

**REPORT ON THE IMPLEMENTATION
OF THE RECOMMENDATION OF THE
EUROPEAN PARLIAMENT AND OF
THE COUNCIL CONCERNING THE
IMPLEMENTATION OF INTEGRATED
COASTAL ZONE MANAGEMENT IN
EUROPE (2002/413/EC)**

MALTA

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Executive summary

This report presents Malta's response to the EU ICZM Recommendation and outlines the different stages that have been undertaken in the process as well as projected work in the implementation of ICZM within the Maltese Islands.

Since the enactment of the Development Planning Act of 1992 (as amended) development has been guided by the strategic land use planning document, the Structure Plan for the Maltese Islands of 1990. The lead agency responsible for planning and controlling development is the Malta Environment and Planning Authority (MEPA) which is legally obliged to review the Structure Plan. The review process was initiated in 1999 with the first phase seeing the preparation of a series of Topic Studies that were compiled in consultation with the relevant bodies and institutions. A Coastal Strategy Topic Paper was prepared aimed to identify those coastal issues that can be managed through the development planning process within the Replacement Structure Plan. The preparation of the Topic Paper involved consultation with the relevant government agencies and the general public. Essentially it is the first comprehensive assessment of the Maltese coast and can be considered as a stock take in line with the EU Recommendation.

The stock take exercise shows that the natural resources within the terrestrial coastal zone are diverse but their occurrence is not abundant due to the limited size of the Maltese Islands. The impacts resulting from years of unmanaged development have limited this abundance further. Efforts to protect coastal habitats have been significant over the last decade where the amount of protected area has increased substantially from 1995 to 2005. Pressures on the coastal zone arise from development that leads to loss of open space for the public, degradation of habitats and conflicts with or displacement of other uses.

The sectoral approach within the administrative agencies having jurisdiction over specific coastal areas and/or uses is perhaps one of the main elements that hinder effective coastal zone management. The findings of the Coastal Strategy Topic Paper suggest that in the absence of a comprehensive coastal strategy, efforts towards integration are left to the goodwill of the agencies involved. This has been reiterated in the Progress Indicator national workshop held in December 2005. Whilst ICZM in the Maltese Islands is present it is mostly based on ad hoc measures rather than a systematic framework.

Given the size of the Maltese Islands, the administrative framework and the fact that the majority of coastal issues in Malta arise from development pressures, the formulation and implementation of a national strategy as required by the EU ICZM Recommendation will be spearheaded by the planning system. The proposed coastal strategy resulting from the stock taking exercise has been taken on board in the formulation of the Replacement Structure Plan which will provide a strategic policy framework for planning and development for the next 20 years.

The approach taken within the Replacement Structure Plan is to address coastal issues in an integrated manner within the relevant thematic chapters that address allocation for jobs and homes; environmental stewardship; provision for better social and community facilities and transport, for both the terrestrial and the marine environment. The Draft Replacement Structure Plan, on which a Strategic Environment Assessment (SEA) is being carried out, will be published together with the Environmental Report and submitted to a nation-wide public consultation process in 2006. The main challenge for ICZM will lie in implementation.

EU Membership for the Maltese Islands has led to significant progress in upgrading Malta's environmental legislation. In addition various community legislation and policies have required the identification and establishment of responsibilities by Competent Authorities in different fields, the refinement of environmental monitoring programmes and changes in management practices, all of which can actually help to achieve the required implementation measures related both to policy co-ordination and ensuring better environmental quality and sustainable development. More guidance at the EU level on how existing and emergent Community Legislation and policy are integrated is still deemed necessary.

This report concludes that whilst efforts to implement coastal zone management in the Maltese Islands had already been initiated in 1990 there is a need to strengthen planning policy to align it as much as possible with the principles of ICZM. Essentially the Replacement Plan will provide a central framework that could potentially be supported by the other national measures adopted in relation to Community legislation and policy. There is scope for stronger integration at the strategic policy formulation stage of different sectors and at the different operational levels amongst institutions. There is also potential for stakeholders to be more involved in implementing national and local measures addressing the coastal environment. Within a Small Island State like Malta the holistic approach in ICZM can only be beneficial in the long run.

1. Introduction

- 1.1.1 The recognition of the coastal zone's environmental, economic, social, cultural and recreational importance to Europe led to the adoption of the EU Recommendation concerning the implementation of Integrated Coastal Zone Management (ICZM) in Europe (2002/413/EC).
- 1.1.2 This Recommendation calls upon the Member States to adopt a holistic approach to manage their coastal zones in a sustainable manner that protects the integrity and function of terrestrial and marine natural resources, within the context of threats from climate change, provides sustainable economic opportunities and employment options that respect local social and cultural systems and heritage, promotes social cohesion, allows for adequate accessible land for the public and improves co-ordination by relevant authorities.
- 1.1.3 Member States are encouraged to undertake a stock-take to consider relevant economic sectors, administrative levels, applicable policy and legislative measures, identify relevant inter-regional organisation and co-operation structures and analyse the interests, role and concerns of citizens, NGOs and the business sector. Such a stock take should guide the development of national strategies for implementing coastal zone management.
- 1.1.4 The Recommendation calls upon Member States to report to the Commission on their experience in the implementation of the Recommendation within 45 months of its adoption. Chapter VI of the Recommendation specifies that such reports are to be made available to the public and that they should include information concerning:
- The results of the national stocktaking exercise;
 - The strategy or strategies proposed at the national level for implementation of ICZM;
 - A summary of actions taken, or to be taken, to implement the national strategy or strategies;
 - An evaluation of the expected impact of the strategy or strategies on the status of the coastal zone;
 - An evaluation of the implementation and application of Community legislation and policies that have an impact on coastal areas.
- 1.1.5 This report presents Malta's response to the Recommendation and outlines the different stages that have been undertaken in the process as well as projected work in the implementation of ICZM within the Maltese Islands.

2. Results of the National Stocktaking exercise

2.1 Background

- 2.1.1 Land use planning and development control in Malta are covered by the Development Planning Act of 1992 (as amended) where such functions that are carried out by the Malta Environment Planning Authority (MEPA), are also extended to the marine environment. The strategic land use planning document is the Structure Plan for the Maltese Islands of 1990 which guides development for a twenty year period. In accordance with planning legislation, the MEPA is legally obliged to review the Structure Plan to address current and foreseeable issues.
- 2.1.2 The Structure Plan review process was initiated in 1999 with the first phase seeing the preparation of a series of Topic Studies that were compiled in consultation with the relevant bodies and institutions, with the purpose of identifying current issues and projected needs for the period 2000 – 2020. The Topics covered include Demography, Housing, Urban Conservation and Environment, Social and Community Care Facilities, Retail, Employment, Transport, Minerals, Waste, Utilities, Leisure and Recreation, Tourism, Rural and Coastal strategies. Each Topic Paper and Subject Plan was based on the current available data, including environmental data, and underwent a period of public consultation to ensure that all the issues have been identified as well as to communicate and disseminate the information.
- 2.1.3 The second phase of the Structure Plan review process saw the preparation of three documents, the Issues Paper (a compilation of the main issues arising from all the Topic Papers), a Technical Report (a supporting document with all the base line data used for the preparation of the Topic Papers and a set of monitoring indicators) and a Strategic Growth Options Paper. The purpose of the latter paper was to develop a set of alternative strategic growth scenarios and identify a preferred scenario on the basis of a sustainability appraisal and submissions received during the public consultation.
- 2.1.4 The third phase of the review started in September 2004 where the preferred development strategy was identified and its supporting policies formulated. The new draft Replacement Structure Plan, which is also subject to a Strategic Environmental Assessment, is expected to be ready by the first half of 2006 and will be subject to a consultation process.

2.2 The National Stock take

2.2.1 The purpose of the Coastal Strategy Topic Paper published in 2002 was to identify:

- the current status of the coastal environment;
- the effectiveness of the current policy framework governing coastal resources and uses;
- the main issues within the coastal environment within the Maltese Islands that need to be addressed for the next 20 year period by the new Structure Plan.

2.2.2 Consequently, the main thrust of the Topic Paper was to identify those coastal issues that can be managed through the development planning process within the Replacement Structure Plan. It also identified those issues that need to be addressed in a much wider national coastal management strategy. The preparation of the Topic Paper involved consultation with the relevant government agencies and the general public. Essentially it is the first comprehensive assessment of the Maltese coast and can be considered as a stock take in line with the EU Recommendation.

2.2.3 This section provides a brief description of the natural and cultural resources within the Maltese coast, followed by an overview of the main coastal uses and issues. More detail information can be obtained from the Coastal Strategy Topic Paper that can be accessed through the MEPA website: <http://www.mepa.org.mt>.

2.2.4 Since 2005 Malta has been working to calculate the list of 27 Sustainability Coastal Indicators developed by the Working Group on Indicators and Data, as part of the Interreg IIIc Project, DEDUCE. Some of the results obtained to date are presented in this report to update the findings of the Coastal Strategy Topic Paper.

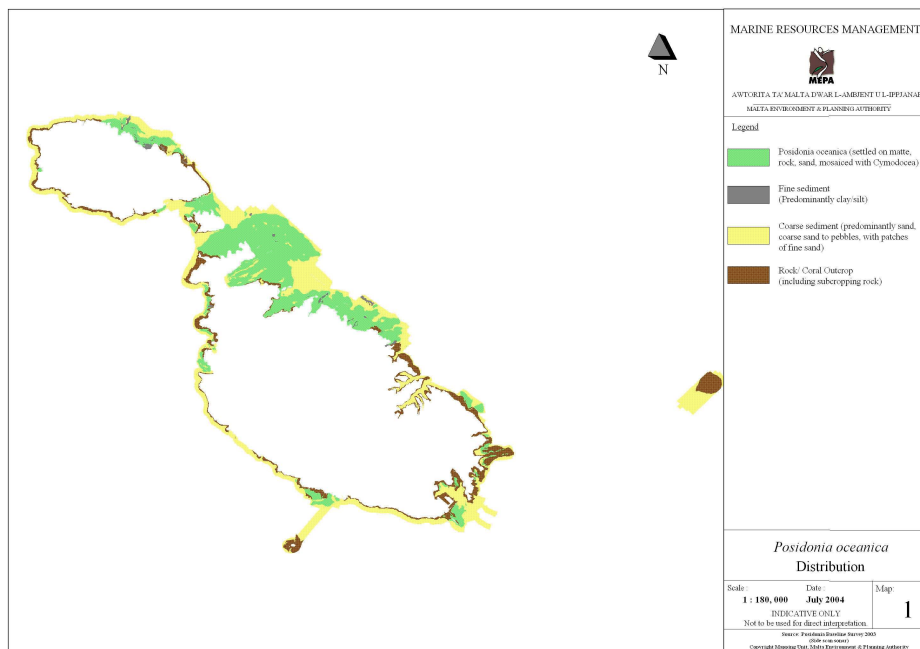
2.2.5 Progress on ICZM implementation in the Maltese Islands was evaluated during a workshop held in December 2005, where administrative entities and NGOs responsible for managing coastal areas worked through the Progress Indicator, developed within the framework of the EU ICZM Expert Group. The outcome of this workshop is presented in the evaluation of the current administrative framework affecting the coast.

The natural resources of the Maltese coastal zone

- 2.2.6 The coastal geomorphology of the Maltese Islands has influenced habitat typology. The low-lying coast on the NE side gives rise to a considerable stretch that is accessible to the marine environment as opposed to the dominating cliffs exposed on the southern shores, where access to the sea is limited to small embayments. This type of formation has influenced the general location and distribution of the various uses on the coastline, with most uses opting for the more accessible low-lying shores, whereas agriculture dominates the cliff areas on the southern shores. The five different types of terrestrial coastal habitats present are saline marshlands, sand dunes, low-lying maritime rock communities, transitional coastal wetlands and rupestral (cliff) communities.
- 2.2.7 Sand dunes and saline marshes are very scarce and together with the low-lying maritime rock communities of gently sloping coralline and globigerina shores are considered to be under constant threat from human pressure associated with construction and unmanaged recreation activities. Similarly transitional coastal wetlands that depend upon the presence of freshwater are a rare coastal habitat type. During the dry period, only seawater replenishes these rock pools, through wind and wave action; species that thrive in brackish conditions are therefore predominant. In the wet season, the pools become colonised by freshwater species that have some degree of tolerance to marine influence.
- 2.2.8 A specialised community typical of Mediterranean coasts found in the Maltese Islands is the banquette system which develops on masses of drying and decaying plant debris (normally shed leaves of the sea grass *Posidonia oceanica*), deposited on the shore by wave action during the autumn and winter storms. If left undisturbed the leaves may accumulate to form banks of up to two metres in height. These banquettes also act as a protective buffer against erosion of sand induced by strong wind and wave action in the winter months and can be found on both rocky and sandy shorelines.
- 2.2.9 Rupestral communities are found on the sheer cliffs and 'rdum' coastlines that are dominated with boulder screes. Due to their relative inaccessibility and available shelter they provide refuge for many species of flora and fauna, a large number of which are endemic to the Maltese Islands. Two plant species present are palaeoendemics: the Maltese Cliff-orache *Cremnophyton lanfrancoi* and the Maltese Rock Centaury *Cheirolophus crassifolius*. These habitats also support several species of plants with a restricted distribution in the Mediterranean. Inaccessibility also attributes an ornithological importance to the coastal cliffs with respect to the rest of the coastline. Breeding areas for seabirds are now restricted mainly to the coastal cliffs, and the islands of Comino, Filfla and Fungus Rock.

- 2.2.10 Data on marine habitats has been mostly collated since 1992, as part of assessments of the environmental impact of existing and proposed projects, or in order to produce an inventory of coastal resources. These baseline studies on the submarine littoral habitats and macrobenthic assemblages were carried out in 14 different localities around the Maltese Islands and cover a total of c. 4.71km² of seabed area and a coastal length of c. 20km. A side scan sonar survey was conducted in 2003 to identify the distribution of *Posidonia oceanica* along the Maltese coast. Together these data sets represent the largest set of infralittoral biological surveys carried out to date in Malta.
- 2.2.11 In terms of spatial extent, the most important macrobenthic assemblages are the communities of photophilic algae on hard substrata, meadows of the sea-grass *Posidonia oceanica*, communities of bare, well-sorted sand, and maerl communities. For all these, many subtypes and facies exist, depending on the light intensity, hydrodynamic conditions, microtopography, sediment granulometry and other edaphic factors.
- 2.2.12 The status of natural habitats depends on the type and level of human influence occurring within them or in their vicinity. Cliffs and 'rdum' areas, which were relatively inaccessible for a long time still sustain richer communities but low-lying areas and beaches are still under continuous pressure from development. In addition to land based sources, dependency on maritime transport also exposes the marine environment to pollution and other impacts that may lead to habitat deterioration.
- 2.2.13 Overall the natural resources within the terrestrial coastal zone are diverse but their occurrence is not abundant due to the limited size of the Maltese Islands. The impacts resulting from years of unmanaged development have limited this abundance further. Efforts to protect these habitats have been significant over the last decade where the amount of protected area has increased substantially from 17.5km² in 1995 to 64.6km² in 2005. The findings of the stock take suggest that legal protection has been effective in controlling the types and level of activities permissible in ecologically and scientifically important areas at a strategic level. It is evident that the land designations surpass the extent of protected areas in the marine environment, mainly due to the lack of available data. The first designation of a marine protected area was made at the end of 2005 with a site of approximately 850 ha, situated at the NW of Malta.

Map 1: Results of *Posidonia oceanica* survey



Source: MEPA Database

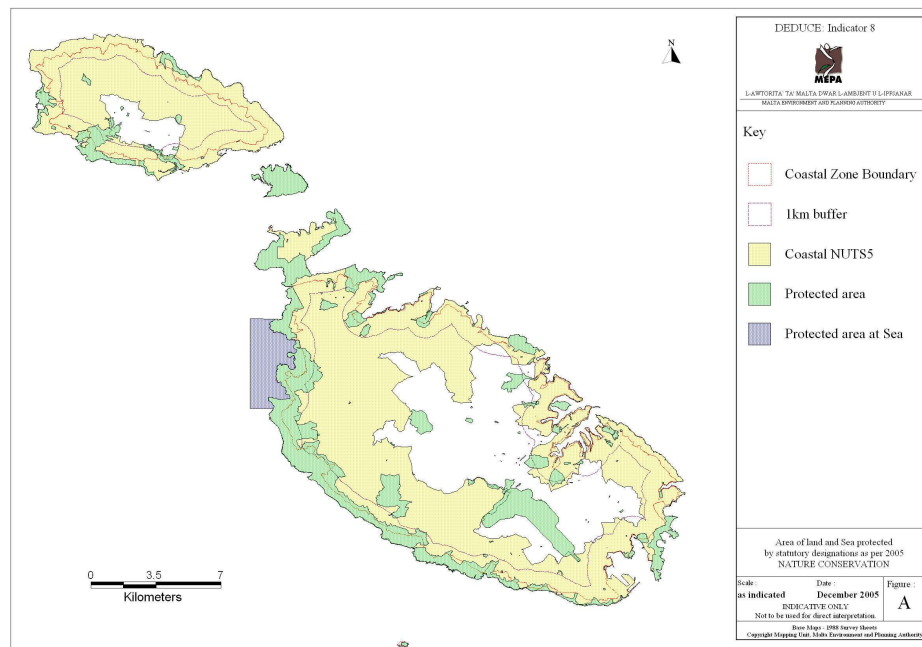
The cultural resources of the Maltese coastal zone

2.2.14 The Maltese Islands are enriched with historical and archaeological remains covering several epochs; a considerable number of which are located within the coast. Such cultural resources provide invaluable information about the history of the Maltese Islands and coastal land use in the past and may also hold keys to changes within the natural processes, such as sea level changes. They also prove to be a valuable educational asset for public enjoyment by locals and tourists alike.

2.2.15 Apart from archaeological remains ranging from the Neolithic period to the Early Modern period, most of the cultural heritage on the coast is associated with port related activities (e.g. the dockyard), industry (e.g. salt pans and quarries) and defence, as is testified by the fortifications in the Grand Harbour. The development of the coastal towns around the Grand Harbour has been a result of such maritime activity that gives these urban areas their distinct character. The architecture and design of traditional coastal settlements, particularly those aligning the waterfront are also part of the cultural heritage. A number of remains have also been discovered at sea. These were either purposely placed there, or became submerged either due to shore erosion, or sea level changes. Remains of wrecks and deposits are scattered within the territorial waters; these vary from sea-faring vessels of all types and periods to aircraft, ordnance, artillery, anchors and amphorae.

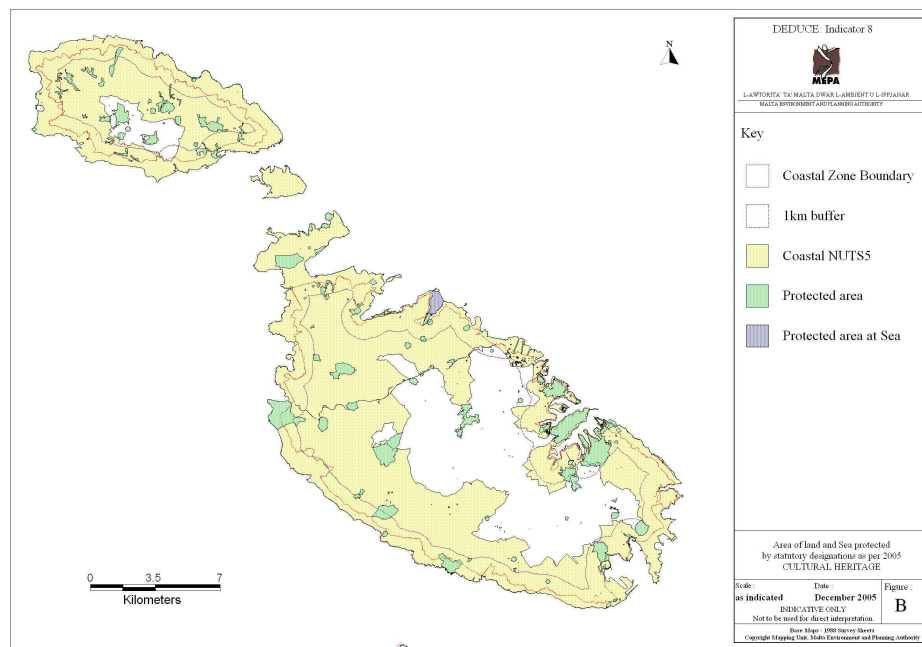
- 2.2.16 Construction works and recreational activities are the main sources threatening the cultural heritage along the coast either through the introduction of new building material, design and increased building heights or through obliteration by physical development. The quaint fishing villages marketed for their picturesque Mediterranean characteristics have been transformed by tourism resorts. Underwater relics and structures of cultural significance are mainly threatened by coastal engineering works especially in ports and harbours and theft or damage by SCUBA divers. Data gaps exist especially within the marine environment and this hinders the development of potential management options especially within the harbour areas where the potential for further finds is high and at the same time port operations cannot be halted or suspended for long periods.
- 2.2.17 The coastal landscape in the Maltese Islands can also be considered as a cultural landscape, given the high degree of human intervention upon the natural terrain, mainly arising from agricultural practices. The Draft Landscape Assessment Study published in 2004 identifies most of the coastal cliffs as areas of very high landscape sensitivity.
- 2.2.18 Overall, the significant value attributed to the coastal zone is relatively high in terms of nature conservation, cultural heritage and landscape and this may be illustrated in terms of the total area that has been afforded legal protection. The relevant indicator developed for the EU ICZM Expert Group and worked out for the DEDUCE project clearly portrays the coast as a distinct geographical space from the hinterland area of the Maltese territory where the proportion of land area protected by statutory designation is higher closer to the coastline, especially in terms of nature conservation and landscape.
- 2.2.19 Maps 2-4 depict the geographical extent of these designations, where the complexity of the coast may be better appreciated since the same area may have been afforded protection for more than one of the three categories.
- 2.2.20 For all three categories, the amount of protected area has increased substantially from 1995 to 2005 and the land designations surpass the extent of protected areas in the marine environment. No marine protected area was designated in 1995 and over a ten year period, a total of 1289.6 hectares of sea was protected either for nature conservation (848.7ha), cultural heritage (68ha) or landscape value (372.9ha). All these designations are close to the coastline.

Map 2: Extent of Protected area for Nature Conservation in 2005



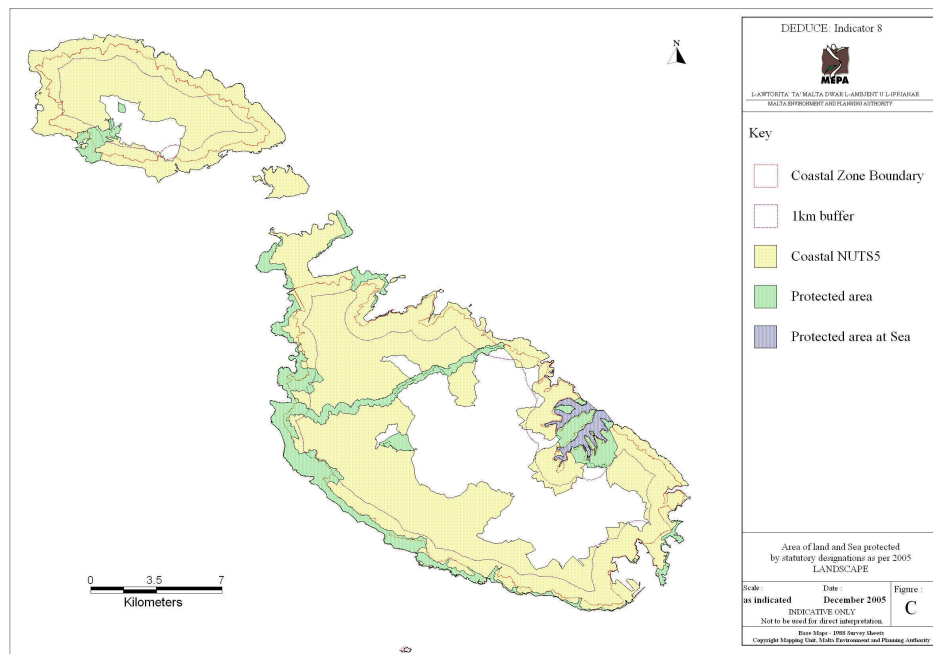
Source: MEPA DEDUCE Fact Sheet Indicator 8 (2005)

Map 3: Extent of Protected area for Cultural Heritage in 2005



Source: MEPA DEDUCE Fact Sheet Indicator 8 (2005)

Map 4: Extent of Protected area for Landscape in 2005



Source: MEPA DEDUCE Fact Sheet Indicator 8 (2005)

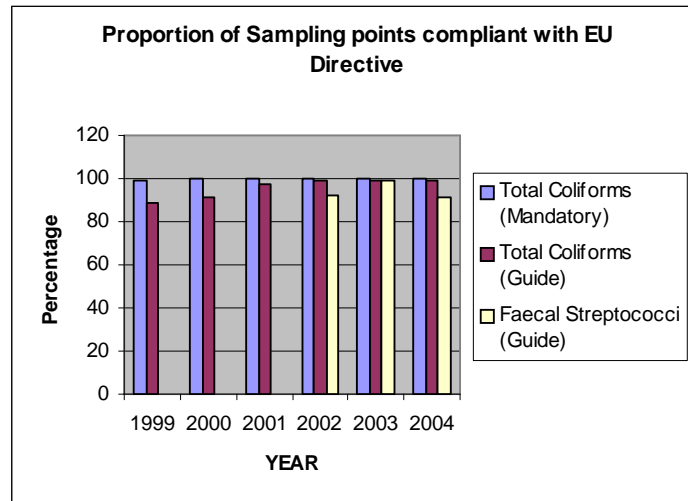
Marine Pollution

2.2.21 The recently published State of the Environment Report (2005) indicates that the main sources of marine pollution are sewage, power station thermal discharge waters and to a lesser extent fish farms. There is also an official spoil ground area located 2.5nm NE of Valletta breakwater that has been in use for a number of decades. The criteria used for identifying the spoil ground were mainly related to safety of navigation not environmental reasons. Apart from the fact that any new marine dumping grounds would require a permit and need to undergo an EIA, more effort to set up an effective system is underway through discussions with relevant regulatory bodies in order to have a functional system in place.

2.2.22 Data on the status of coastal waters has been collated for a number of years, particularly within the framework of the Barcelona Convention and its Mediterranean Action Plan. MEPA has recently carried out an exercise whereby it has consolidated all its present water quality monitoring requirements under the various regulations and formulated a holistic, integrated water quality monitoring program which maximises resource utilisation by combining the sampling and analysis for different waters at specific timeframes and for the different parameters required by legislation. This monitoring program will eventually be incorporated in monitoring under the Water Framework Directive.

2.2.23 Data collected from the bathing water quality monitoring program that is run jointly by MEPA and the Department of Public Health shows that all sampling points are fully compliant with the mandatory value for total coliforms and a very high level of compliance with its guide value (Fig 1). Clearly, bathing water quality is of a very high standard with regards to the main microbiological parameters.

Figure 1: Proportion of sampling points compliant with EU Directive



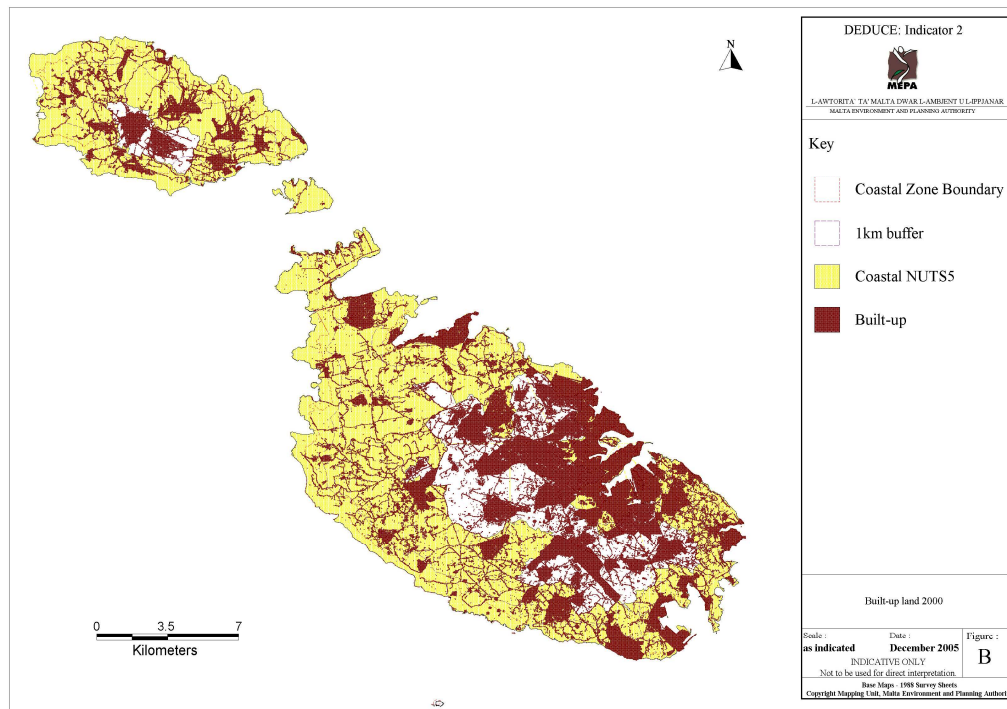
Source: MEPA DEDUCE Fact Sheet Indicator 16 (2005)

Coastal uses

2.2.24 The Maltese archipelago has a land area of 315km² and a resident population of around 400,000 giving Malta the highest population density in the European Union at 1,200 people per km². Most of the urban development is concentrated within the harbour region along the NE low lying coastline as illustrated in Map 5. The historic use and development within the Grand Harbour influenced urban development, where over time towns and adjacent villages grew into one major urban conurbation. Tourism related development also grew along other accessible parts of the coast and it therefore comes as no surprise that the percentage of built up land within 1km of the coastline has increased from 21.3% in 1990 to 24.3% by 2000.

2.2.25 The Coastal Strategy Topic Paper indicates that most development types requiring a coastal location are requesting the same space that is sought by both locals and tourists alike for informal recreation. Current policy is not sufficient to protect coastal areas, even along urban areas, for public use. If no policy changes are made, coastal areas available for informal recreation will continue to decrease. In addition the loss of coastal heritage, both natural and cultural, will be irreversible.

Map 5 Area of built up land in the Maltese Islands for 2000

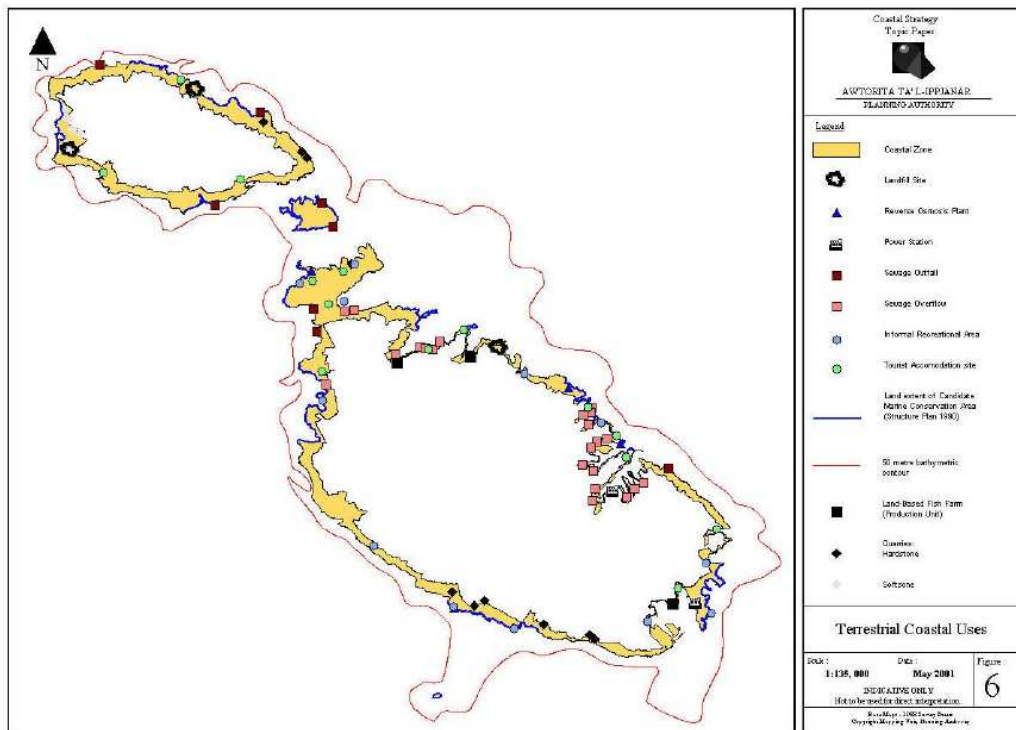


Source MEPA DEDUCE Fact Sheet Indicator 2 (2005)

2.2.26 Over time the accessible part of the coastline has been modified and extensively used by a variety of uses ranging from residential, commercial to infrastructural, all competing for space and resources. In effect the length of artificial coastline in 2004 amounted to approximately 21%, none of which has been developed as a measure to combat coastal erosion. To date there are no published studies addressing the rates and risks of coastal erosion around the Maltese Islands and although this phenomenon does take place, the main factor that accelerates erosion is human intervention through development.

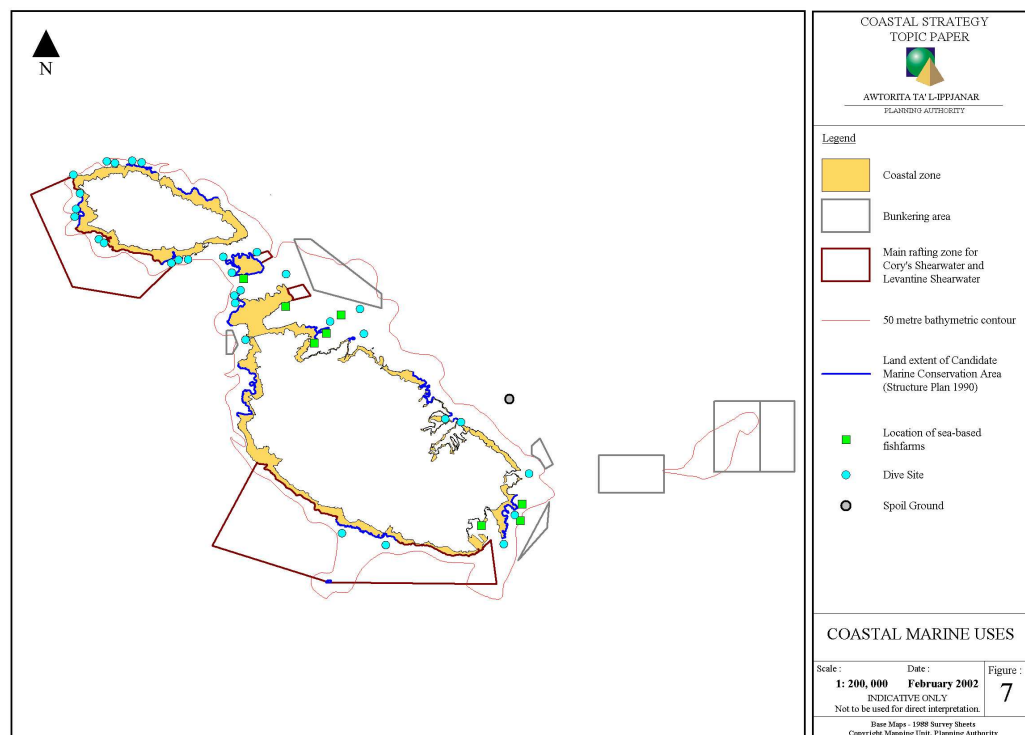
2.2.27A general overview of the main coastal users is presented in this section to provide a better understanding of the issues facing the Maltese coast. The major coastal uses include tourism and recreation; agriculture; fisheries and aquaculture; the maritime industry; infrastructure development and mineral extraction. Maps 6 and 7 illustrate the spatial extent of these coastal uses during the stock take.

Map 6 Terrestrial coastal uses (excluding agriculture)



Source: Coastal Strategy Topic Paper (2002)

Map 7 Major marine uses and rafting zones for Cory's shearwater



Source: Coastal Strategy Topic Paper (2002)

a) Tourism

2.2.28 The Maltese Islands have promoted the coastal environment as a main tourist attraction. Subsequently the measures taken over the years to build up a strong tourism industry have been directed towards coastal development such as hotels, holiday apartments and ancillary facilities that include beach lidos and restaurants. This trend to maximise and exploit coastal areas continues to date where most of the tourist projects undertaken over the last decade have been located on the coast. As a result extensive areas that were previously utilised or could have been promoted for walking, bathing and other recreational activities have been lost, undermining the available space for informal recreation even for visiting tourists.

2.2.29 In recognising the important economic role of the tourism sector, the Coastal Strategy Topic Paper identifies the need to safeguard popular tourist areas, including dive sites, from incompatible uses whilst encouraging the adoption of appropriate measure to protect existing sandy beaches and low-lying rocky shorelines within popular bathing areas from development.

b) Agriculture

2.2.30 Agriculture, as a major land user, has moulded the natural environment and with time even the coastal landscape. Agricultural use of the coast along the low-lying areas of the northern shores has been replaced by other types of development in the rapid urban growth patterns that characterised our islands over the last three decades. Employment opportunities in other sectors, as well as an inheritance practice whereby land is divided into small tenements has led to land abandonment and a general shift towards part-time work in agricultural activity. Wind erosion and saline conditions may have been the major cause for land abandonment along the coast. This led to a decline in the quality of rubble wall terracing and thus enhanced the erosion effects from seasonal flooding. The threat of land abandonment is still present and may lead to further land degradation unless new practices are introduced through measures that facilitate farmers to continue to cultivate such land. In this regard the efforts to boost the local viticulture sector has already led to improvements as some vineyards have re-used previously abandoned land. This potential also exists with olive oil production. Improved agricultural practices are also required to tackle the polluting effects of agriculture arising from the use of pesticides and fertilisers from crop management and inappropriate waste management practice from animal husbandry. No data has been obtained regarding the effects on the marine environment.

c) Fisheries and Aquaculture

2.2.31 The fisheries industry in Malta is considered mainly to be artisanal, since only a small number of fishing vessels operate on the high seas. Although no major changes in the industry are expected in terms of fishermen number and fishing fleet, changes in fishing practice with respect to fisheries management and control have been prevalent in the last years especially since EU accession. The designation of a 25 nautical mile Fisheries Management Zone around the Maltese Islands is a significant step towards effective conservation of local and sub-regional fisheries resources. One of the main concerns affecting the fishing industry arises from other competing uses that may displace fishing activities on the coast through land take up for development related to either to tourism and recreation or real estate.

2.2.32 The introduction of fish farming in the late 1980s gave rise to new challenges and opportunities for the coast. The industry developed rapidly in Malta where the production of the two finfish species, sea bass (*Dicentrarchus labrax*) and sea bream (*Sparus aurata*) increased from a 300 tonnes in 1992 to 2000 tonnes in 1998. Due to decreased prices for these two species throughout the Mediterranean region, production dropped to 1 000t in 2004. The market for these species is currently re-expanding and production is expected to increase once again. The production of Bluefin tuna (*Thunnus thynnus*) through penning was introduced in 2000 and production increased from 1150t in 2001 to 3550t in 2003. The live tuna are exclusively imported from foreign purse seiners fishing in the central Mediterranean, and are re-exported to Asian markets after harvesting the fattened fish.

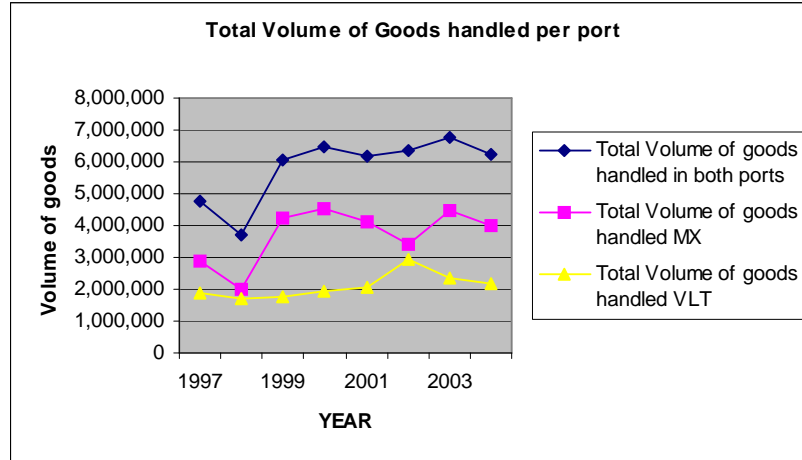
2.2.33 The local experience over the last ten years has been associated with a number of environmental issues arising from the fact that most of the farms are located close to the shore. Since 1992, the location of aquaculture production units has been regulated by the planning system where each application has been subject to an Environmental Impact Assessment. The Coastal Strategy Topic Paper indicates that due to the ecological and geomorphologic characteristics and the presence of other users within such a limited coastline the expansion of this industry would be difficult unless the cage units are taken further offshore within sites primarily zoned for this type of activity. Discussions between the Malta Environment and Planning Authority and the Fisheries Control and Conservation Division have led to the development of a zoning concept whereby aquaculture zones for large installations can be established away from inshore waters. The first aquaculture zone located in the SE of Malta was subjected to an EIA and consequently approved by MEPA in 2005.

d) Maritime Industry

2.2.34 Two main shipping ports are present on the islands of Malta. The Grand Harbour which has been operating for several centuries has a number of wharves that were developed to cater for a variety of services. The main activities are associated with cruise vessels, general cargo handling, ship repair and the provision of storage. The port operations have been limited by the 16th century bastions that lie approximately 25m from the water's edge and practically surround most of the Grand Harbour. A new port with sufficient storage area to allow for extensive cargo handling was developed in the 1990s at Marsaxlokk Bay. An extensive area of land was developed to provide storage space and a considerable sea area was reclaimed for the construction of quays for the Malta Freeport. As a result it handles the largest volume of goods.

2.2.35 Figure 2 below illustrates the annual trends in the volume of goods handled per port, where the completion of Terminal 2 in Malta Freeport led to a significant increase. Notwithstanding the larger volume, the amounts handled in Valletta are more constant, which shows a certain amount of stability for this port possibly gained throughout the years being the first port to be developed.

Figure 2: Total Volume of Goods handled per port



Source: MEPA DEDUCE Fact Sheet Indicator 13 (2005)

2.2.36 Efforts to increase port functions within the Grand Harbour are underway and with the approved Local Plan for the Grand Harbour Area, effective zoning has been adopted that would facilitate this policy thrust whilst ensuring a multifunctional role of the historic harbour.

2.2.37 The increased shipping activity generated also by the Malta Freeport has increased the need for associated facilities such as bunkering. Licensed operators perform bunkering operations either within harbours to vessels secured alongside a berth or outside harbours in the allocated areas listed below. The volume of fuel oil re-exported through bunkering operations has increased from 83,661 tonnes in 1995 to 444,649 tonnes in 2001.

2.2.38 Bunkering areas take up a considerable amount of sea surface, prohibiting any other type of use from utilising that space thus leading to conflicts between uses and competition for space by other industries such as aquaculture. These bunkering sites were primarily selected for the safety they offer to vessels during operations suggesting that very little consideration was given to environmental implications as well as impacts on other uses and activities at sea. All the bunkering areas outside ports are on natural reefs and with the exception of Hurd Bank, are close to the shore. Bunkering operators are required to have a contingency plan to safeguard against any accidental spillage during operations.

e) Cruise liners, yachting and passenger movement

2.2.39 The diversification of the Grand Harbour functions includes the development of a cruise liner terminal and an international yacht marina. With the national tourism policy targeting the cruise liner sector, the number of cruise passengers has increased significantly in the new millennium as illustrated in Table 1 below, and is likely to increase in the future.

Table 1 Number of Cruise Passengers in Transit

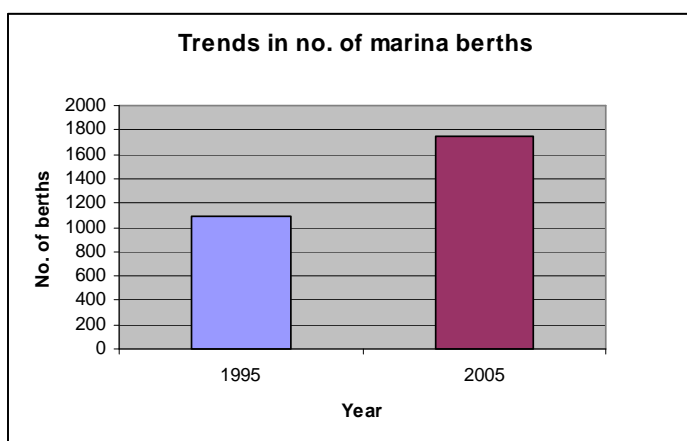
Year	No of Passengers
1997	124,898
1998	141,774
1999	185,219
2000	167,810
2001	257,673
2002	334,824
2003	380,519
2004	251,444

Source: MEPA DEDUCE Fact Sheet Indicator 13 (2005)

2.2.40 A Yachting Subject Study was jointly prepared by the Malta Maritime Authority and Planning Authority in 1997, which looked into the demands of the industry and investigated the yachting development potential of the Island. The Subject Study concluded that a further 900 marina berths are required to meet a sustainable level of yachting demand based on a likely range of demand levels over a 10 year period. The site selection exercise for possible marina development conducted in the Subject Study was based on a number of criteria that included technical, social, economic as well environmental considerations.

2.2.41 In reviewing the number of berths and moorings and dry-stack storage capacity for recreational boating, a significant increase over a ten year period in both the total number of berths as well as the ratio of marina berths per kilometre of coastline is evident. From a total of 1092 berths in 1995 this figure increased to 1750 by 2005, through new development, particularly within the Grand Harbour. The majority of these berths are concentrated along urbanised areas and within ports. Further growth is expected given the pending demand for additional berths and the sector needs to be monitored. The potential sites for future growth are sheltered bays that are also used for mooring of small craft by amateur fishermen.

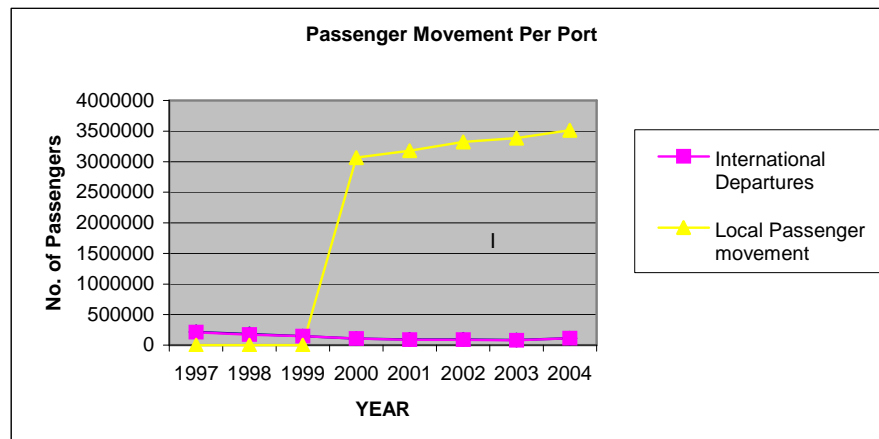
Figure 3: Trends in number of berths from 1995-2005



Source: MEPA DEDUCE Fact Sheet Indicator 5 (2005)

2.2.42 Another maritime function is passenger transport. Inter island travel occurs between the local harbours in Mgarr in the island of Gozo and Cirkewwa and Sa Maison in Malta, whereas international ferry passenger terminal is located within the Grand Harbour in Valletta. Although reliable data for local passenger movement is only available from 2000, Figure 4 below illustrates that inter island travel is significantly more important than international passenger movement by ferry.

Figure 4: Passenger movement per port



Source: MEPA DEDUCE Fact Sheet Indicator 13(2005)

2.2.43 The increase in local passenger movement has seen the move towards the improvement of the passenger ferry terminals for local inter-island transport at Cirkewwa and Mgarr. In the late 1990s a new fleet of inter-island ferries was inaugurated to replace and increase the old fleet. This decision may have had a significant contribution to the increase in passengers.

f) Infrastructure and mineral exploitation

2.2.44 In Malta most infrastructural demands had to be accommodated within the relatively small coastline that is under pressure from other uses. The majority of such development has already taken place and consists of thermal power stations, desalination plants, sewage outfalls, power cables, pipelines, landfills and roads. The emergent issues from the Coastal Strategy Topic Paper relate to impacts arising from coastal engineering works that may lead to alteration of coastal processes and habitats, discharges into the marine environment, potential degradation of the quality of water used by desalination plants from incompatible coastal uses and a lack of strategic spatial plan that addresses user compatibility and minimises user conflicts.

2.2.45 The main mineral resource exploited in Malta is limestone; coralline limestone (hardstone) for aggregate material and globigerina limestone (softstone) for building blocks. To date, quarry location in the Maltese Islands has been determined by geological composition and exploitation influenced by the quality of material present. Consideration for ecological and hydrological resources as well as landscape, have only recently been taken into account when determining mineral extraction operations. Impacts of quarrying on other uses were similarly ignored and development continued to expand in areas that are rich in mineral resources thus giving rise to conflicts especially when considering that extraction takes place through open cast quarrying.

2.2.46 Traditional salt extraction methods are still operating in some parts of the coast and apart from their commercial purpose that sustain small numbers of the community they contribute to the diversity of landscape character of the coast.

Administrative Framework and ICZM and public participation

2.2.47 The sectoral approach within the administrative agencies having jurisdiction over specific coastal areas and/or uses is perhaps one of the main elements that hinder effective coastal zone management. A number of administrative changes have taken place since the publication of the Coastal Strategy Topic Paper, particularly in light of the recent accession into the EU. Currently there are eight (8) out of fourteen (14) Ministries in the Maltese Islands directly involved in regulating coastal areas and uses, yet there is no specific reference in current legislation to the coastal zone and coastal zone management. The only legal document that makes reference to coastal zone management is the Structure Plan, the legally recognised document that guides development. With the exception of the Development Planning Act of 1992 (as amended), there is no legal obligation for co-ordination between government entities in their policy formulation stages. The majority of main legislation identifies responsibilities and regulations affecting the majority of coastal uses and in certain cases some provisions exist that call for interdepartmental consultations.

2.2.48 As already stated the Malta Environment and Planning Authority is the agency which controls and regulates development on land and at sea. The strategic development of each sector, on the other hand, is the responsibility of other agencies. Overlapping responsibilities, in the absence of a clear obligation for policy co-ordination between all concerned makes effective management more difficult to achieve. Table 2 outlines the main agencies that are involved in regulating the major coastal activities. It must be noted that other agencies and departments may also be involved as stakeholders such as the Malta Tourism Authority which plays an important role in planning for tourism development and managing tourism zones.

2.2.49 The findings of the Coastal Strategy Topic Paper suggest that in the absence of a comprehensive coastal strategy, efforts towards integration are left to the goodwill of the agencies involved. In practice, a number of inter-agency/inter-department networks already exist. Their existence is testimony to the fact that co-operation can be achieved. The areas where such co-operation exists include pollution control, water quality monitoring and enforcement of regulations relating to swimming zones. The most obvious one is the co-ordinated effort towards combating and monitoring pollution, between the Civil Protection Department, the Environment Protection Directorate within MEPA, the Malta Maritime Authority and the Health Division.

2.2.50 In December 2005 MEPA organised a national workshop where regulatory entities and Non Governmental Organisations were invited to work through the Progress Indicator formulated by the Working Group on Indicators and Data (WG-ID) of the EU ICZM Expert Group. The workshop itself served as an opportunity for participants to increase awareness and understanding of ICZM. Table 3 lists the results for the National level. More positive results (Y) were given for the first two phases whereas for the later phases in the ICZM process, which revolve on participation and systematic integration of actions very few affirmative responses were given.

3.3.51 The outcome of this workshop reflects the findings of the stock taking process. Whilst ICZM in the Maltese Islands is present it is mostly based on ad hoc measures rather than a systematic framework since the elements that would lead to further progress exist perhaps in the form of legislation or through the workings of particular agencies. For example, the response to action 3 was given as 'Don't Know' (DK) since the development plans that have been prepared address the coastal zone but not as a distinct entity. At the same time it seems that there is not enough will or commitment to move forward from the plan making stage to the implementation phase which is highly dependent on participation of administrative institutions and key stakeholders. This could also perhaps be a result of lack of awareness on how coastal uses relate to each other in terms of resource use, environmental impact and economic performance. More national effort may be needed so that the true mechanisms for integration that may already be present become effectively operational.

The need for a strategic direction

2.2.52 Although the economic contribution of the Maltese coastal zone has not been holistically addressed, the range of economic activities taking place related to shipping, tourism, recreation and construction suggest that it has a significant role within the national economic performance portfolio. A foresight study carried out in 2003 to provide a vision for the marine sector in Malta estimated that the current marine and coastal activities (excluding production of salt and mineral resources) contribute more than 14% of the GDP. If the environmental and social values of the coast could be easily quantified the contribution of the coastal zone for the Maltese Islands would become more evident since the natural habitats, landscape, open space and good water quality determine the quality of other economic activities in such a small island state.

2.2.53 The main theme that emerges from the Coastal Strategy Topic Paper is that the coastal zone within the Maltese Islands is perceived as a limitless resource that can accommodate all types of uses. Consequently this has given rise to conflicts as the limited coastal space has been gradually taken up by uses that do not necessitate a coastal location, to the detriment of the legitimate coastal uses as well as the natural and cultural resources. In the case of the marine environment new developments were introduced with very little consideration to the impacts on both the natural resources and the adjacent marine and coastal activities.

2.2.54 From the review on development trends it is clear that most development types requiring a coastal location are requesting the same space that is being sought by both locals and tourists alike for informal recreation. The current policy is not sufficient to protect coastal areas, even along urban areas, for public use. If no policy changes are made, coastal areas available for informal recreation will continue to decrease. In addition the loss of coastal heritage both natural and cultural will be irreversible.

Table 3: Final Scoring of the Progress Indicator for Malta

Phase	Action	Description	National	
			2000	2005
Planning and management are taking place in the coastal zone	1	Decisions about planning and managing the coast are governed by general legal instruments.	Y	Y
	2	Sectoral stakeholders meet on an ad hoc basis to discuss specific coastal and marine issues.	Y	Y
	3	There are spatial development plans which include the coastal zone but do not treat it as a distinct and separate entity.	DK	DK
	4	Aspects of the coastal zone, including marine areas, are regularly monitored.	Y	Y
	5	Planning on the coast includes the statutory protection of natural areas.	Y	Y
A framework exists for taking ICZM forward	6	Existing instruments are being adapted and combined to deal with coastal planning and management issues.	Y	Y
	7	Adequate funding is usually available for undertaking actions on the coast.	N	N
	8	A stocktake of the coast (identifying who does what, where and how) has been carried out.	N	Y
	9	There is a formal mechanism whereby stakeholders meet regularly to discuss a range of coastal and marine issues.	N	N
	10	Ad hoc actions on the coast are being carried out that include recognisable elements of ICZM.	Y	Y
	11	A sustainable development strategy which includes specific references to coasts and seas is in place.	N	N
	12	Guidelines have been produced by national, regional or local governments which advise planning authorities on appropriate uses of the coastal zone.	Y	Y
	13	All relevant parties concerned in the ICZM decision-making process have been identified and are involved.	Y	Y

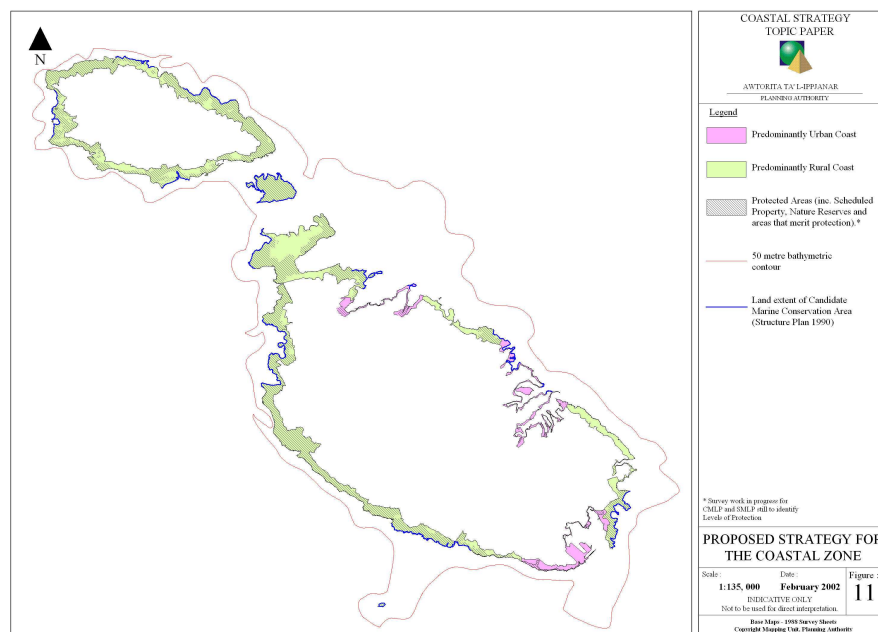
Most aspects of an ICZM approach to planning and managing the coast are in place and functioning reasonably well	14	A report on the State of the Coast has been written with the intention of repeating the exercise every five or ten years.	N	N
	15	There is a statutory integrated coastal zone management plan.	N	N
	16	Strategic Environmental Assessments are used commonly to examine policies, strategies and plans for the coastal zone.	N	N
	17	A non-statutory coastal zone management strategy has been drawn up and an action plan is being implemented.	N	N
	18	There are open channels of communication between those responsible for the coast at all levels of government.	N	N
	19	Each administrative level has at least one member of staff whose sole responsibility is ICZM.	N	N
	20	Statutory development plans span the interface between land and sea.	Y	Y
	21	Spatial planning of sea areas is required by law.	Y	Y
	22	A number of properly staffed and properly funded partnerships of coastal and marine stakeholders have been set up.	N	N
	23	Coastal and estuary partnerships are consulted routinely about proposals to do with the coastal zone.	N	N
	24	Adequate mechanisms are in place to allow coastal communities to take a participative role in ICZM decisions.	N	N
An efficient, adaptive and integrative process is embedded at all levels of	25	There is strong, constant and effective political support for the ICZM process.	N	N
	26	There is routine (rather than occasional) cooperation across coastal and marine boundaries.	N	N
	27	A comprehensive set of coastal and marine indicators is being used to assess progress towards a more sustainable situation.	N	N

governance and is delivering greater sustainable use of the coast	28	A long-term financial commitment is in place for the implementation of ICZM.	N	N
	29	End users have access to as much information of sufficient quality as they need to make timely, coherent and well-crafted decisions.	N	N
	30	Mechanisms for reviewing and evaluating progress in implementing ICZM are embedded in governance.	N	N
	31	Monitoring shows a demonstrable trend towards a more sustainable use of coastal and marine resources.	N	DK

3. The strategies proposed at national level for implementation of ICZM

3.0.1 Given the size of the Maltese Islands, the administrative framework and the fact that the majority of coastal issues in Malta arise from development pressures, the formulation and implementation of a national strategy as required by the EU ICZM Recommendation will be spearheaded by the planning system. The Coastal Strategy Topic Paper proposes a national strategy for the coastal zone that applies to a defined geographical area, equivalent to a relative narrow shoreline within urbanised areas and covering the coastal habitats in the predominantly rural areas as indicated in Map 8.

Map 8 Proposed strategy for the coastal zone



Source: Coastal Strategy Topic Paper (2002)

3.0.2 The strategy also applies to the territorial waters. The proposed coastal strategy refines the current land-use zoning scheme to direct development in accordance with the following set of objectives:

- protect coastal and marine habitats and biodiversity
- protect cultural heritage
- protect coastal uses that necessitate a coastal location
- promote and protect public access and use
- minimise existing and potential user conflicts

3.0.3 The latter three objectives are relatively new concepts within the local planning framework. Although the protection of public access already features in the current Structure Plan the proposed direction is broader as it is geared to protect public use from displacement by development. The proposed zoning scheme addresses three particular areas as indicated in the Table 4 below and identifies a strategic direction for each type.

Table 4: The strategic direction for the coast

Coastal Area	Definition	Strategic Direction
Predominantly Rural Coast	This type of coast incorporates those areas that to date have very limited structural development, if any. The main form of development in these areas is mainly agriculture. Other forms of development are specific uses within particular geographical pockets, such as tourism and recreation, mineral extraction and accommodation units in areas zoned for Dwelling.	To safeguard the natural and cultural heritage, including landscape. The type and level of new acceptable development should be minimal and directed towards improving degraded areas and enhancing informal recreation, in conformity with the objective of safeguarding the coastal characteristic and heritage of such areas. Existing legally approved uses and development within protected areas should be allowed to continue, provided that the value of the protected coast is not affected negatively.
Predominantly Urban Coast	This type of coast is characterised by a concentration of urban and/or industrial development.	To safeguard the existing legitimate coastal uses and to minimise existing and potential conflicts. The protection of open space for public use is to be safeguarded. Existing legally approved uses and development within protected areas should be allowed to continue, provided that it does not affect the value of the protected coast negatively.
Marine Environment	This strategy applies to the marine environment up to the 12 nautical mile limit.	To safeguard the natural and cultural heritage; to safeguard legitimate marine uses, and minimise existing and potential conflicts.

(Source: Coastal Strategy Topic Paper, Planning Authority 2002)

- 3.0.4 The proposed strategy has been taken on board in the formulation of the Replacement Structure Plan which will provide a strategic policy framework for planning and development for the next 20 years. As a national development plan it makes proposals about the future scale, distribution and type of development, ensuring that the provision for development is consistent with national policies. Structure Plan policies are implemented through the guidance and direction they give to Subsidiary Plans (Subject Plans, Local Plans, Action Plans and Development Briefs), and to the public and private sectors. Current Local Plans will be reviewed to take on board the principles and policies of the Replacement Plan and to ensure consistency between Local Plans for neighbouring plan areas. In the interim period to the adoption of the reviewed Local Plans, policies and proposals in approved Local Plans should not prejudice the implementation of this Plan.
- 3.0.5 The Replacement Structure Plan aims to secure sustainable development for the longer term by integrating economic, social and environmental objectives whilst ensuring that the development needs of the country are met. In contrast with the previous Structure Plan goals, the new goals are based on the concepts of sustainable development and quality of life, and recognise MEPA's environmental remit and wider remit for planning and controlling development at sea.

Box 1 Structure Plan Vision and Goals

Vision

To improve the quality of life in the Maltese Islands by integrating environmental stewardship and social and economic development, within a framework of sustainable development.

Goals

- **To encourage further social and economic development by ensuring that sufficient land is available to accommodate it and by encouraging the upgrading of land, buildings and infrastructure.**
- **To facilitate stewardship of the rural, urban, coastal and marine environment, promoting distinctiveness and channelling urban development into existing development areas.**
- **To facilitate an integrated and efficient approach to the development and to the use of land, buildings and infrastructure.**
- **To facilitate partnership, participation and inclusion in the planning process.**

3.0.6 The key challenges that need to be addressed through the Replacement Structure Plan have been identified as follows:

- The deteriorating quality of urban areas
- Deteriorating built heritage
- Threats to the rural environment
- The intensive use of the coastal and marine environment
- An unsustainable use of resources
- An increase in travel with a higher reliance on private cars, coupled with declining 'green modes' of travel and greater dispersal in the location of activities

3.0.7 The Replacement Plan puts forward a series of general objectives through which these challenges are to be met. The relevant objective that deals with the coastal and marine environment is targeted to safeguard and manage the marine environment by protecting the natural environment, ensuring compatibility between uses and integrating sea and coastal activities. In essence it is encompassing the broad concepts of ICZM.

3.0.8 Rather than having a stand-alone chapter dealing with coastal zone management, the approach taken within the Replacement Structure Plan is to address coastal issues in an integrated manner within the relevant thematic chapters that address allocation for jobs and homes; environmental stewardship; provision for better social and community facilities and transport. For example, when dealing with development in tourism zones, the policies aim to ensure compatibility between coastal uses including those within the marine environment and address environment protection as well. The policies within the Replacement Structure Plan are targeted to safeguard traditional maritime industries, promote opportunity for diversification whilst at the same time introducing more guidance with respect to development control within the marine environment to minimise conflicts and adverse environmental impacts.

3.0.9 Since most Topic Papers identified that an over riding hurdle for sustainable development is the current fragmented approach in decision making, the thrust of the Replacement Structure Plan is targeted on policies that address development through integration in planning. The draft policies also seek to have more involvement with administrative entities, the private sector and NGOs through the development of management plans or action plans directed towards nature conservation, rehabilitation of degraded environment, tourism zones and transport hubs.

3.0.10 As indicated above, the implementation of the Replacement Structure Plan lies primarily within the remits of the planning system. The next section outlines the main actions through which the implementation of this plan with respect to ICZM is expected.

3.1 Summary of actions taken and to be taken to implement the national strategy

- 3.1.1 Consultation with government and non-governmental entities has been ongoing throughout the Plan formulation process through a number of working groups. The Draft Replacement Structure Plan itself is to be published and submitted to a nation-wide public consultation process in 2006. The Replacement Structure Plan is also being subjected to a Strategic Environment Assessment (SEA) where the Environment Report outlining the outcome of the SEA will be published concurrently for public consultation.
- 3.1.2 Following the public consultation process and necessary redrafting, final approval is to be sought from Parliament, in accordance with the provisions of planning legislation. Following endorsement, work on the subsidiary plans and policies should commence. As with normal planning policy formulation this is undertaken through consultation with relevant bodies and the general public.
- 3.1.3 Given the need to increase public awareness and provide information, the MEPA website has been constantly uploading relevant information even on the national work related to ICZM. Through this link the public is continuously informed of issues related to the coastal and marine environment, either on specific measures such as water quality monitoring and nature conservation, or in relation to general policy formulation.

3.2 Expected impact of the strategy on the status of the coastal zone

- 3.2.1 As the Draft Replacement Structure Plan has not yet been published and is still subject to change no policy details can be provided. The fact that the Plan has been based on a Strategic Growth Options paper that has been subjected to a sustainability appraisal and the plan itself has been subject to an SEA it is expected that significant negative environmental impacts, if any, are addressed during the policy formulation stage. The main thrust of the Replacement Plan should help to guide development, safeguard the environment and legitimate coastal uses in such a manner that would enable an overall improvement within the Maltese coast. The effectiveness of the Replacement Plan ultimately lies in implementation which depends heavily on policy and administrative integration at a national and local level. Both the Replacement Structure Plan and the Environment Report will include monitoring indicators and implementation measures to facilitate further action and review performance. Yet, commitment in terms of financial and human resources directed towards implementation remains the ultimate challenge.

4. Impact of Community legislation and policies on coastal areas

- 4.1.1 EU Membership for Malta has led to significant progress in upgrading its environmental legislation. An equally significant effort to build the necessary capacity for implementation is however needed (SOER 2005). The various Community legislation and policies have required the identification and establishment of Competent Authorities in different fields and in a sense this may lead to better mechanisms for policy co-ordination. Entities with overlapping responsibilities have started to define their roles through mutually adopted Memoranda of Understanding. MEPA and the Malta Resources Authority (MRA) are both recognised as Competent Authorities for the Water Framework Directive, where MEPA is responsible for transitional coastal and marine waters as well as certain inland surface waters while the MRA is responsible for groundwater and surface waters. The effectiveness of such measures will be felt once these are adopted and become operational.
- 4.1.2 The required measures relating to environmental monitoring and management can actually help to achieve the required implementation measures for both policy co-ordination and ensuring better environmental quality. Work to meet the obligations under the Habitats Directive and the requirements of the Common Agriculture Policy is leading to more discussions and co-ordinated actions amongst the entities involved. More importantly the traditional sectoral approach is being challenged: agriculture must no longer be perceived solely as an economic sector related to food production. The Rural Development Department has consulted widely in the preparation of the first Rural Development Plan and is continuously in contact with relevant entities in the preparation of the National Rural Strategy, which is the precursor of the future Rural Development Plan. This would ensure co-ordination of actions both in terms of strategic policy, data management and monitoring especially in relation to the agri-environment measures. The role of agriculture in preventing soil erosion, marine, surface and ground water pollution and safeguarding biodiversity is finally being acknowledged and mechanisms to integrate different sectors are being planned accordingly. Similarly through the measures of the Common Fisheries Policy, fisheries conservation and sustainable resource exploitation have improved. However for a true holistic approach to be adopted a change in mentality may be needed.
- 4.1.3 The proposed Directives for the marine environment and floods should provide for an opportunity to achieve most of the goals of ICZM related to data collection and management as well as resources management. Linked with the obligations of the Water Framework Directive, theoretically one would assume that through river basin management plans, flood risk management plans and management plans for

European marine regions, the integrated approach required for coastal zones would be achieved since all three types of plans require land/sea use measures. The emergent Marine Policy should ideally encapsulate the principles on integrated coastal zone management. In practice, however there is still a need for the EU to ensure that there is integration in Community Legislation and policy and guide Member States accordingly.

5 Conclusion

5.1.1 Efforts to implement coastal zone management in the Maltese Islands were introduced within the Structure Plan for the Maltese Island, in 1990. The review process of the Structure Plan, through the preparation of the Coastal Strategy Topic Paper in 2002 has supported the need to strengthen planning policy in align it as much as possible with the principles of ICZM. The Draft Replacement Structure Plan has taken forward the recommended strategy and placed it within a national planning framework which will guide future development. Essentially the Replacement Plan will provide a central framework that could potentially be supported by the other national measures adopted in relation to Community legislation and policy. There is scope for stronger integration at the strategic policy formulation stage of different sectors beyond land and sea use planning to provide the necessary guidance and also at the different operational levels amongst institutions. There is also potential for stakeholders to be more involved in implementing national and local measures addressing the coastal environment. Within a Small Island State where essentially the pressures on the coastal environment could have national repercussions the holistic approach in ICZM can only be beneficial in the long run.

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