coastal space in favour of other activities and would result in considerably less pressure on the vulnerable areas.

### Tourism

- Encouragement of mild recreation activities in the areas that have been recognised for their ecological and cultural value would be of mutual benefit.
- Creation of touristic infrastructure in the less developed coastal zones should take into account the carrying capacity of the latter. If the touristic development respects the natural and cultural characteristics of these zones, with a parallel upgrading of the provided services, improvement of infrastructure and mitigation of possible damages, this could attract both local population and tourists, thus contributing to a balanced and sustainable development of the respective regions.

So far, negative impacts are not expected. However, it would be important to pay special attention to **co-ordination of competent authorities**, in particular during the transitory period, in order to avoid possible misunderstandings as regards targets and possible weaknesses in implementation.

Furthermore, it would be most important to consider appropriate and effective ways to contribute in **making citizens' participation** through their respective organisations **more active and more substantial**, and to **ensure**

**that the local authorities will have the adequate means** so that they could play their role in planning and implementation without unnecessary delays.

The calculation of the **implementation cost** is not completed as yet. However, it is felt that considerable economies of scale could be achieved if Community and national funds – to be allocated anyway for sectoral policies and regional development – would be used in a well structured, complementary and co-ordinated way, observing the orientations and provisions of the EC Recommendation on ICZM and the Spatial Plans mentioned in previous chapters.

## 6. EVALUATION OF THE IMPLEMENTATION OF THE RELATED COMMUNITY POLICIES AND LEGISLATION

### a. SEEKING COORDINATION: WEAKNESSES AND BARRIERS

It is felt that better co-ordination of major Community policies (i.e., Transport, Agriculture, Regional Development and Environment) could assist considerably similar efforts of Member States at national level.

In this spirit, Greece welcomes the European Commission's initiative to develop a **Green Paper on a European Maritime Policy** that will deal in an integrated, holistic, co-ordinated and sustainable way with all related sectoral policies, integrating at the same time the environmental dimension of these policies in a balanced and effective way. To this end, we agree that Fisheries, Marine Transport, Industry, Trade, Regional Development, Environment, Energy and Research are key related policies with important interactions. We also agree that the new Maritime Policy should ensure their better co-ordination and effectiveness building on the respective commitments, tools and/or initiatives in a perspective of sustainable development and competitiveness of the EU. Therefore, as regards the **environmental policies** in particular, the new Maritime Policy should take into consideration, facilitate the implementation of and build upon the Marine Strategy, the Water Framework Directive, the Habitats Directive and the Natura 2000 network, the Recommendation on Integrated Coastal Zone Management, the Barcelona Convention (for the Mediterranean) and its Protocols, the Basel Convention (transboundary movement of hazardous wastes) and all other related commitments.

On the other hand, it is important to ensure synergies between the new **Mediterranean Protocol on Integrated Coastal Areas Management (ICAM)**, which is under preparation and due to be adopted by the end of 2007, and the EC policy objectives mentioned above <sup>24</sup>. Obviously, all these activities and policies for ICZM need to be planned in a *sustainable development* perspective and keeping in mind *subsidiarity* where appropriate.

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<sup>24</sup> It is to be noted that 7 EU Member States (Cyprus, France, Greece, Italy, Malta, Slovenia and Spain) and the EC are Contracting Parties of the Barcelona Convention and the Mediterranean Action Plan (MAP), in the context of which this Protocol is prepared.

## b. SOME THOUGHTS ON THE EU MARITIME POLICY (GREEN PAPER)

The following points have already been communicated to the EC Task Force for the Green Paper on the EU Maritime Policy, as part of the Greek position.

### b.1. GENERAL OBJECTIVES

The Green Paper under preparation should pay special attention, in Greece's view, to the following **overarching general objectives**:

- Ensure *synergies and complementarity* of all related sectoral policies, in a *balanced, sustainable and environmentally friendly way*.
- Promote *competitiveness* of the related EC enterprises, ensuring at the same time *protection of the vulnerable marine environment and sustainable management of the marine resources*.
- Develop a *sustainable sea-related economy* respecting fully the marine and coastal heritage and recognizing the *central role of healthy marine ecosystems* to this end.
- Find the *right balance* between provisions within EC and within appropriate international fora (e.g., IMO), as well as between binding measures and flexibility/subsidiarity.
- Further develop and use related *know-how (through research, education, training and dissemination), surveillance/anti-pollution techniques and early warning systems*, as well as corresponding *capacity building*.
- Apply the *precautionary principle* whenever there are uncertainties as regards the possible risks of both sea and human origin.
- Assist appropriate schemes of *cooperation with third neighbouring countries* as a contribution to implementation of EC provisions by those Member States (MS) not sharing boundaries with other MS.
- Facilitate broad acceptance and implementation of the new Maritime Policy by *involving stakeholders (including representatives of the civil*

*society*) in its development from early stages and providing for *good governance*.

- Provide for *appropriate mix of instruments* to assist implementation in particular in the outermost regions of the Union that have a major contribution to its maritime dimension, while the *proportionality principle* will be also observed.

## b.2. SPECIFIC POINTS

Furthermore, the following **specific points** related to the **environment and physical (spatial) planning** should be reflected appropriately in the Green Paper:

- The marine environment is threatened by many activities (mostly land-based sources but also navigation-related) and the marine resources are currently over-exploited. The new Maritime Policy should provide for *compatibility* of sea-related activities and *sustainable management* of the marine resources (including in particular fish stocks, as well as gas hydrates in sediments, seabed minerals etc).
- Effective protection of the environment cannot be achieved by a purely environmental policy. Therefore, the *integration of environmental considerations* in all related sectoral policies and the promotion of *international cooperation in a consistent way* are key points for the new Maritime Policy, in order to contribute effectively to the Lisbon, Gothenburg and The Hague objectives.
- All sea-related activities and policies should *respect* the protection status of the marine and coastal areas included in the *Natura 2000 Community Network*.
- The efforts to *reduce flow of land-based pollution* into the aquatic environment should be further followed taking into account the appropriate available techniques and the overall environmental impacts of the possible options. Observe, to this end, the related Community legislation (Water Framework Directive, Directives on Dangerous Substances, Nutrients, Urban Wastewater, etc) and related legislation of the MS. Develop and use appropriate surveillance techniques and pollution combatting measures.

- The new Maritime Policy should also provide for the necessary measures to *reduce navigation-related pollution* (including oil-spills, ship dismantling and recycling, anti-fouling paints, air pollution, waste, port services, etc).
- *Natural risks* (erosion, flooding, impacts of climate changing, etc) are part of the European reality – often combined to human activities that cause or further aggravate the problems. The new Maritime Policy should provide for measures to mitigate as much as possible such risks.
- Furthermore, all necessary measures should be taken to avoid introduction of *invasive alien species* (e.g., due to ballast waters of some tankers) in the European seas.
- Development and Spatial Planning should *ensure compatibility* of policies and activities (e.g., tourism, industry, fisheries, navigation etc) in the same marine and/or coastal area as well as respect of the natural characteristics of this area. The *Strategic Environment Assessment* (Directive 2001/42) is a valuable tool to this end.
- Specific measures should be taken to avoid:
  - *loss of coastal land* of ecological– cultural and economic value,
  - *risk to human lives* due to erosion and flooding.
- The new Maritime Policy should also provide for *improved coordination* of the actions taken by all the authorities concerned both at sea and on land, *in managing the sea-land interaction*. In the case of *remote coastal communities*, maintenance or promotion of their *cohesion* should be ensured.

Additional and more specific comments will be presented by Greece at later stages as well, in the context of the consultations and negotiations that will take place.

### c. POSSIBLE ADDITIONAL SUPPORT TO NATIONAL EFFORTS

New approaches, new policies and new mechanisms are likely to be faced, by both the inhabitants concerned and the services in charge of implementation, with some doubt, hesitation or even reluctance – as usually is the case for any change.

Better understanding and more effective implementation could be facilitated with the use of **wide dissemination of information** on:

- Costs of inaction or of a not-integrated approach,
- Related good practices in other countries,
- Related success-stories in other EC Member States and in Greece, to the extent that implementation of ICZM policies will proceed.

Any support, technical or financial, to this end would be highly appreciated. Networking among key actors for key issues would be a first valuable step.

## 7. NEXT STEPS

One could summarise and conclude by mentioning the following milestones as regards the actions scheduled for the next years:

- Basic elements of the EC Recommendation on ICZM are expected to be incorporated and further specified in the 4 Framework Spatial Plans underway. Related legislation is expected to be finalised by the end of 2006. Funding for the period 2007–2013 should be allocated accordingly.
- ICZM options might influence also the recently announced amendment of Law 2971/2001 on Seashore and Coasts.
- While the elaboration of these 4 Framework Spatial Plans and other related instruments continues, emphasis is put on the creation of a Network of interested stakeholders to facilitate dialogue on policy options, consensus and – later on – implementation. YPEHODE is in regular contact with other competent Ministries, Regions, the scientists' network HENCORE and NGOs to this end. Information meetings are organized on several occasions (e.g., in Thessalonica, June 2006), to better disseminate related information.
- On the basis of the outcome of the 4 Framework Spatial Plans to be concluded by the end of 2006, YPEHODE will consider in 2007 if there is a necessity for:
  - An updating of the 12 Regional Plans,
  - A specific Framework Plan on ICZM, and
  - Special mechanisms to allow for more effective implementation of ICZM provisions at both levels: EC (follow-up of the recommendation) and Mediterranean (new Protocol under preparation).
- As regards in particular implementation of management policies in the coastal zones, the Greek version of this very Report could be used as a tool to bring the competent authorities and other stakeholders together, discuss on specific issues, agree on how to achieve more synergies and effectiveness, collect – to the extent possible – the available information related to the Indicators of Sustainable

Development of the Coastal Zones (*see Annex <c>*) developed within the European Commission and identify possible gaps for which further coordinated work might be needed (e.g., additional data to be collected by the National Service of Statistics or to be mapped and monitored by satellite within the framework of the national preparation for the INSPIRE Directive expected to be adopted soon).

## 8. ANNEXES

### a. PROGRESS EVALUATION MATRIX

TABLE: Country replies

### b. MAPS

- MAP 1: Evolution of Population in Coastal Regions
- MAP 2: Population Density in Coastal Municipalities
- MAP 3: Coastal Municipalities and Legal Provisions  
(a : Northern part of Greece  
b : Southern part of Greece)
- MAP 4: The Region of Peloponissos in the context of Greece
- MAP 5: Model of Spatial Development – Region of Peloponissos
- MAP 6: The Region of Kriti in the context of Greece
- MAP 7: Model of Spatial Development – Region of Kriti
- MAP 8: Regional Distribution of Allocations – EC Operational Programme for the Environment, 2000–2006

### c. INDICATORS FOR SUSTAINABLE DEVELOPMENT

TABLE: Indicators for Sustainable Development of the Coastal Zones



**a.      PROGRESS EVALUATION MATRIX**



*An Indicator for Measuring Progress in the Implementation of ICZM*

Country: GREECE

Region: All 13 Regions

Local area: (General picture)

Phase	Action	Description	National		Regional		Local	
			2000	2005	2000	2005	2000	2005
<b>Planning and management are taking place in the coastal zone</b>	1	Decisions about planning and managing the coast are governed by general legal instruments.	Yes	Yes	Yes	Yes	Yes	Yes
	2	Sectoral stakeholders meet on an ad hoc basis to discuss specific coastal and marine issues.	Yes	Yes	Yes	Yes	DK	Yes
	3	There are spatial development plans which include the coastal zone but do not treat it as a distinct and separate entity.	Yes	Yes	Yes	Yes	Yes	Yes
	4	Aspects of the coastal zone, including marine areas, are regularly monitored.	Yes	Yes	Yes	Yes	Yes	Yes
	5	Planning on the coast includes the statutory protection of natural areas.	Yes	Yes	Yes	Yes	No	No
<b>A framework exists for taking ICZM forward</b>	6	Existing instruments are being adapted and combined to deal with coastal planning and management issues.	Yes	Yes	Yes	Yes	DK	DK
	7	Adequate funding is usually available for undertaking actions on the coast.	No	No	No	No	No	No
	8	A stocktake of the coast (identifying who does what, where and how) has been carried out.	No	Yes	No	No	No	No
	9	There is a formal mechanism whereby stakeholders meet regularly to discuss a range of coastal and marine issues.	No	Yes	No	Yes	No	No

	10	Ad hoc actions on the coast are being carried out that include recognisable elements of ICZM.	No	Yes	No	Yes	No	Yes
	11	A sustainable development strategy which includes specific references to coasts and seas is in place.	No	Yes	No	No	No	No
	12	Guidelines have been produced by national, regional or local governments which advise planning authorities on appropriate uses of the coastal zone.	Yes	Yes	No	Yes	No	No
<b>Most aspects of an ICZM approach to planning and managing the coast are in place and functioning reasonably well</b>	13	All relevant parties concerned in the ICZM decision-making process have been identified and are involved.	No	Yes	DK	DK	No	No
	14	A report on the State of the Coast has been written with the intention of repeating the exercise every five or ten years.	Yes	Yes	No	No	No	No
	15	There is a statutory integrated coastal zone management plan.	No	No	No	No	No	No
	16	Strategic Environmental Assessments are used commonly to examine policies, strategies and plans for the coastal zone.	No	Yes	DK	DK	No	No
	17	A non-statutory coastal zone management strategy has been drawn up and an action plan is being implemented.	Yes	Yes	Yes	Yes	No	No
	18	There are open channels of communication between those responsible for the coast at all levels of government.	No	Yes	DK	DK	DK	DK
	19	Each administrative level has at least one member of staff whose sole responsibility is ICZM.	No	No	No	No	No	No
	20	Statutory development plans span the interface between land and sea.	No	Yes	No	Yes	No	No
	21	Spatial planning of sea areas is required by law.	No	No	No	No	No	No

	22	A number of properly staffed and properly funded partnerships of coastal and marine stakeholders have been set up.	No	No	No	No	No	No
	23	Coastal and estuary partnerships are consulted routinely about proposals to do with the coastal zone.	No	No	No	No	No	No
	24	Adequate mechanisms are in place to allow coastal communities to take a participative role in ICZM decisions.	No	No	No	No	No	No
<b>An efficient, adaptive and integrative process is embedded at all levels of governance and is delivering greater sustainable use of the coast</b>	25	There is strong, constant and effective political support for the ICZM process.	Yes	Yes	DK	DK	DK	DK
	26	There is routine (rather than occasional) cooperation across coastal and marine boundaries.	No	No	Yes	Yes	Yes	Yes
	27	A comprehensive set of coastal and marine indicators is being used to assess progress towards a more sustainable situation.	No	Yes	No	No	No	No
	28	A long-term financial commitment is in place for the implementation of ICZM.	DK	DK	DK	DK	DK	DK
	29	End users have access to as much information of sufficient quality as they need to make timely, coherent and well-crafted decisions.	No	Yes	No	DK	No	No
	30	Mechanisms for reviewing and evaluating progress in implementing ICZM are embedded in governance.	No	No	No	No	No	No
	31	Monitoring shows a demonstrable trend towards a more sustainable use of coastal and marine resources.	No	Yes	No	DK	DK	DK

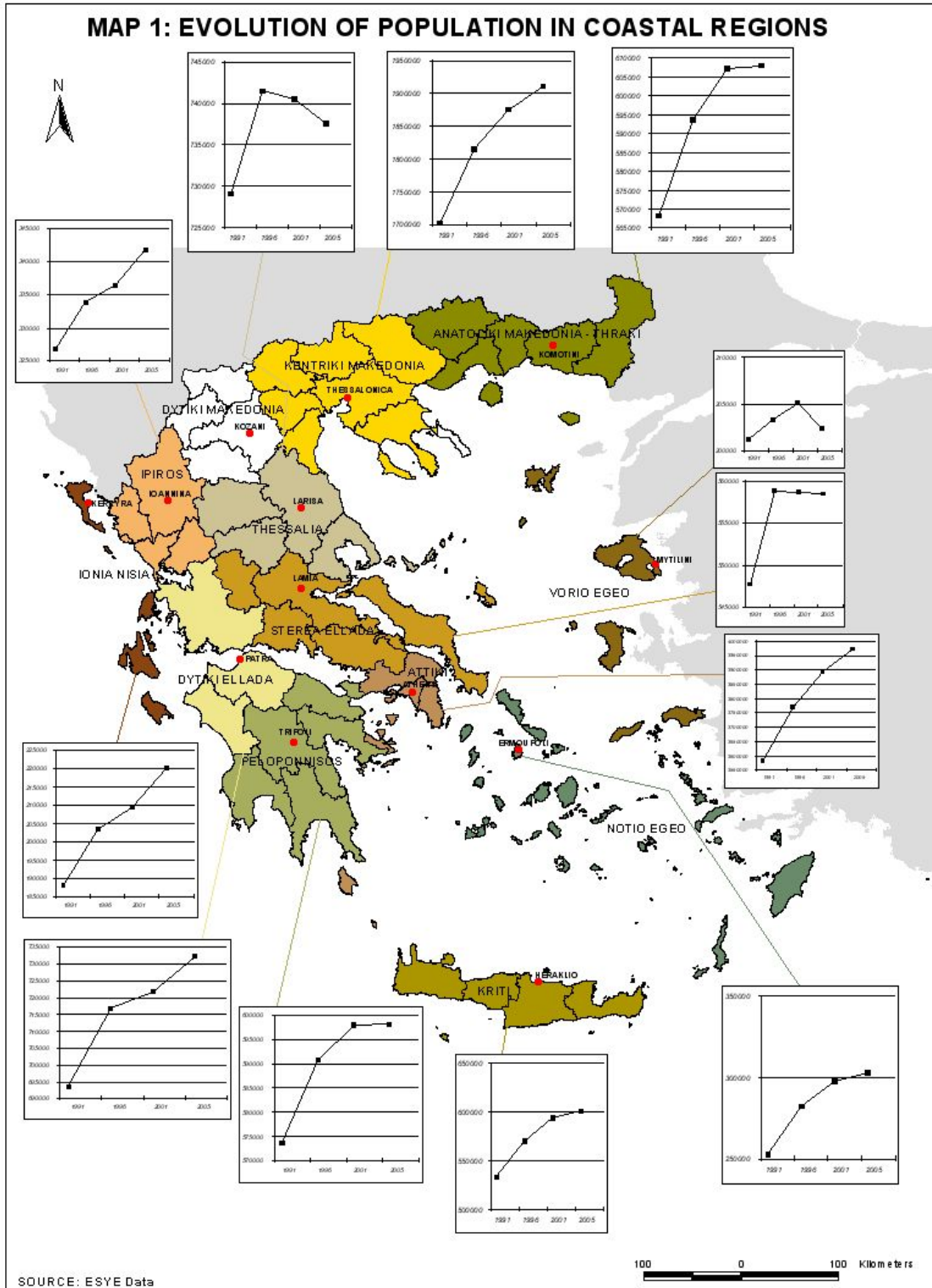
**<NOTE: This table reflects the compilation of information and views expressed on the issue by several stakeholders. See comments on methodology in Chapter 2.b. of this Report>**



**b. M A P S**

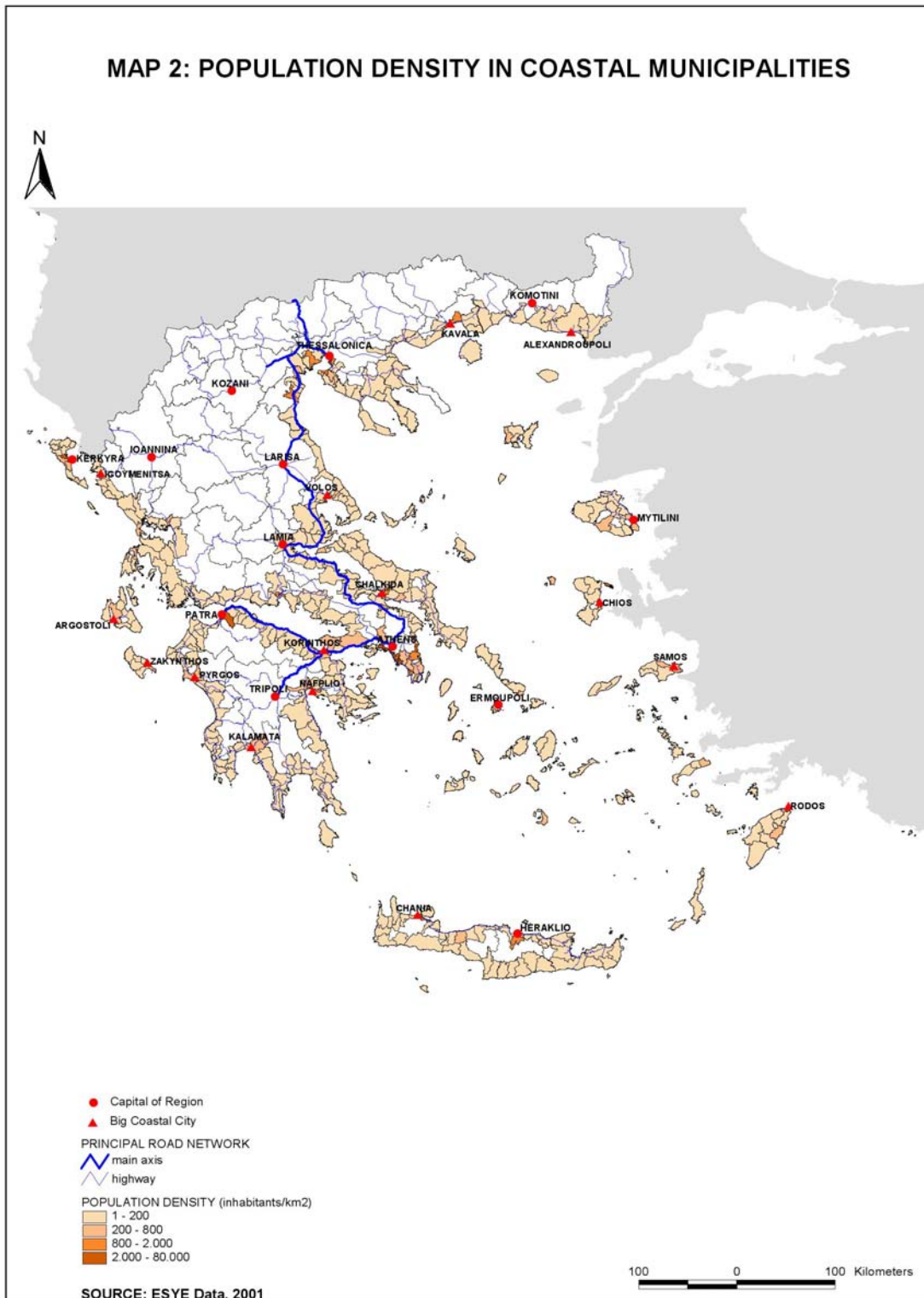


# MAP 1: EVOLUTION OF POPULATION IN COASTAL REGIONS



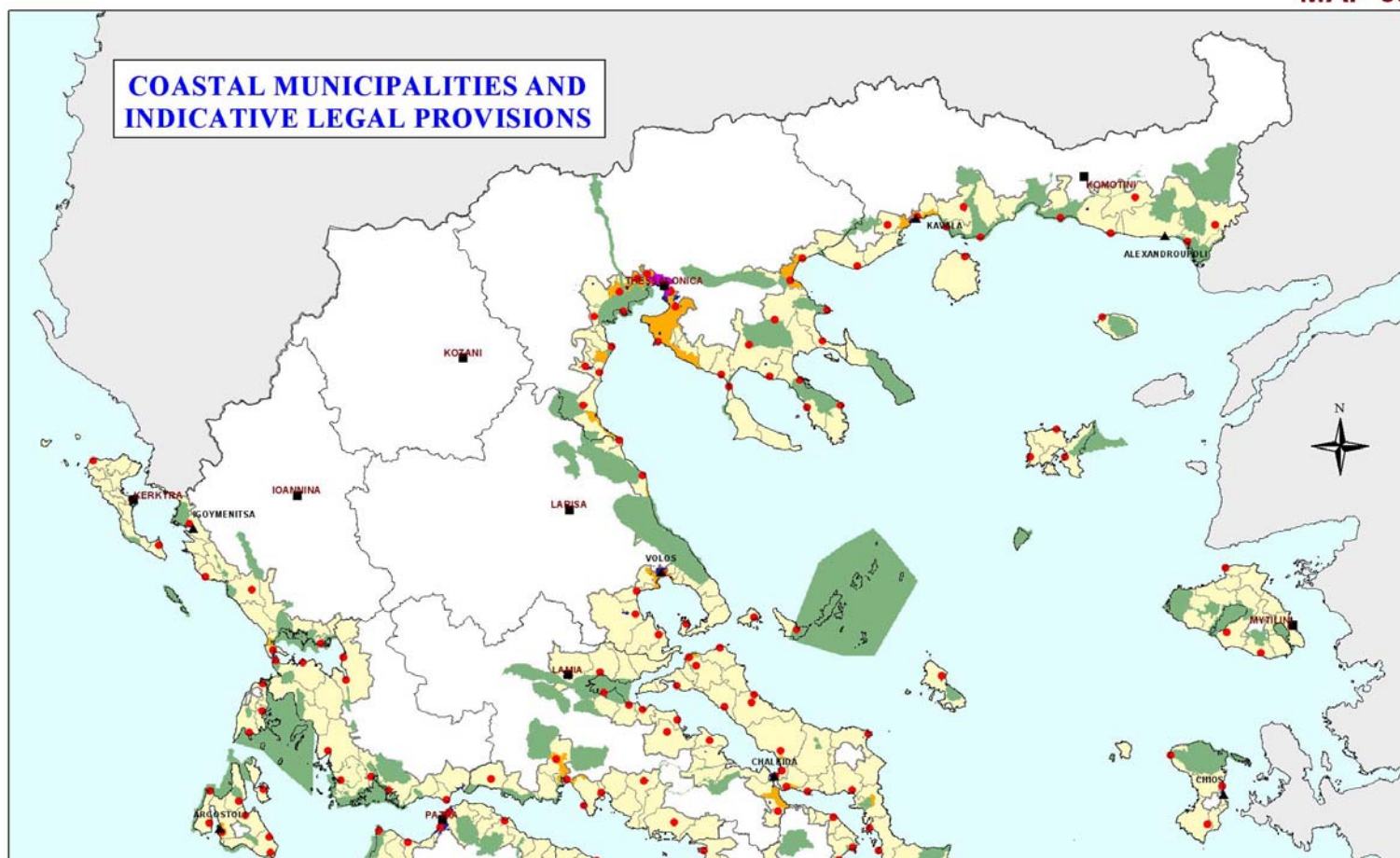


**MAP 2: POPULATION DENSITY IN COASTAL MUNICIPALITIES**



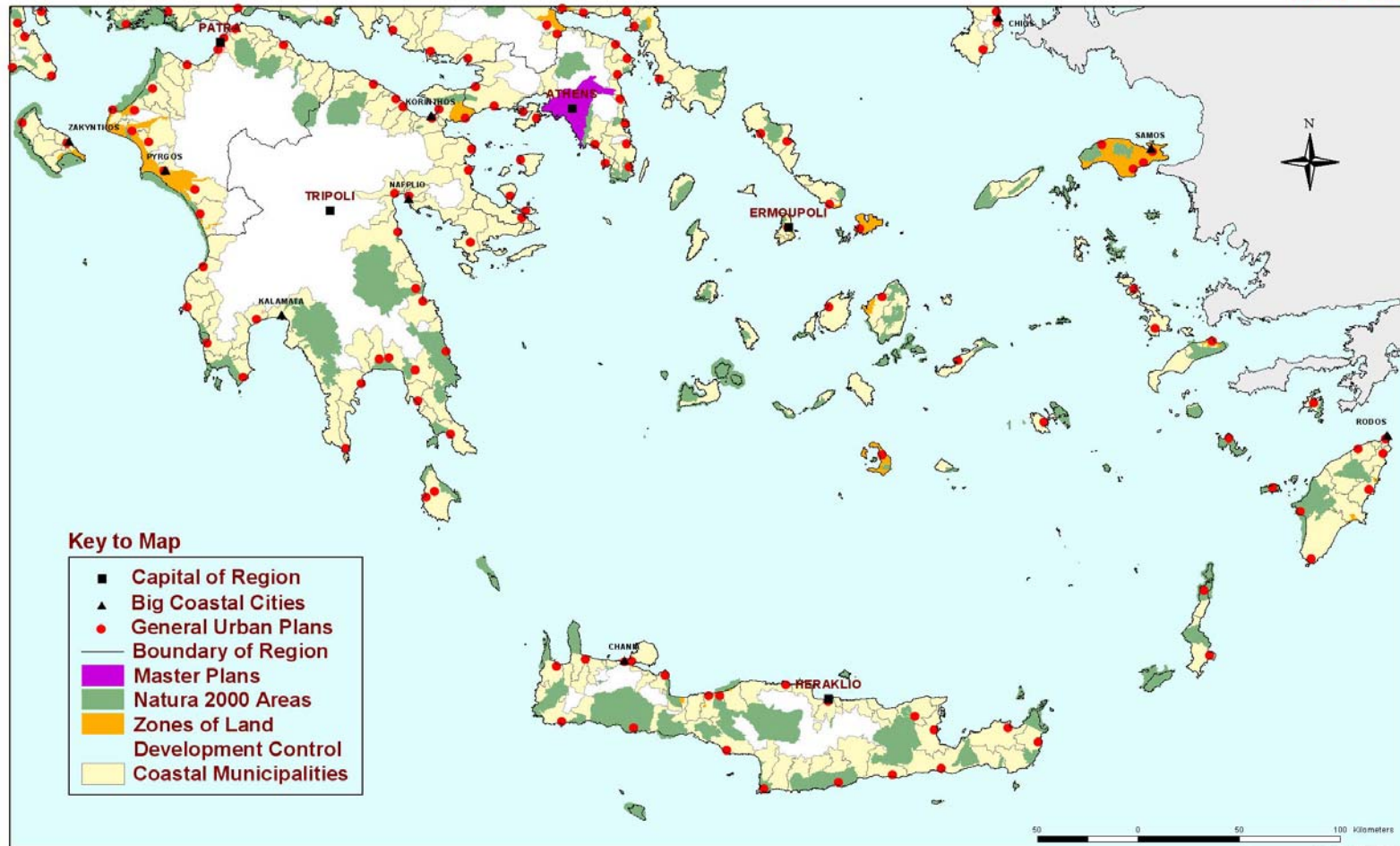


MAP 3a



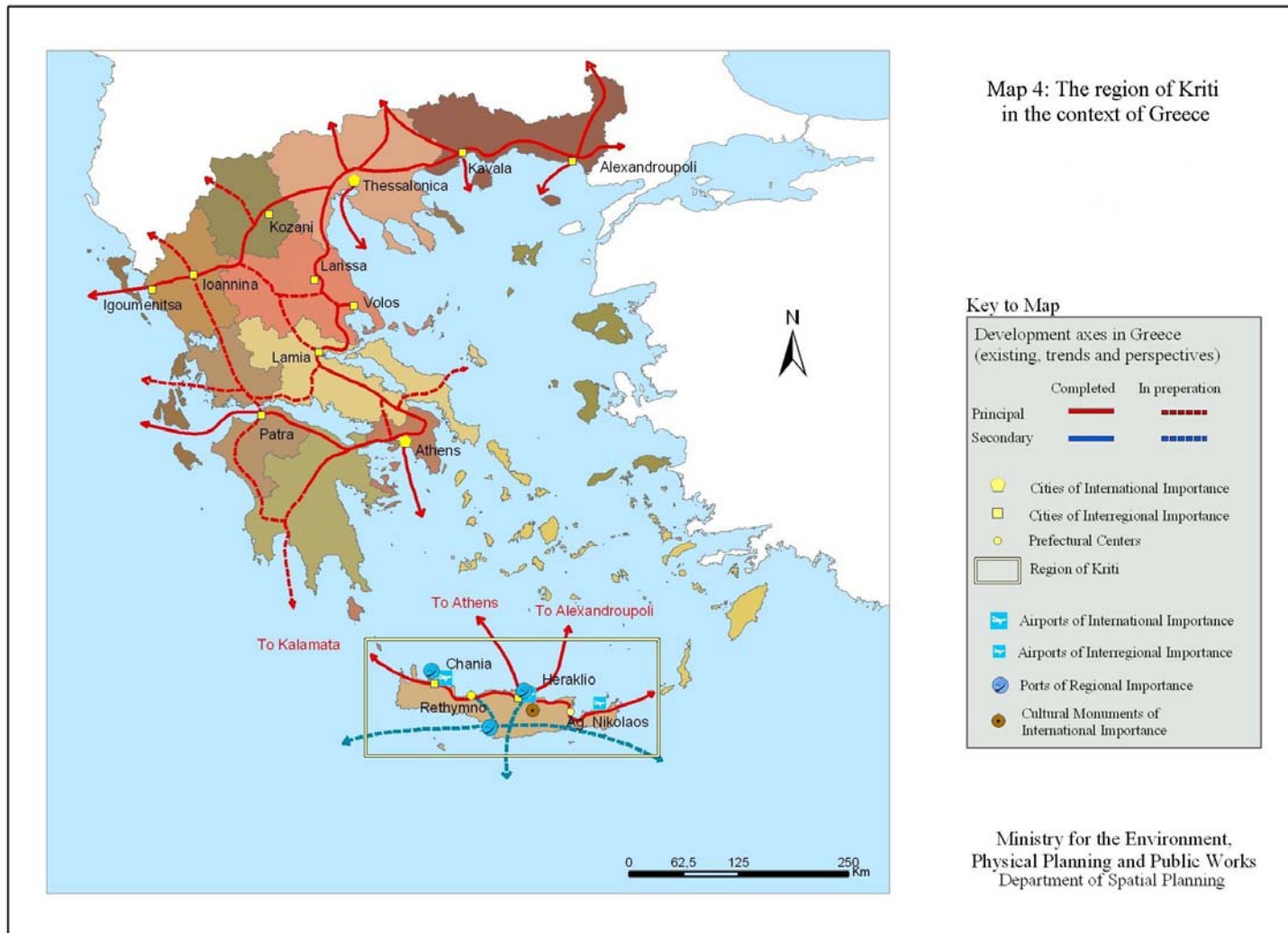


MAP 3b



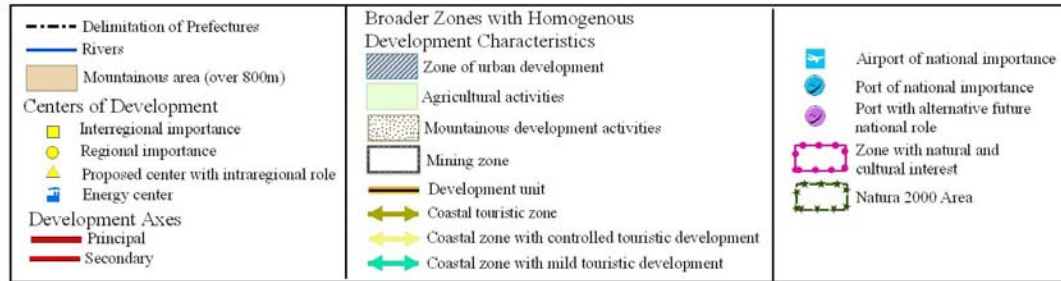
Source: YPEHODE



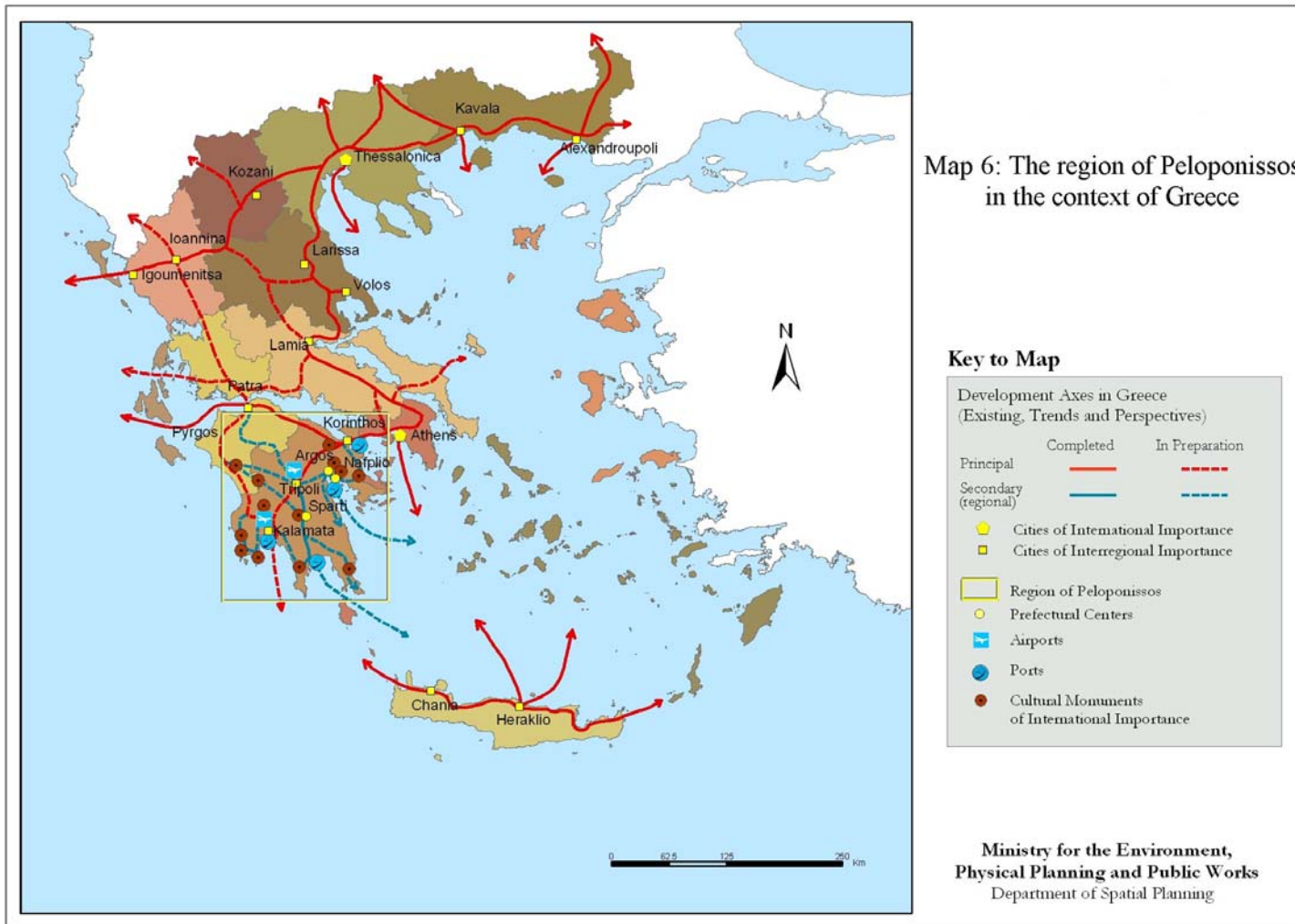




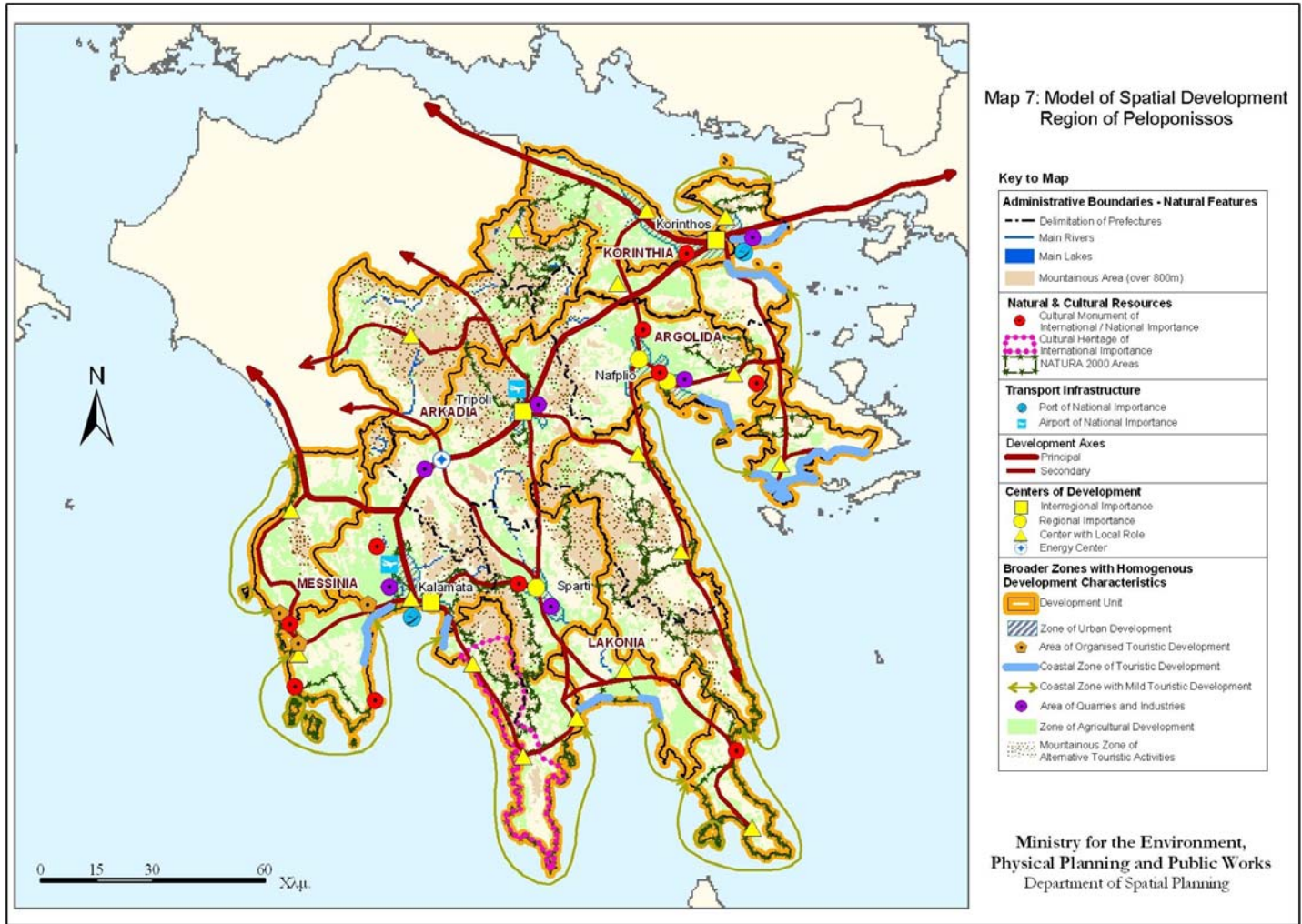
Map 5: Model of Spatial Development  
Region of Kriti





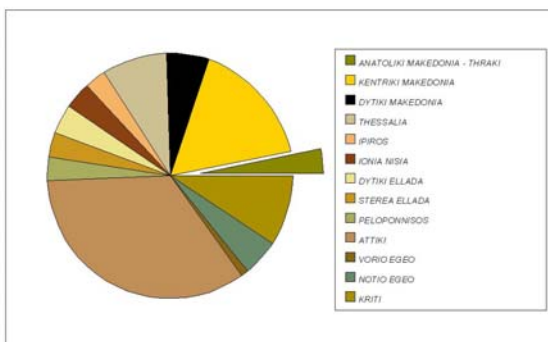
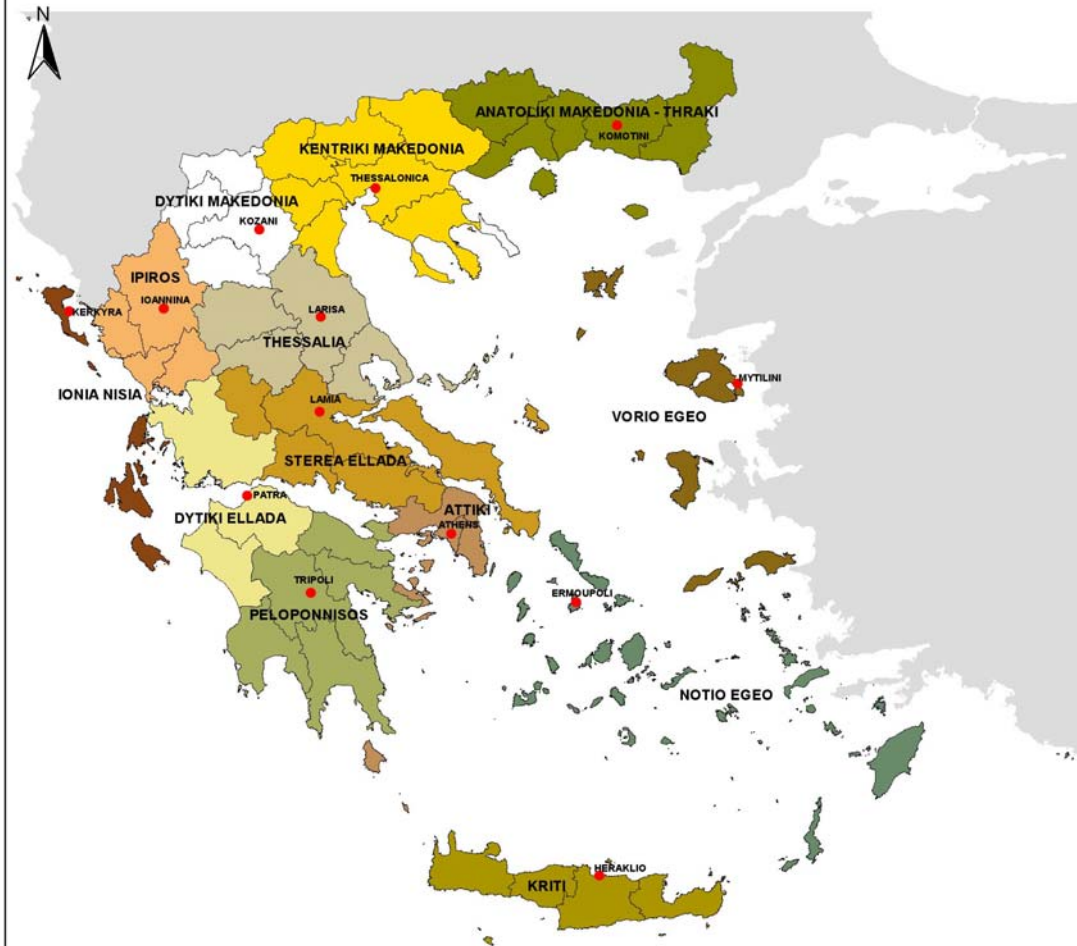








**MAP 8: REGIONAL DISTRIBUTION OF ALLOCATIONS -  
EC OPERATIONAL PROGRAMME FOR THE ENVIRONMENT 2000-2006**



SOURCE: EPPER Data

100 0 100 Kilometers



**c. INDICATORS FOR  
SUSTAINABLE DEVELOPMENT**



**Annex 1: Indicators of sustainable development of the coastal zone – availability of data**

Black: data widely available.

Blue: data widely available but needs manipulating for the coastal zone.

Red: data largely absent

GOAL	No.	INDICATORS	MEASUREMENTS
To control, as appropriate, further development of the undeveloped coast	1	Demand for property on the coast	• Size and structure of the population living on the coast
	2	Area of built-up land	• Percent of built-up land by distance from the coastline
	3	Rate of development of previously undeveloped land	• Area converted from non-developed to developed land uses
	4	Demand for road travel on the coast	• Volume of traffic on coastal motorways and major roads
	5	Pressure for coastal and marine recreation	• Number of berths and moorings for recreational boating
	6	Land take by intensive agriculture	• Proportion of agricultural land farmed intensively
To protect, enhance and celebrate natural and cultural diversity	7	Amount of semi-natural habitat	• Area of semi-natural habitat
	8	Area of land and sea protected by statutory designations	• Area protected for nature conservation, landscape and heritage
	9	Effective management of designated sites	• Rate of loss of, or damage to, protected areas
	10	Change to significant coastal and marine habitats and species	• Status and trend of specified habitats and species • Number of species per habitat type • Number of Red List coastal area species
	11	Loss of cultural distinctiveness	• Number and value of sales of local products with regional quality labels or European PDO/PGI/TSG
To promote and support a dynamic and sustainable coastal economy	12	Patterns of sectoral employment	• Full time, part time and seasonal employment per sector • Value added per sector
	13	Volume of port traffic	• Number of incoming and outgoing passengers per port • Total volume of goods handled per port • Proportion of goods carried by short sea routes

	14	Intensity of tourism	<ul style="list-style-type: none"> <li>Number of overnight stays in tourist accommodation</li> <li>Occupancy rate of bed places</li> </ul>
	15	Sustainable tourism	<ul style="list-style-type: none"> <li>Number of tourist accommodations holding EU Eco-label</li> <li>Ratio of overnight stays to number of residents</li> </ul>
To ensure that beaches are clean and that coastal waters are unpolluted	16	Quality of bathing water	<ul style="list-style-type: none"> <li>Percent of bathing waters compliant with the guide value of the European Bathing Water Directive</li> </ul>
	17	Amount of coastal, estuarine and marine litter	<ul style="list-style-type: none"> <li>Volume of litter collected per given length of shoreline</li> </ul>
	18	Concentration of nutrients in coastal waters	<ul style="list-style-type: none"> <li>Concentration of nitrates and phosphates in coastal waters</li> </ul>
	19	Amount of oil pollution	<ul style="list-style-type: none"> <li>Volume of accidental oil spills</li> <li>Number of observed oil slicks from aerial surveillance</li> </ul>
To reduce social exclusion and promote social cohesion in coastal communities	20	Degree of social cohesion	<ul style="list-style-type: none"> <li>Indices of social exclusion by area</li> </ul>
	21	Relative household prosperity	<ul style="list-style-type: none"> <li>Average household income</li> <li>Percent of population with a higher education qualification</li> <li>Value of residential property</li> </ul>
	22	Second and holiday homes	<ul style="list-style-type: none"> <li>Ratio of first to second and holiday homes</li> </ul>
To use natural resources wisely	23	Fish stocks and fish landings	<ul style="list-style-type: none"> <li>State of the main fish stocks by species and sea area</li> <li>Recruitment and spawning stock biomass by species</li> <li>Landings and fish mortality by species</li> <li>Value of landings by port and species</li> </ul>
	24	Water consumption	<ul style="list-style-type: none"> <li>Number of days of reduced supply</li> </ul>
To recognise the threat to coastal zones posed by climate change and to ensure appropriate and ecologically responsible coastal protection	25	Sea level rise and extreme weather conditions	<ul style="list-style-type: none"> <li>Number of 'stormy days'</li> <li>Rise in sea level relative to land</li> </ul>
	26	Coastal erosion and accretion	<ul style="list-style-type: none"> <li>Length of protected and defended coastline</li> <li>Length of dynamic coastline</li> <li>Area and volume of sand nourishment</li> </ul>
	27	Natural, human and economic assets at risk	<ul style="list-style-type: none"> <li>Number of people living within an 'at risk' zone</li> <li>Area of protected sites within an 'at risk' zone</li> <li>Value of economic assets within an 'at risk' zone.</li> </ul>

## ABBREVIATIONS

BP	Blue Plan (in the MAP context)
CAMP	Coastal Area Management Programme
EC	European Commission (few times: European Community)
EEA	European Environment Agency
EIA	Environmental Impact Assessment
EMP	Euro–Mediterranean Partnership
ESDP	European Spatial Development Perspective
EU	European Union
GIS	Geographic Information System
ICAM	Integrated Coastal Area Management
ICZM	Integrated Coastal Zone Management
IMO	International Maritime Organisation
MAP	Mediterranean Action Plan
MED POL	Mediterranean Pollution (in the MAP context)
MS	Member State (in the EU context)
NGO	Non–Governmental Organisation
PAP	Priority Actions Programme (in the MAP context)
PEP	Regional Operational Programmes (in Greece)
SEA	Strategic Environmental Assessment
SMAP	Short and Medium–term Priority Environmental Action Programme (in the EMP context)
SPA	Specially Protected Areas (in the MAP context)
UNEP	United Nations Environment Programme
WB	World Bank
YPEHODE	Ministry for the Environment, Physical Planning and Public Works (in Greece)







**MINISTRY OF THE ENVIRONMENT, PHYSICAL PLANNING AND PUBLIC WORKS**

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