



EUROPEAN PROJECT MAREMED “Maritime Regions Cooperation for the Mediterranean”

Working Group on ICZM

FINAL REPORT

ICZM implementation state
ICZM Protocol art.8-2 provision application test

Edit by
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Working Group on Integrated Coastal Zone Management

FINAL REPORT ON ACTIVITIES AND RESULTS ACHIEVED (project period 2010-2013)

**FINAL
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This report is edit by

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Overview to the ICZM WG activity

The Emilia-Romagna Region, Department for Soil and Coast Protection and Land Reclamation, was the coordinator of the ICZM working group within the MAREMED project.

<http://ambiente.regione.emilia-romagna.it/suolo-bacino/argomenti/difesa-della-costa>

The activity of the working group has been focused on the state of ICZM implementation in the partner Regions about 10 years after the issue of the EU Recommendation (2002/413/CE), on the further possibilities offered by the recent enter into force (March 2011) of the ICZM Protocol for the Mediterranean, of the Barcelona Convention, and on the opportunity of the launching of a political initiative of the Regions at the Mediterranean scale for the next programming period 2014-2020, taking as a starting the Bologna Charter signed in year 2007 within the Beachmed-e project.

In particular, a first phase of the work, "Diagnostic Phase", has been dedicated to the evaluation of the implementation state of ICZM process at regional level (also considering the national level where appropriate) investigating achievements, advancements, obstacles/difficulties and perspectives. While a second phase, "Pilot Actions Phase", was dedicated to specific actions concerning, on one hand, the comparison of the ICZM Protocol provisions with the regional/national legal framework for the coastal areas and, on the other hand, an "application test" of Art. 8-2 provisions (set-back zone) on the partner Regions coastal belts.

From the Diagnostic phase analysis a number of indications/messages came out about policies for a further and more diffused implementation of the ICZM. These messages are included in the Diagnostic phase Report and can be considered as a "voice" from the Regions towards the EC.

The Pilot Actions work phase allowed, on one hand, the identification of compliances and gaps between ICZM Protocol provisions and regional/national legal framework on coastal zones, on the other hand, the preliminary drawing of a set-back zone (Art. 8-2 of the Protocol) and the analysis of impacts due to the application of the same Art.8, in relation to existing spatial and urban planning instruments together with the identification of a path for their eventual adjustments.

About this action, it is to be underlined that the methodology for this “application test” was set up in collaboration with the PAP/RAC within the SHAPE project (IPA-Adriatic, www.shape-ipaproject.eu), of which Emilia-Romagna is the Leader partner, and exported in the MAREMED project for its implementation in a larger number of cases also outside the Adriatic. This is a good example of synergy allowed by EU projects.

Synergy, not only in words but in deeds, is the key factor to the consistency and effectiveness of public spending and, in this case, of European funds investments. This is the meaning, among other, of the action at the political level developed in MAREMED and related to the “**Bologna Charter 2012**” - *European Regions Charter for the promotion of a common Framework for Strategic Actions aimed at the Protection and Sustainable Development of the Mediterranean coastal areas*.

Promoted by Emilia-Romagna Region as a political action, the Bologna Charter is an agreement between various Mediterranean maritime Administrations, involved in different EU projects but open to the whole Med community, that outlines a Strategy and a **Macro-project** articulated in a number of Action lines (sub-projects) to be developed in the **2014-2020** period at the Mediterranean scale. Themes covered are Governance, ICZM, climate change Adaptation, Data harmonisation and interoperability, sustainable use of resources. The concept is to avoid dispersion, in a number of single separated actions/projects, the “traditional way”, to have a group of projects integrated in a shared strategic framework with specific objectives and actions. This allowing an higher level of synergy between coastal Administrations, optimisation of actions and of the EU funds investments, more opportunities to obtain useful and transferable results and to get coherent mainstreaming processes.

The idea and the general structure of the **Macro-project** responds to the need of Public Administrations in charge for coastal management to efficiently face the coastal zones protection and the climate change adaptation within the ICZM implementation process.

The main **lines of Action** envisaged to be translated into projects, for the 2014-2020 period, consist in:

- the building of a **network of local/regional coastal Observatories** (that foresees also the issue of data harmonisation and interoperability);
- the **survey and monitoring of erosion phenomena** and flood hazard/marine ingress along the Mediterranean coastal areas;

- the individuation, the characterisation and the promotion of the **sustainable use of coastal and submarine stocks of sediments**, for beach nourishment purposes;
- **cross-border integrated planning and management of coastal zones** and maritime space, for a sustainable growth and for the governance of conflicts and possible synergies between different uses;
- **sustainable use of the coastal territory** along with the implementation of the principles and provisions of the ICZM Protocol for the Mediterranean;
- the design of **interventions and structural works**, consistently with the integrated planning processes, within the adaptation policies to the natural and anthropogenic risks affecting the coastal territories.

In order to extend the adhesion to the Charter - **jointly signed by 14 maritime Administrations on the 21st of March at the European Parliament in Brussels** - and for the initiatives in the 2014-2020 period, different actions are envisaged, both at political and operational level, in order to possibly activate different funding opportunities (EU funding programmes, Regional Operational Programs, EC direct support). One of the operational actions already concretised, for example, is the project-clustering initiative "FACECOAST" Med cluster (www.facecoast.eu), that counts today 11 projects adhering including MAREMED, launched within the Capitalisation process started by the MED Program. Further actions foreseen are dedicated to the extension of the cooperation space towards the South and East bounds of the Mediterranean basin.

DIAGNOSTIC PHASE

REPORT

*on the state of art of implementation of the
EU Recommendation on ICZM (2002/413/CE)
and of the ICZM Protocol for the Mediterranean*

Introduction to the Diagnostic Phase

The first work phase of the MAREMED project, the so-called “Diagnostic phase”, carried out an information collection campaign among the partners through specific questionnaires, one for each MAREMED thematic issue: maritime policy governance, integrated coastal zone management, fisheries, adaptation to climate change in coastal areas, efforts to reduce pollution and data management. The aim of the questionnaires is to understand the state of art of the EU policies and related legal instruments implementation and the consequent impacts on the territory.

The ICZM diagnostic questionnaire was elaborated by Emilia-Romagna Region during the autumn 2010 basing on the Recommendation of the European Parliament and of the Council of 30 May 2002 concerning the implementation of Integrated Coastal Zone Management in Europe (2002/413/EC) and on the Protocol on Integrated Coastal Zone Management in the Mediterranean signed in Madrid in 2008. The questionnaire was integrated after a phase of consultation with EC DG Environment and compared with the one elaborated within PEGASO project (7th Framework Programme) in cooperation with PAP/RAC in Split.

After a phase of discussion with MAREMED partnership and further integration, the questionnaire was finally submitted to partners in January 2011. From February to June 2011 Emilia-Romagna Region gathered the first answers by project partners, started the elaboration the results and produced the first draft of the report. In the following months partners were asked to provide integrations and verification of the data provided, and the elaboration of results was completed. The return situation by the end of August 2012 was of 12 answers. As a consequence, the statistical representativity of the questionnaire results in the MAREMED partnership is very good. Nevertheless, the primary value of the questionnaire lies in its qualitative results, coming from the answers to open questions and from suggestions/comments from the ICZM stakeholders.

The aim of the present report is to summarize the results of the ICZM thematic questionnaire, in order to create a screenshot of the actual state of implementation of the ICZM policies and the overall coastal environment status in the partnership regions.

This report shall therefore represent the information framework to identify where the need for further action exists as regards coastal zone management policies, and to underline the opportunities to develop pilot actions and other activities.

These results shall also be published and forwarded to UNEP MAP PAP/RAC in Split and to other relevant actors in ICZM implementation in the Mediterranean area as well as in Europe.

In the 12 regions of MAREMED partnership that returned the ICZM questionnaire the status of ICZM policy implementation is synthetically as follows:

- No Country has implemented an ICZM National Strategy as prompted by the EU ICZM Recommendation (2002/413/EC);
- In Spain the implementation of an ICZM National Strategy is pending;
- France ratified the Protocol; Spain ratified the Protocol the 17th of June 2010; Italy signed the ICZM protocol in Madrid, but the ratification is still pending;
- Cyprus did not sign the Protocol.

Since the European Union signed the Protocol, it entered in force in March 2011 for all the Euro-Mediterranean Regions.

This report includes the elaboration and interpretation of data and answers provided by partners. The original questionnaires returned by each MAREMED partner are available on MAREMED project website.

Goals of the ICZM Diagnostic Phase

The diagnostic phase aims at analysing the state of implementation and the governance of the Integrated Coastal Management policy over the MAREMED partnership territory, by taking into consideration different points of view such as the administrative and technical management, the gathering of information on the departments and services concerned, the political organisation, the tools and methods of consultation processes with actors and stakeholders. This diagnostic analysis aims also at collecting all the underway and past experiences related to ICZM (projects, studies, pilot actions).

Returned questionnaires were analysed to complement and validate the findings, trends and recommendations, in order to outline a likely status of implementation of ICZM policies and the overall situation of coastal zones in the partnership territory.

Such global view can enable the analysis of strengths and weaknesses of the ICZM governance in the MAREMED territory and allows to outline the issues and sectors that still require significant attention and actions. The synoptic analysis of the diagnostic phase results can therefore be the basis to elaborate technical, strategic, juridical and financial proposals to improve integration and innovation in the ICZM governance.

Partners involved

MAREMED partnership, involving 5 States, constitutes a significant sample which is representative of the Mediterranean issues. The ICZM questionnaire was submitted to 13 MAREMED partners as shown in Table 0 (the exception is the CRPM, for whom the questionnaire is obviously not applicable).

Table 0 - MAREMED Partners involved on the ICZM diagnostic phase

	MAREMED Partner involved	Reference in the text
1	Provence-Alps-Cote d'Azur Region	PACA Region
2	Port Institute of Studies and Cooperation of the Valencian Community (FEPORTS)	Valencia Region
3	Murcia Region	Murcia Region
4	Liguria Region – Territorial Planning Department	Liguria Region
5	Toscana Region	Toscana Region
6	Lazio Region	Lazio Region
7	Campania Region - European Projects Unit	Campania Region
8	Marche Region, Dep. Agriculture, Forestry and Fishery	Marche Region
9	Emilia-Romagna Region	Emilia-Romagna Region
10	Environment Office of Corse	Corse Region
11	Larnaca District Development Agency	Cyprus
12	Decentralized Administration of Crete	Crete
13	Generalitat de Catalunya	Catalunya

Currently Campania Region and Murcia have withdrawn from the project partnership, but the results of Murcia questionnaire are included in this report all the same for a broader and more complete framework.

Outcomes of the ICZM questionnaire

Section 0 – Status of the coastal areas

This section aims at gathering information on coastal area status with reference to geomorphologic and environmental indicators and to the main human activities and pressures.

0.1 ICZM Protocol provisions

The first part of Section 0 concerns the ICZM Protocol provisions related to the coastal system, and particularly the official definition of the coastal zone, the definition of a zone where construction is not allowed (setback zone), and of the competent coastal units.

The questionnaire pointed out as the **official definition of the coastal zone** does not exist in all the partnership regions, and where it does it lays at different governance levels. As a matter of fact, it resulted that only in Catalunya the coastal zone is defined by law (a belt of 500m according to Coastal Law). In Emilia-Romagna and Liguria the definition comes at regional level and is based on administrative criteria (boundaries of coastal Municipalities): Emilia-Romagna Region Council has adopted the Integrated Coastal Zones Management Guidelines in January 2005 and Liguria has adopted a Regional Coastal Plan. Murcia defines a coastal area in spatial planning that corresponds to the limits of the coastal municipalities. Valencia Region defines a stretch of 1km through the Territorial Coastal Plan. In Cyprus and PACA Region there is no unique definition of the coastal zone, but it changes depending on the management purposes. In Corse there is a definition of the public maritime domain and of the territorial sea, both of State competence, but no official definition of the coast. Marche, Lazio, Toscana and Crete have no official definition of the coastal zone yet.

As far as the **setback zone definition** is concerned, as mentioned in the Protocol (i.e. a belt of at least 100m from the highest winter waterline where no construction is allowed), the situation is fairly heterogeneous within the MAREMED partnership area. In Italy a national decree defines a belt of 300m from the foreshore where a special authorization is needed for buildings and variations of sort; nevertheless this restriction is merely based on protection and valorisation of landscape assets, and it does not take account of environmental criteria. The consequence is that actually construction is possible as far as variances are granted, and the setback zone does not exist in practice. In PACA, Valencia Region, Catalunya and Murcia regions the setback zone is defined by

state Coastal Law (a belt of 100m)., but variances are granted under request for works of public interest and other conditions. In Corse the so-called Littoral Law defines a setback zone of 100m from the shoreline. In Crete generally building is forbidden within a minimum belt of 50m from the shoreline. In Cyprus there is no unique definition of the no building zone: different sectorial laws state different setback zones, and variances can be requested anyway.

As for the definition of the **competent coastal units**, Italy has not ratified the Protocol and competences on coastal management are split among State, Regions, Provinces and Municipalities. Similarly, in Valencia Region competences are split among State, Regions and Municipalities. Crete, Catalunya, PACA, Murcia and Corse have not defined the competent units following the Protocol. In Cyprus, that did not signed the Protocol, competence on coastal managements are split between Regions and Municipalities.

0.2 Coastal system

The coastal system section of the questionnaire aims at gathering general information on coastal risks due to ongoing physical processes and on local defence strategies. Lazio Region did not fill in this section.

All the partners stressed how **erosion** processes are ongoing on their coast, mostly acting on the beaches. Most of them agree in expecting an increasing trend of this process for the near future, except Murcia and Crete that foresee a stable trend and Toscana that is expecting the process to decrease. Erosion is threatening **Emilia-Romagna, Marche and Toscana** beaches for 30-40% of their total coastal length and a similar situation is ongoing in **Cyprus**. In **Murcia** erosion is less extended, with a 5% of coastline involved. Concerning beaches erosion, **Liguria, Valencia Region, Catalunya and PACA** Region report this phenomena for the 60% of their beaches, and for **Crete** such percentage nearly reaches the 70%. In **Corse** a Network for Littoral Observation started in 1999 including 15 sites of observation (covering 42 km), but there is no data concerning the whole coastline so far; nevertheless a certain level of equilibrium is observed in beaches evolution.

As for **submersion** phenomena, the worst situation is reported in **Crete**, where the north-east part of the coast has sunk because of tectonic reasons in the last 2300 years, and the east coast has the same tendency. Valencia Region and PACA Region report submersion risk on their beaches without quantification. Liguria and Toscana report minor submersion vulnerability. Basing on its coastal GIS **Emilia-Romagna** shows how 60km of coastline are highly vulnerable to extreme events (i.e. with a 100 years return period). In **Corse** LIDAR survey

data are expected to be available by the end of 2011; in **PACA**, terrestrial and marine LIDAR campaigns were organized in June 2012 all along the coast. Cyprus and Murcia declared to have no information on the matter, and the others did not answer the question.

The coastal defence competences are at State level in Cyprus and Corse. The competence lays in State level also in Spain where it is shared with Regions, and in PACA Region, where it is split with Municipalities and other institutions. In Italy the competences are at regional level, with some interventions of Municipalities and/or Provinces. As far as Crete is concerned, coastal defence is within the competences of Municipalities and Port Authorities.

Question 0.4a aimed at estimating how much is spent in regional coastal defence every year. PACA, Valencia Region, Catalunya, and Crete stated they had no information on the matter; Murcia maintained that the expenses on this sector are not noteworthy. In **Cyprus** amounts from 1 million up to 5 million Euro are spent. **Toscana** spends approximately 10 million Euro a year, **Marche** about 8 million Euro and **Emilia-Romagna** between 2 and 2,5 million Euro. The Environment Office of **Corse** region has a 450000 Euro yearly budget. **Liguria** reports that the Region does not have a regular annual budget dedicated to coastal defence, but the interventions are mostly funded by European projects and state funds.

All the partners reported the existence of hard defence structures to protect their coast. PACA and Crete did not give an estimate in kilometres of the length of coastal stretches protected by hard structures, but reported a lot of different kinds. In PACA a website (www.medam.org) supplies territorial information on coastal defence and artificialization. Among the other partners the widest extension of such structures resulted by far for **Marche** Region, with more than 62% of the total coastal length covered; the second is **Emilia-Romagna** coast, with more than 50% of the total length covered. **Toscana** and **Valencia Region** report around 20% of coast characterized by hard defence structures, **Catalunya** approximately 17% and **Cyprus** nearly 10%. **Liguria**, **Murcia** and **Corse** have minor presence of such structures in relation to the length of their coastal stretches.

With regard to beach nourishments, all the partners regions (including Lazio and except PACA that has no information on this matter) have adopted such measure to improve coastal defence. An overall estimate on extension and volume of nourishments during the last decade shows as **Emilia-Romagna** carried out the widest interventions in relation to the overall coastal length (43 of the total 130km of coast involved), while **Lazio** Region carried out the largest beach nourishment work in terms of volume (7,5 million cm along 35km). Other

Italian regions as well have redistributed significant amounts of sediments along their coast. **Crete** and **Cyprus** outlined how in their regions beach nourishments intervention management happens at local or private level, not regional.

0.3 Environmental system

All the regions involved in MAREMED have wide portions of their coastal territory classified as **protected areas**. As the bar graph in Fig. 0.3.1 shows, the highest percentage of extent is reported in Toscana and Corse, where almost the entire coast falls into protected areas.

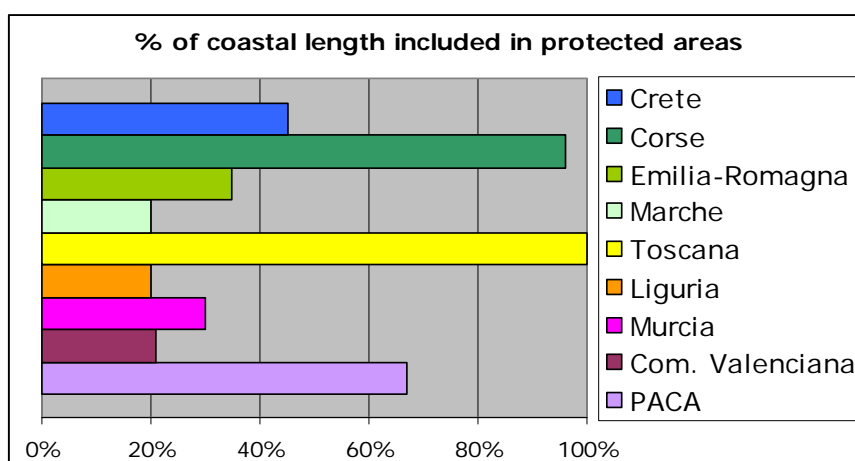


Fig. 0.3.1 - Percentage of coastal length included in protected areas.

All the partners reported the existence of **Natura 2000 sites** along their coast as well, being Special Protection Areas as defined by the Birds Directive (79/409/EEC) and/or Sites of Community Importance as defined by the Habitat Directive (92/43/EEC). In some cases this sites overlap the above mentioned protected areas.

Except for Lazio and Catalunya that did not give information on this matter, all the other regions report the presence of **marine protected areas** in their coastal zone, and some (Crete, Liguria and Valencia Region) have more than one of such sites; **Corse** Region has the greatest number of marine protected areas (five) and a lot of sites for biotypes protection.

As for **communication and dissemination tools** on marine protected areas, Italian regions have both national and regional dedicated websites; Toscana also have a web GIS. All the other regions of the partnership have one or several dedicated websites.

0.4 Adaptation to climate change

When asked to summarize how climate change is affecting the coastal environment in their regions, almost all the MAREMED partners indicate the increase of extreme storms and their frequency as the main effect, together with sea level rise and flooding events. Erosion, submersion and coast regression processes are also reported, as mentioned in chapter 0.2 of this report. Strong negative impacts of climate change on water resources are reported by **Valencia Region**, that indicates the depletion of water resources as the main factor, and by **Emilia-Romagna**, where the upriver saline water intrusion is a serious threat. **Corse** indicates negative impacts on coastal autochthonous species.

Concerning the actions that the local administrations carry out to deal with adaptation to climate change different strategies are being implemented. Nevertheless, there is a shared effort in enhancing the cooperation among the different levels of governance and also with technical and scientific bodies, aiming at an integrated approach to develop sustainable management policies. **Toscana, Marche and Emilia-Romagna** report actions to improve the coastal resilience such as beach nourishments and the consequent studies and researches in order to find sand reservoirs on the continental shelf. **Emilia-Romagna and Valencia Region** (which has a specific planning tool, the Valencian Strategy Against Climate Change), are acting on pollutants and greenhouse gas emission reduction by implementing monitoring tools and promoting the use of renewable and clean energies. In **Catalunya** a dedicated adaptation strategy is in preparation; in **Liguria** is going to be approved a plan for coastal and marine environment with specific measures against climate change risks, such as the definition of the setback line. In **Corse** the Environment Office (OEC) produces studies and risk mappings (submersion, erosion, morphology modifications, etc.) for competent offices to elaborate and define prevention actions.

0.5 Human activities

This part of the questionnaire aims at gathering information on the **main human activities** currently ongoing in the coastal area of the MAREMED partnership in terms of economic value and/or environmental impact. The questionnaire provided a list of the most common sectors and the partners were to indicate which activities are mainly present in their coastal territory. The following charts describe the provided answers: the pie chart (Fig. 0.5.1) summarizes the relative importance of each activity related to the totality of answers; the bar graph (Fig. 0.5.2) shows the activities indicated by each partner as the main of their region.

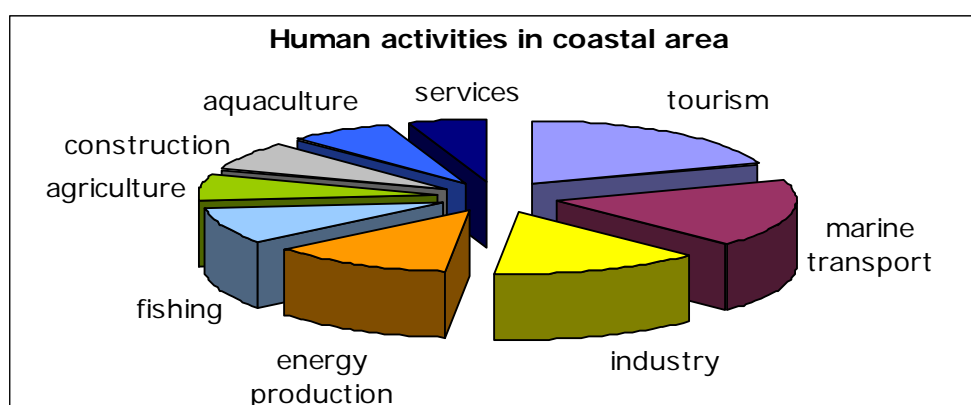


Fig. 0.5.1 – Main human activities in coastal areas: totality of answers.

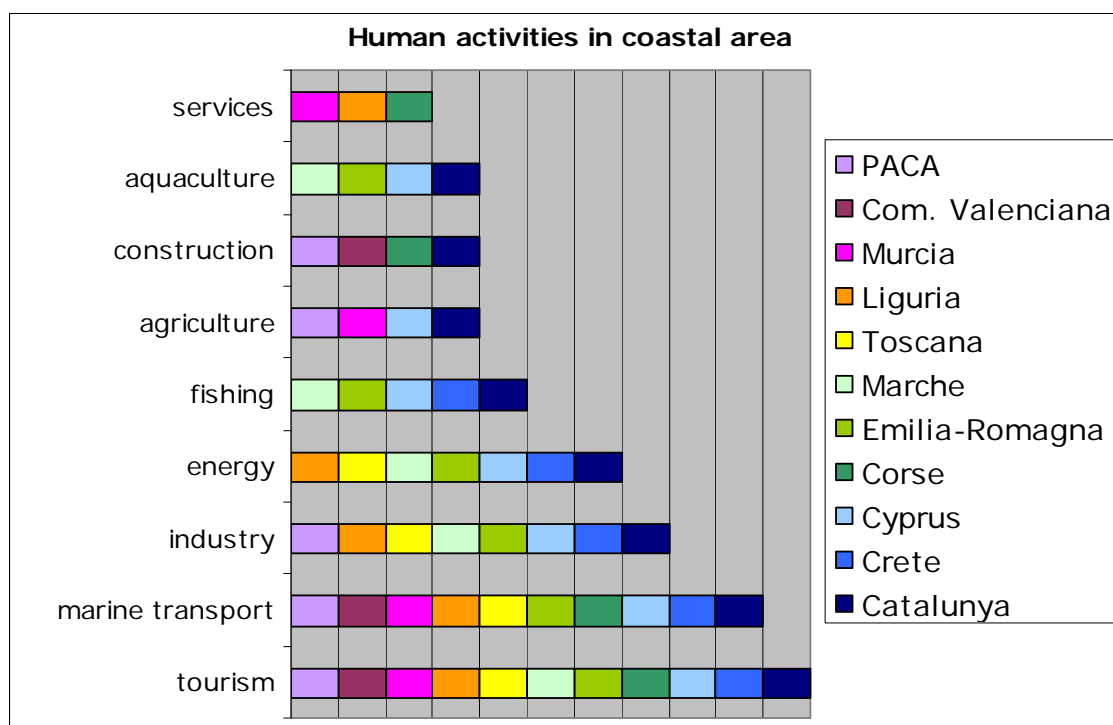


Fig. 0.5.2 - Main activities in coastal areas: answers by partner.

The bar graph in Fig. 0.5.3 summarizes the answers of each partner to the question about the **most relevant activities** in the regional economy among the above mentioned. As shown, tourism is one of the most relevant activities for almost all the MAREMED partners (8 out of 10 indicated tourism), and industry comes second.

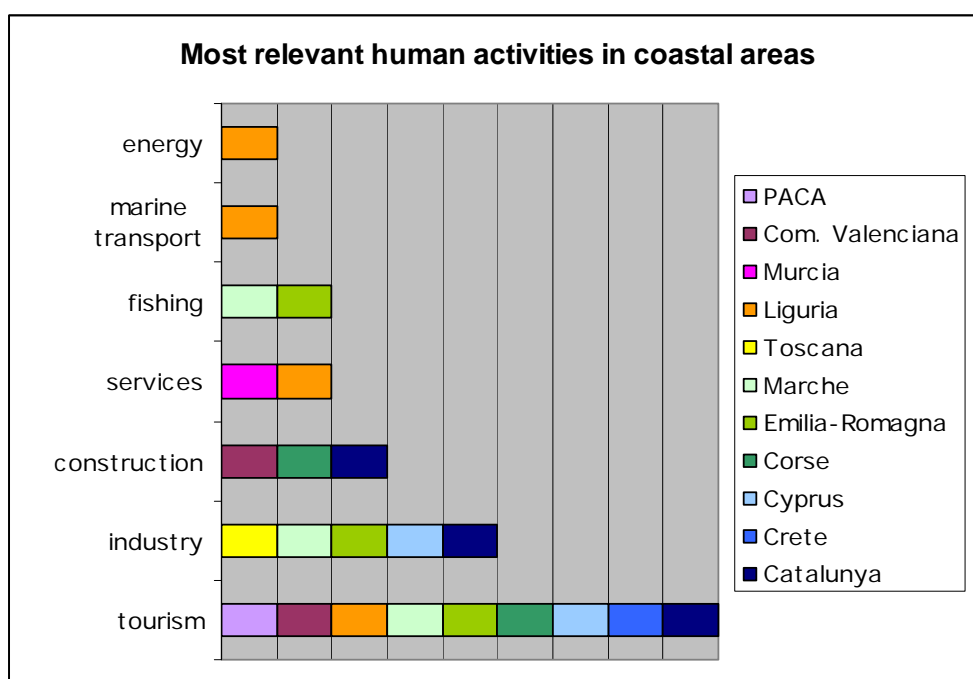


Fig. 0.5.3 - The most relevant human activities in coastal area.

As for the expectations of MAREMED partners on the **future trend of regional activities** Emilia Romagna and PACA Region foresee a change in the current situation, with an increase of renewable energy use and exploitation (i.e. wind farms). **Crete** expects the development of new environment-compatible tourism models based on sustainability; **Cyprus** foresees a development in tourism too, with new investments. **Valencia Region** registered an increase in national tourists presence and a decrease of foreign tourists due to global economic crisis. **Marche** Region developed a Tourism Promotional Plan for the period 2012-2014 to enhance tourism and make it the leading regional economic sector. **Toscana** expects industry to remain the most important activity, with a development of chemical and manufacturing industries. **Corse** expects and increasing trend in the ongoing activities. Murcia and Liguria do not expect relevant changes in their current situation.

The partners were asked to specify the number of commercial and touristic **harbours** along the regional coastline (this last category including marinas, moorings and docks). The situation can be summarized in Table 1 as follows:

Table 1- Number and type of harbours

	PACA	Com. Valenciana	Murcia	Liguria	Toscana	Marche	Emilia-Romagna	Corse	Cyprus	Crete	Catalunya
Commercial	3	5	1	4	10	9°	1	7	5	12	7
Touristic	132	20	20	40	48	9°	13	22	5	41	21
Coastal length (km)	900	476	252	350	400	172	130	1200	296*	1148	580

* stretch of Cyprus Island coastline (total length 772 km) within the area under the Government control

° Marche Region has 9 harbours, each of them has both the commercial and touristic functions.

As for the **expected trend on harbours management**, **PACA** and **Valencia Region** report the intention to extend and/or reorganize the existing harbours and to extent their capacity in order to adapt them to future traffic requirements; in **Emilia-Romagna** Region there are development plans in progress on Ravenna commercial harbour extension. **Marche** Region plans the development of commercial and touristic facilities in all the 9 regional harbours; moreover, the regional Transportations Plan has special measures to improve Ancona Port importance within the Adriatic-Ionian corridor. **Corse** region expects development in both commercial and touristic harbours too. **Toscana**, **Murcia** and **Catalunya** regions have dedicated planning tools (master plans or strategic lines) for the management and development of harbours. **Cyprus** expects some reconstruction activities concerning their existing harbours. **Crete** foresees an increasing trend for touristic harbours development. **Liguria** reports the lack of new coastal areas available for new touristic ports, but suggests the possibility to convert to touristic use some of the existent commercial harbours sections that are no longer suitable for modern traffic.

Concerning **fishing and aquaculture** production level in the Regions, the data provided by MAREMED partners are summarized in Table 2:

Table 2 - Fishing and aquaculture production level

	PACA	Com. Valenciana	Murcia	Liguria	Toscana	Marche	Emilia-Romagna	Corse	Cyprus	Crete	Catalunya
Fishing (ton/yr)	4.600 (2007)	26.000	3.100	3.800	8.700	19.000	8.000	1000	3.300	2470	3.300
Fish farming (ton/yr)	-	-	-	800	4.000		-	1500	3.400	301	-
Shellfish (ton/yr)	1.500	4.000	11.000	4.200	1.400	12.000	30.000	1000	5	Not relevant	3.800

As for the **regional yearly GDP** (gross domestic product) of fishing and aquaculture activities the data provided by MAREMED partners are summarized in the following Table 3:

Table 3 - Regional GDP of fishing and aquaculture activities

	PACA	Com. Valenciana	Murcia	Liguria	Toscana	Marche	Emilia-Romagna	Corse	Cyprus	Crete	Catalunya
Shellfish GDP (million €)	1,5	31	44	-	10,1	115	55	17,9	16	-	4,6
% of total regional GDP	not significant	0,03	0,16	-	-	0,36	0,45	0,25	-	-	-
Fishing GDP (million €)	10,7	67	11	56 Fish. + Aquacul.	37	44	25	3	11	-	4,7
% of total regional GDP	not significant	0,07	0,04	-	-	0,14	0,2	0,07	-	0,6	-

The expectations of MAREMED partners on the **future trend of fisheries** are quite different. **Emilia-Romagna** awaits a decline on this sector due to the new EU rules; **Murcia** foresees a constant trend; **Catalunya** expects a future growth in the fishing industry once it shall reach stabilization after the changes in its structure occurred during the last decade. Other regions have development and/or management plans concerning fisheries: **Marche** developed several strategies in line with EU policies to improve the sector; **Liguria** has a regional programme for fishing and aquaculture for the 2011-2013 period, and similarly **Cyprus** has an Operational Fisheries Programme for 2007-2013. **Valencia** has a Director Plan for Fishing for 2008-2013 and a plan for boosting aquaculture

activities. **Toscana** Region is working on local management plans and on the creation of sea fishing divisions; **PACA** is developing a new coastal zone strategy which shall include special measures for fisheries. In **Corse** the number of fishermen decreased during the last 15 years, so there is the tendency to enhance this sector through new approaches (i.e. fishery tourism); on the other hand aquaculture is optimizing the current situation.

Tourism represents one of the most relevant sector in all the partner regions economy, as mentioned before. The following Table 4 shows the data provided on yearly touristic presences in the coastal zones and on tourism GDP (in some case referred to total regional GDP).

Table 4 - Tourism in coastal regions: yearly presences and GDP

	PACA	Com. Valenciana	Murcia	Liguria	Toscana	Marche	Emilia-Romagna	Corse	Cyprus	Crete	Catalunya
Yearly presences in coastal area (million people)	35	23.3 (2009)	1.2	14	18	12 (2011)	43 (2008)	8 (2010)	about 3	2	22.6 (2004)
tourism GDP/yr (€)	-	13.8 bn	2,6 bn	2,2 bn hotels & restaurants	1 bn	-	8 bn	3,4 bn	1.5 bn (2009)	-	-
% of total regional GDP	-	13.6%	9.7%	-	-	6%	7%	47%	-	40%	12%

Concerning the **future of tourism** sector almost all the partners agree in expecting an increasing trend, in response to the development of new tourism models and proposals (such as cultural tourism, eco-compatible and sustainable tourism, etc.). Some regions have dedicated and strategic planning tools, with measures aiming at the enhancement and updating of this sector. **Cyprus** is the only partner region that reported an expectation of decreasing trend in tourism in the next years due to the global economic crisis.

Energy production plants and related infrastructures are present in the coastal zones of all the MAREMED partners. In PACA, Valencia Region, Catalunya, Cyprus, Corse, Crete and Toscana projects for new energy plants are approved or in progress.

As for the **future trend** in this field all the partners, (except Murcia, that has no information on the matter) foresee a positive trend, with plans for the construction of new energy plants. Several regions (PACA, Valencia Region, Catalunya, Corse, Toscana, Marche and Emilia-Romagna) share the policy of

enhancing the use of renewable and/or clean energies (such as wind, solar, biogas, etc.), with specific researches, plans and projects under evaluation or in progress.

Concerning the percentage of urbanized areas in the coastal zone Municipalities, the current situation is very different among the partnership Regions, with fairly inhomogeneous rates. The bar chart in Fig. 0.5.4 summarizes the data provided.

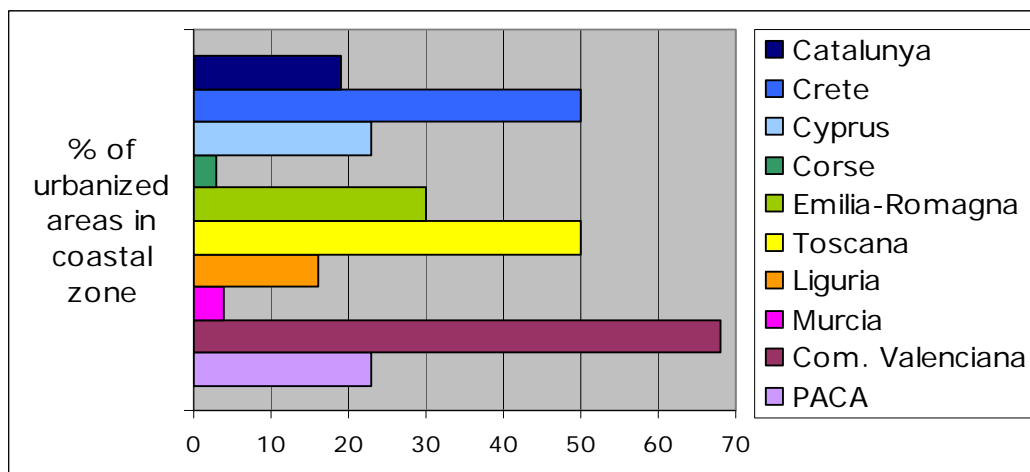


Fig. 0.5.4 - Percentage of urbanized areas in coastal municipalities.

As shown in the chart, the range of urbanization in MAREMED partner regions spreads between a minimum of 3% in Corse Region and a maximum of 68% in Valencia Region. It is interesting to underline how Murcia (4% of urbanised areas) and Valencia Region (68%) have two opposite situations though they are neighbour regions.

The expected trend for urbanization development in **Valencia Region** is of further expansion, with consequent serious problems due to environmental sustainability. Urban Planning tools to regulate the space use are adopted in all the partner regions at different governance levels, and there is a shared policy of defining new measures in order to control urbanization and increase its sustainability. In **Murcia** and **Catalunya** there are specific Urban Plans for coastal areas.

As far as the **percentage of coastal zone land dedicated to agriculture** is concerned, the situation in the MAREMED partner regions can be summarized in the bar chart of Fig. 0.5.5:

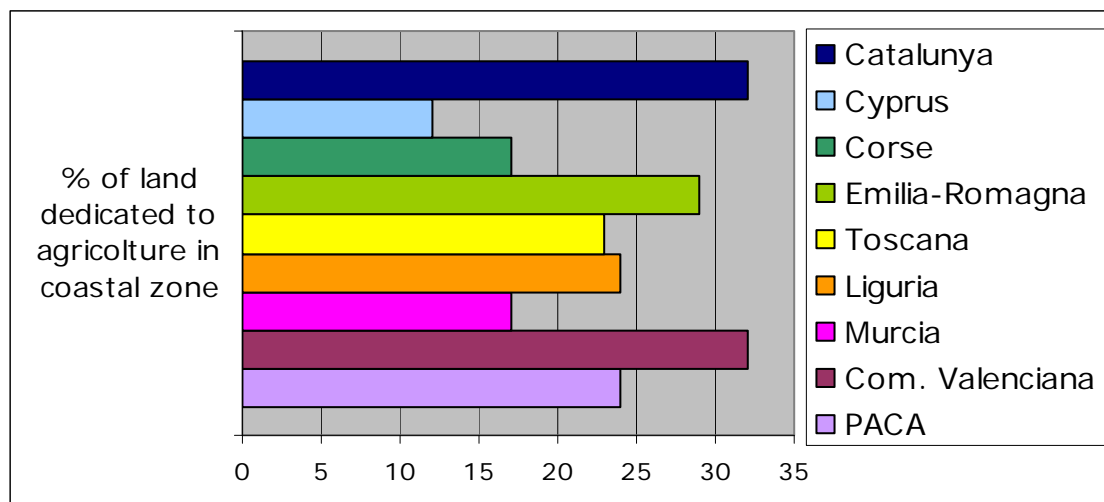


Fig. 0.5.5 - Percentage of land dedicated to agriculture in coastal zone.

The extent of agriculture dedicated land ranges between 12% of Cyprus and 32% of Catalunya and Valencia Region. These values are therefore much more similar than the urbanization rates seen above.

As for the **future** in this sector, most of MAREMED partners expect a stable or decreasing trend in the coastal zones, due to sustainability issues and/or lack of resources (such as water for irrigation); in those regions no new plans or projects concerning agricultural development are foreseen. **Catalunya** and **Emilia-Romagna** on the other hand have Action Plans for rural development, that aim at enhancing ecological and sustainable agriculture good practices.

0.6 The social dimension of coastal zones

The ICZM questionnaire included a set of questions aiming at gathering information on the social environment currently existing in coastal zones of MAREMED partner regions.

Concerning the **demographic structure of population**, the following set of bar graphs summarizes and compares the data provided by partners: graph in Fig. 0.6.1 is based on gender; while graph in Fig. 0.6.2 considers 3 categories of age (coastal inhabitants younger than 25 years, between 26 and 65 years, older than 65), graph in Fig. 0.6.3 shows the presence of foreign citizens.

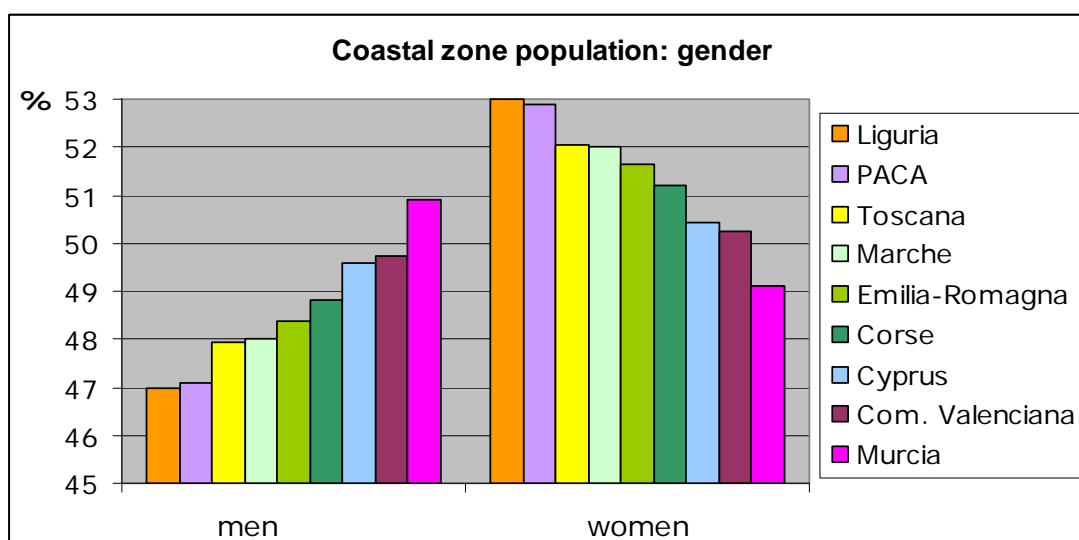


Fig. 0.6.1 - Demographic structure of coastal zone population: gender.

The bar graph in Fig. 0.6.1 shows that women percentage is always higher than men's, although with different deviations, with the only one exception of Murcia, that shows the opposite situation.

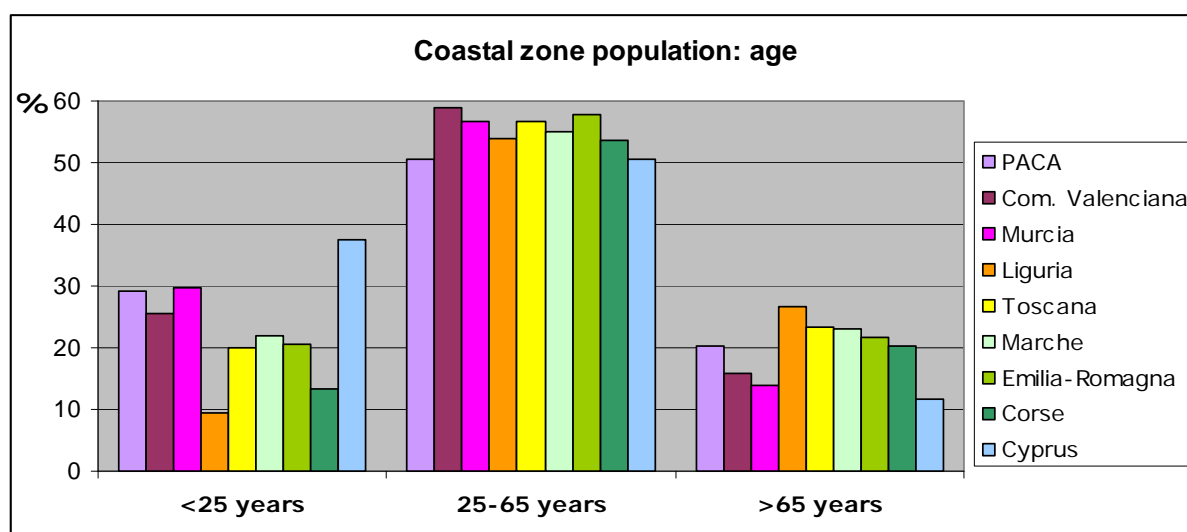


Fig. 0.6.2 - Demographic structure of coastal zone population: age.

Concerning the age of coastal inhabitants, the graph in Fig. 0.6.2 shows that the percentages of each category are sometimes significantly different among partners, and so is the distribution among the three categories. PACA, Valencia Region, Murcia and Cyprus have a grater number of inhabitants younger than 25 than the number of people older than 65, that meaning an average younger population; Cyprus in particular has the highest percentage of people younger than 25 years and the lowest percentage of elderly people. Italian regions on the other hand show a higher percentages of people over 65 years than percentage of under 25 inhabitants, meaning an older population; Liguria region in particular

shows the highest percentage of over 65 people among all partners and the lowest percentage of under 25 inhabitants.

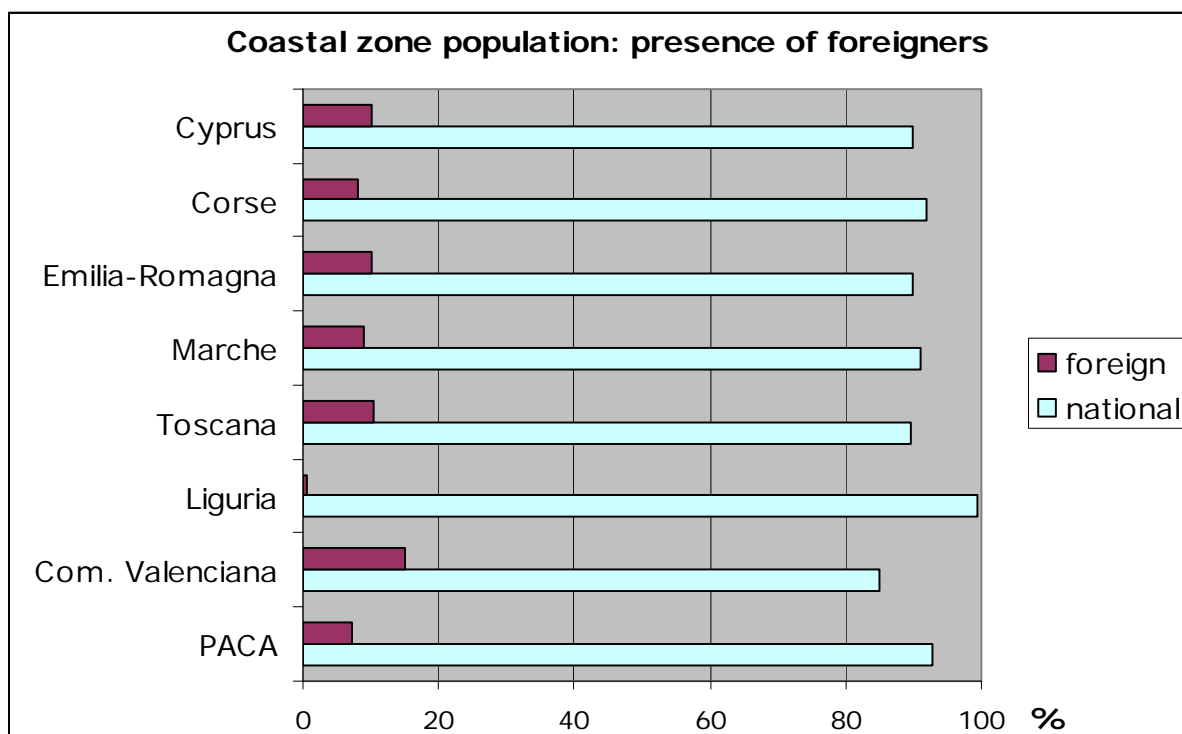


Fig. 0.6.3 - Demographic structure of coastal zone population: foreign inhabitants.

The bar graph in Fig. 0.6.3 shows the relative percentage of national and foreign citizens in the coastal areas. For most of MAREMED partners the percentage of national inhabitants stands around 90%, with two distinct extremes: Liguria region that has the almost totality of national citizens (more than 99%), and Valencia Region that has the highest percentage of foreign citizens (15%).

Concerning the **rate of employment** in the partnership regions, the bar graph in Fig. 0.6.4 shows the total rate of employment and the structure of employees (men and women percentages) for each region.

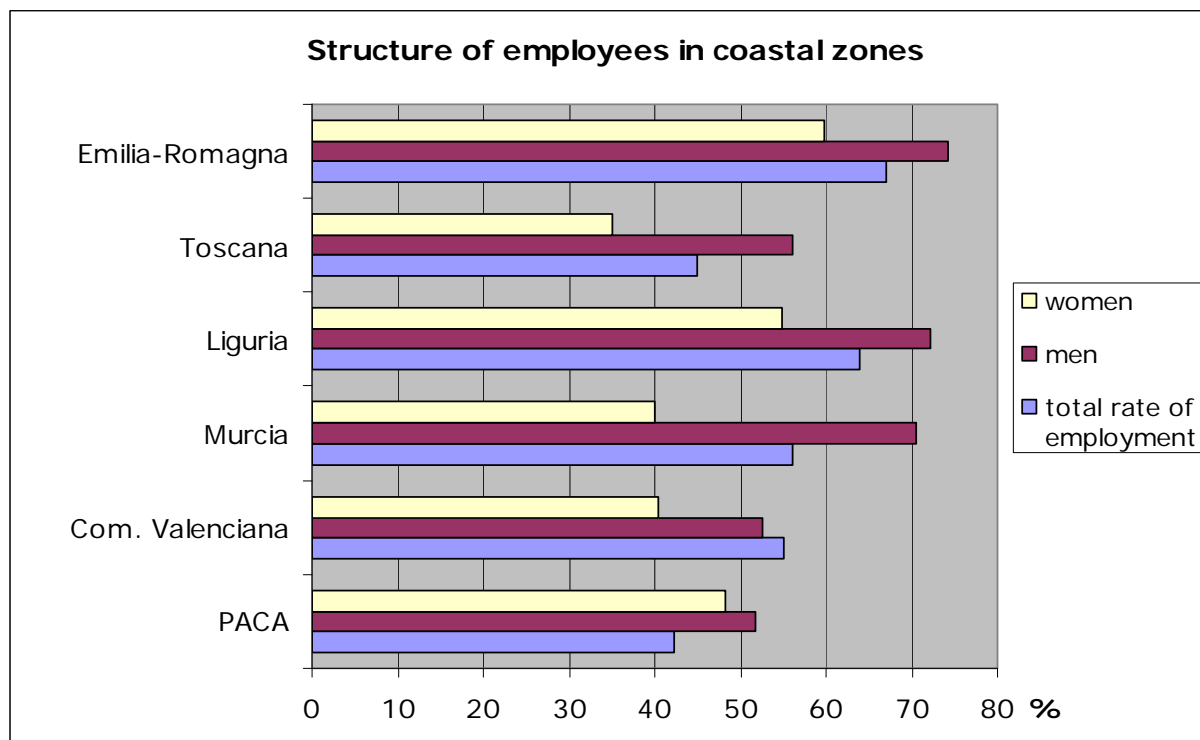


Fig. 0.6.4 – Structure of employees in coastal zones.

The graph underlines how the total rate of employment of coastal population is inhomogeneous inside the partnership territory: it ranges between a minimum of 42,3% in PACA region and a maximum of 67% in Emilia-Romagna. Emilia-Romagna region is also the one to have the highest women's rate of employment (59,8%). The rate of employment is markedly higher for men than for women with no exception, even if the difference between the two is appreciably smaller in PACA. Toscana is the region with the lowest women rate of employment (around 35%).

Concerning the **quality of life** in coastal zones, not all the partners answered the questions, and data provided are not always homogeneous and/or significant from a quantitative point of view. From a qualitative point of view though, the situation inside each region is widely diversified, with different realities in different Municipalities or Provinces. For instance, referring to the national ranking of the 107 Italian Provinces for the quality of life in 2010 published by Sole 24 Ore, coastal Provinces of **Emilia-Romagna** rank from the 14th position of Ravenna and the 27th position of Ferrara, with a good quality of life and living standards, good situation of business and employment (and for this particular indicator Rimini Province comes in 7th position in the national ranking), efficient

environmental and health services, decent law and order situation. Considering the same national ranking, Toscana Provinces rank from the 11th position of Pisa province to the 58th position of Livorno, with a high variability of situations. **Cyprus** reports a stable rise in the United Nations annual Human Development Index surveying in the last decades, with a current position of 25th. **Valencia Region** reports a good quality of life referring to a survey carried out for the European Mediterranean Arch in which it comes in third position. Moreover, **Catalunya** and **Valencia Region** report a higher quality of life in coastal zones than in inland territories.

Regarding the per capita Gross Domestic Product (GDP) and the average price of houses in the coastal area the data provided can be summarized in Table 5.

Table 5 - Quality of life in coastal area: per capita GDP and price of houses

MAREMED partner	per capita GDP in coastal area (€)	average houses price in coastal area (€/sqm)
PACA	around 28 000	around 3600 (4000 in Cannes)
Com. Valenciana	around 20 000 (2006)	in Valencia: 1,851 (December 2010)
Liguria	around 27 000	- no data available -
Toscana	around 26 500	around 2800
Marche	around 27 500	around 2600
Emilia-Romagna	around 30 000 (2010)	around 2500
Corse	around 23 800	more than 4000
Cyprus	around 31 000 (2009)	around 2500 (2009)
Catalunya	around 18000 (2005)	- no data available -

Catalunya pointed out how per capita GDP in coastal zones is averagely 2 point higher than in inland zones.

Section 1 – Summary of ICZM related initiatives and implementation

This section of the questionnaire requested partners to provide, with reference to regional competences and/or policies and/or knowledge, a synthesis of the initiatives undertaken concerning ICZM principles and objectives, and the relative progress achieved. Partners were supposed to provide a brief description of Recommendation 2002/413/CE implementation process in their coastal zone, indicating the chosen strategy and the tool finally/eventually adopted (i.e ICZM Regional Strategy, ICZM Regional Action Plan, other forms...).

1.1 PACA Region

France ratified the ICZM Protocol, but PACA region has no specific actions for now. In France, the regional level has no competences on coastal zone management.

ICZM in France has not a specific tool. Since 20 years, different tools for protection of water, ecosystems, natural resources have been used, and voluntary approaches to promote an integrated and logical geographical vision (bay or/and water basin scale).

The best ICZM tool is the constitution of a financial “partnership” among public administrations (Water Agency, Region, Provinces), bringing 80% of budget of ICZM actions (the remaining part is brought by local). Near 15 local actions exist now since 20 years all along our coast. These projects begin generally by a diagnostic, constitution of a local consultation working group to approve the diagnostic and co-elaborate the management plan. These processes are very long because of local and political obstacles, and the difficulty to accept the role of environmental protection in a situation of strong competition among economical activities. It takes 5 years to reach the signature of such a management plan, and then 5-10 years are necessary to complete it.

On the other hand, these actions don't take into account the regulation of urbanization: other tools and laws are imposed for the urbanism. Sometimes there is no coordination between tools at different levels concerning a particular sector, nor an integrated approach among tools of different sectors. There is a serious a problem of superposition of laws and a big lack of global vision.

ICZM is presented and lived more like a philosophy than a tool.

For the ICZM Recommendation, French State elaborated a call for projects in 2005 and 25 projects were selected, 5 were selected in PACA Region. These projects, however, have no special monitoring or help from the State.

Since two years, a major evolution going in the sense of ICZM, with sea-land integrated management, was decided for the organization of the State: the offices managing the land side of the coast and the offices managing the sea side merged into one.

PACA region representatives think that ICZM cannot be separated of MSP, and that regions would be a good intermediate level of consultation and management for the coastal zone. The action of their region began by internal organization and by the adoption of an integrated policy for maritime affairs with an integrated office and budget, a political representative, and a global policy. But all the maritime affairs cannot be grouped in one office and we have a strong work to preserve the transversality.

1.2 Valencia Region

In general there is a wide variety of instruments, both strategic and operative, although those that try to specifically deal with concrete aspects of ICZM are still anecdotal. Most of the strategic documents are more operational, and very few act directly on the administration management model, which must be adapted to the singular circumstances of coastline complexity.

In spite of that, progress has been made in the elaboration of instruments that specifically tackle governance, although their application is slow and priority should be given to their implementation in coastal and marine areas. The draft documents for preparation of the Valencian Territorial Strategy (ETV) point towards phase lags between approving plans and application of the investments forecast in them as real obstacles for the implementation of these tools. The ETV has been approved as a Decree. It is also more similar to an operational instrument than a strategic one, except for the sections that deal with governance-related matters. The directives are binding for all the public administration with competence in the region. Territorial regulation criteria are also set forth, some of which are specific for the coast, although they are only recommendations.

In the case of territorial planning instruments on a supra-municipal scale, there are delays in their application, which is even more complicated by non-effective efforts to carry out some of these regulation plans. PATLICOVA particularly stands out (Territorial Plan of Action for the Valencian Community Coast), which has not been carried out (since it was drafted in 2006), in spite of it being planned to be established in legislation (including the Decree approving ETV). This has been done at a sectorial level, for example, PATRICOVA: Sectorial Territorial Plan of Action for flood risk prevention in the Valencian Community (with a specific chapter for coastlines). While these delays continue, the main

capital in the region has shown signs of degradation. As an example of this, during the work carried out in the drafting of the Tourist Area Plan for the Valencian Community, the Coastal Tourism group verified the lack of consistency between elements comprising the components to be promoted in the tourism offer (namely diversity in the offer and environmental quality) and the actual situation, thus posing a threat to this sector.

1.3 Murcia Region

The Region of Murcia hasn't begun with the elaboration of an ICZM strategy and therefore principles and objectives haven't been defined yet.

Related to the Recommendation 2002/413/CE, the Spanish State edited a GIZC strategy defining strategic and specific objectives and establishing proposals and acting alternatives that haven't been totally implemented.

1.4 Liguria Region

Liguria Region approved the regional Coastal Plan in 2000, which was already in compliance with the ICZM principles.

Since then regional activity on coastal administration is oriented towards an integrated management, other legal and planning instruments have been provided, for example by updating the reference law (regional law n.13/1999) and approving the "Piano di utilizzazione delle aree demaniali marittime" (a plan that rules the use of maritime that belong to the Italian State). Furthermore, the "Coastal and marine environment conservation Plan" was adopted.

In the absence of a national strategy (as mentioned in the cap. IV of Recommendation 2002/413/CE), Liguria Region has not yet defined his own regional instrument.

1.5 Toscana Region

The Regional Development Plan and the results of the First Regional Conference on maritime economy in 2001 agree on the fact that the environmental balance and the hydro-geological structure plan for the coast are to be considered strategic premises for the sustainable development of economy in the maritime areas of Toscana Region.

The protection of marine and coastal environment and as a consequence the protection of the hydro-geologic balance of coastal areas has been one of the main priorities of Toscana Region over the last years. Among the implemented initiatives that have marked a turning point in this sector, so crucial for a

Mediterranean region such as Tuscany, the most important is the proposal of the Regional Plan for integrated management of the coast as part of the hydro-geological structure plan, approved by the Executive Council with resolution num. 1214 of November 2001. This Plan became an internationally accredited "Tuscan model". The Plan provides conceptual and technical clout to the legislation and administrative political platforms that are fundamental to the Region, and offers prejudicial and vital attention to governance, giving great recognition to the need for opening up, for participation, responsibility, effectiveness and coherence.

Afterwards, the involvement of Toscana Region became more concrete in two more highly significant steps. The first is the signing of the memorandum of intent with the coastal Provinces in November 2002, that establishes the will for common action of the Region/local institution system, starting by assigning appointments to complete the coastal profile and by implementing coastal recovery and balancing works for the integrated management of the coastal areas. The second step followed in March 2003 by an allocation of approximately 110 million Euros to finance the program for the prioritized recovery and rebalancing actions for the coast and training activities as part of the integrated management plan for the coast (Resolution of the Regional Council num. 47/2003); such investment provides vital resources as part of the strategic plan for the investments. It is divided as follows: the coastal profile and planning the actions € 8.800.000; implementation of the coastal rebalancing and protection actions € 96.000.000; monitoring € 5.000.000.

1.6 Lazio Region

Lazio Region began in 2001 the implementation of a methodology to define the rules of use and the management principles of the coastal zone as a resource, in order to ensure the territory conservation by granting the basis of a sustainable development. With Regional Law L.R. 01/2001 and the following Integrated Programme of Intervention Lazio Region begins the path towards ICZM.

Action I.1.7 of such Programme concerns experimentation of ICZM in pilot areas of the regional coast; it was launched in 2005 and the superintendent was the ICZM Commission, composed by Lazio Region, Cassino University, Tuscany University, La Sapienza University of Rome, the Regional Observatory of Littorals and Litorale spa. The outcome of this action was the setting up of a scientific and experimental methodology for integrated programming and planning of the littoral and coastal development of Lazio, and for the elaboration of the specific Guidelines, now available on the regional website.

Particular attention was given to ICZM from the erosion prevention point of view. Regional Law 53/98 set the criteria for concertation between the Region and the coastal Municipalities, and between the latter and the concessionaires of state property lands for a proper maintenance of works and for the stakeholders to become fairly responsible. Through the Convention tool it is possible to define on one hand the right placement of defence works (protection of natural assets, waterfront urban context, etc.) and on the other hand the proper placement in the industrial and business sector (tourism improvement, operators involvement in the littoral management and maintaining, etc.). In this context Lazio Region carried out several coastal defence works between 1999 and 2007, for over 80 million Euros, restoring tens of kilometres of beach through nourishments. Such works also required the elaboration of new methodologies of environmental analysis and geomorphological characterization of the coastal belt and the continental shelf (ICRAM proceedings, DST UniSapienza Report, etc., available on www.beachmed.eu, that represent fundamental elements for a proper implementation of the ICZM methodology and for the sustainable management and use of coastal zone, considering ecosystems and coastal landscapes fragility.

Finally, Lazio Region constituted a working group called ICZM Monitoring Centre which is the competent structure inside the Directorate of Environment for issues and actions concerning ICZM as defined in 2002 ICZM Regulation and in ICZM Protocol. In 2008 Lazio Region defined and programmed the ICZM Monitoring Centre activities (executive acts n° B0477 of 18/02/2008 and n° B3354 of 29/09/2008).

The ICZM Monitoring Centre (www.cmgizc.info) manages and coordinates the EU projects concerning ICZM (BEACHMED, BEACHMED -e, COASTANCE, MEDLAB, MAREMED, POSIDEONE) and transfer their outcomes to the specific operative structures, and implements an inclusive web GIS focused on Lazio coastal belt.

On June 2010 the 1st through Regional Government act the Cabina di Regia del Mare was instituted, in order to coordinate the policies of intervention dedicated to improvement and protection of natural and environmental assets of Lazio coastal belt. The Cabina di Regia has the assignment to enhance the confrontation among institutional levels, to joint the interventions of the different stakeholders, coordinate the procedures of the integrated interventions plan and to elaborate the Lazio Region Strategic Programme of maritime policy for 2010-2013.

1.7 Marche Region

In the last few decades, Marche Region developed an exhaustive and articulated set of legislative and strategic tools, and implemented a great number of projects and initiatives that can be led back to ICZM principles and objectives.

Broadly speaking, the Region territorial management and governance orientation aims at formulating complex programmatic frameworks and sophisticated strategic actions, characterised by a common and long-term vision for the defence and conservation of coastal areas. The attempt is to achieve a real “integrated management” of coastal zones and of the activities that have an impact on them, rather than to carry out a series of punctual interventions merely aimed at facing emergency situations.

Marche Region developed an Integrated Coastal Area Management Plan several years ago, with the aim of improving the conservation and rational use of coastal areas and resources. The Plan was adopted according to Regional Law n. 15 of 14/07/2004 “Regulation of functions in the field of coastal defence”, and approved by Regional Council’s Administrative Resolution (DACR) n. 169 of 02/02/2005. Such a Plan represents the formal programmatic framework put in place by Marche Region in order to deal with the complex set of issues related to the continuous interaction between the coastal territory and the sea. The Plan has been developed through a participatory process which involved a high number of stakeholders in the private and the public sectors. Stakeholders were constantly kept updated on the programmatic activities, following a concertation method which aims at facilitating information sharing and stakeholder participation.

Among the Plan's priority objectives, it is worth pointing out the planned interventions for beach restoration, especially aimed at coastal defence, environmental conservation and tourism promotion, as well as the detailed activity planning for the maintenance of existing structures.

The Plan's main challenge is to achieve a satisfactory integration between the economic pressures of the tourism sector and the well-established territorial situation on the one hand, and the urgent need to improve the environmental quality of coastal areas (e.g. sediment movement and pollution, water quality, biodiversity level) on the other hand.

In December 2010, the Region issued a Report on the 2004-2010 Implementation State of the Integrated Coastal Area Management Plan. The most relevant conclusions after six years of Plan implementation are:

- Economic aspects: the estimated financial costs were of 167.50 millions of euros over seven years, but only 59.72 millions of euros were allocated between 2004 and 2010. Fund availability is therefore a very critical issue in order to achieve the Plan's objective and, more in general, in order to exhaustively implement the ICZM Protocol in the current practice.

- Environmental aspects: the new programmatic framework should further develop territorial policy tools and measures aimed at preserving the existing landscape and coastal geomorphology, and at carrying out renaturalization/restoration interventions (especially with soft coastal defence structures, such as beach nourishment), in order to improve coastal self-defence from extreme marine events, which are increasingly occurring also due to climate change.

Of the utmost importance is the integration between terrestrial, coastal and maritime compartments, and the development of coordination policies for the harmonization of maritime, land and river defence interventions. Also, high priority should be given to (i) the protection of coastal portions which are still free from hard defences, (ii) the preparation of a report on the environmental state of coastal marine waters, (iii) the assessment of the economic value of beaches and related ecosystem services, in order to make a coast-and-benefit evaluation and determine the investments that should be allocated to coastal conservation.

Another very relevant issue which is currently being developed, refers to the definition of the setback zone and related interventions. A possible line of action to implement this issue, also in consideration of the ICZM Protocol's recommendations, is the allocation of a special fund for the acquisition of privately owned land/structures scattered along the setback zone and interrupting the state-owned maritime property. Subsequently, all hard

structures (walls, buildings, etc) built by privates should be removed in order to completely restore the coastal setback zone to its natural state.

1.8 Emilia-Romagna Region

Emilia-Romagna Region Council has adopted, through Act n. 645 of 20th January 2005, the “Integrated Coastal Zones Management Guidelines” for the long term sustainability of its coast and sea territory and environment.

During the 2005 and 2006 all the coastal provinces (Ravenna, Forlì-Cesena, Rimini, Ferrara) have adopted the Guidelines at local level. During the 2007-2011 period the adoption and acknowledgement of the Guidelines has been carried out by all the 14 coastal Municipalities, within their urban planning tools.

More than 8.000.000 Euro were spent for ICZM pilot projects and capacity building (about 5M€ by the Region and about 3M€ by local institutions, Municipalities and Provinces) in the period 2006-2010.

Almost 60.000 € were spent for research and education projects.

1.9 Corse Region

This region participated to 2 project concerning ICZM following the call for project proposals of DATAR.

Étang de la Biguglia: for a balanced development of the littoral and its inland zone for a rational use of resources and spaces, in the 2006-2007period. The project budget was of 86.000€ (of which 60.000€ of forfeit financing). It aimed at the development of a sustainable agriculture, the elaboration of a landscape management plan for Marana beach and a management plan for fishing activities in the pond and coastal waters. The most important partners of this ICZM related project were the General Council of Northern Corse and the Natural Reservation of Biguglia Pond, along with several organizations such as the Agriculture Chamber of Northern Corse, Civam Bio, the Littoral Conservatoire (regional delegation for Corse region), the SIVOM of Marana, the Regional Committee of Marine Fisheries and Marine Farming of Corse region. This project aimed at increasing the quality of this site, also preserving the economic activities developing in the area, and by fostering the public welcoming, in concertation with the different local stakeholders. The work was based on the conservation of biologic heritage, on the valorisation of halieutics resources, of tourism reception, on the promotion of biologic and aware agriculture, the promotion of organic fertilizers, the elaboration of a landscape management plan for the lagoon

sandspit, the elaboration of a management plan for fishing activities in the pond and coastal waters.

Grand Site of Girolata-Osani Development, respectful of environment and humans, on the 2006-2007 period. The total budget of the project is unknown to Corse, who had a 60.000€ contribution as a beneficiary. This project consisted in: assistance to the workmanship for the organized anchorage; harbour management; enhancement of the Local Urban Plan; enhancement of a study for the extension of the Scandola Natural Reservation; the starting of a study for the network and waters treatment station; extension of waste management and reuse system (grinding/compost); extend in the whole year the maritime shuttle service in order to open the village to people; etc. The Osani City Council, that led the project, had several partners such as: Corse Regional Park, Corse Territorial Community (Corse Environment Office, Corse Tourism Agency), Agency for Environment and Energy Mastery, Regional Directorate for Environment Development and Housing, Architects of Construction of France, Water Agency, Southern Corse General Council, Littoral Conservatory, Corse Touristic Harbours Union, etc. At the end the project led to waters decontamination, land management (anchorages, Local Urban Plan, etc.), increased accessibility, waste treatment, creation of clean sites and temporary storage areas etc., along with the production of dissemination leaflets.

1.10 Cyprus

Cyprus has not signed the Protocol because of some political disagreements occurred during the preparation of the Protocol. Several governmental departments involved with the Coastal Zone Management expressed their opinion during the preparation of the Protocol signed by a lot of Mediterranean countries

Coastal Area Management Programme (CAMP) of Cyprus is a programme implemented jointly by United Nations Environment Programme – Mediterranean Action Plan and the Government of Cyprus through the Ministry of Agriculture, Natural Resources and Environment.

The goals of ICZM of Cyprus are to attain sustainable development of coastal and marine areas; to reduce vulnerability of coastal areas and their inhabitants from natural hazards; and to maintain essential ecological processes, life support systems and biological diversity in coastal and marine areas.

The CAMP is a comprehensive strategy for the coastal area taking into account the ecological, biological, socioeconomic, and governance linkages between different portions of the coastal area, encompassing adjacent watersheds and offshore ocean areas. It integrates biodiversity conservation

goals with the need to allow sustainable uses and socioeconomic development in coastal and marine areas under a planning and management framework.

The main objective of this Activity is to review and elaboration of the existing coastal development problems in Cyprus in relation to the prevailing international, national and local institutional, policy framework and commitments, development and application/testing of guidelines for the operation of ICAM methodology and formulation of practical proposals for the incorporation of ICAM within the Cyprus policy framework.

The five sub-activities include

1. Collection and codification of all available information from the involved Ministries/Departments setting out the current coastal area planning and management institutional and policy framework, legal / regulatory tools, practices and problems in Cyprus, and, on this basis, review of the main deficiencies in the management of coastal development in Cyprus;
2. Elaboration of the established and evolving methodology / methodologies and tools of Integrated Coastal Area Management (ICAM) with reference to the Mediterranean and European experience, including their achievements and problems, and assessment of the need and options for an ICAM methodology in Cyprus;
3. Formulation of ICAM Guidelines to address existing and future coastal development conflicts and problems in Cyprus, including a guiding framework for the implementation of the Activities concerning the ICAM tools and the Pilot Application Case Studies;
4. Workshop(s) to present and discuss the results of sub-activities 1, 2 and 3 focusing particularly on the proposed ICAM Guidelines;
5. Within the framework of all the above, formulation of proposals for the incorporation of ICAM within the Cyprus policy framework to support sustainable use of coastal resources in Cyprus.

1.11 Crete Region

For the implementation of commitments and arrangements of the ICZM Protocol which Greece has signed on 21.1.2008 under the Mediterranean Action Plan (MAP) and the Convention of Barcelona, the Ministry of Environment Energy & Climate Change is elaborating a Draft Joint Ministerial Decision (National Guidelines) on Integrated Management of Coastal and Insular areas. (expected during 2011).

The adoption of this official document will be the ratification of the Protocol (ratification/validation with incorporation into national legislation).

The Decentralized Administration of Crete is promoting guidelines for the incorporation of ICZM principles into Urban Planning and Strategic Environmental Assessment.

1.12 Catalunya Region

There are no specific policies or strategies concerning ICZM in the Catalan region so far. However:

- there are some pilot projects;
- policy-making, planning and law elaboration with regards to the littoral area and decisions on activities and projects affecting the littoral area involve different governmental levels and different types of social and economic actors
- a multi-sectoral approach is taken, considering different sectors (agriculture, transport, biodiversity, etc.).

Section 2 – Activities undertaken in order to support ICZM implementation

The first part of this section aimed at investigating the stage of implementation of ICZM strategy at local level, in order to understand if a **specific ICZM tool** has been adopted and the nature of such tool. The following table summarizes the results.

Table 6 – Adoption of tools for ICZM implementation

Country	MAREMED Partner	ICZM Tool adoption	main instrument for ICZM implementation
FRANCE	PACA	Tool absent	Different tools used according to local needs
	Corse	Tool absent	Different tools
SPAIN	Valencia Region	Tool absent	
	Murcia	Tool absent	
	Catalunya	Tool absent	
ITALY	Toscana	Tool adopted (2001)	Coastal Defence Plan
	Lazio	testing ICZM approach through regional law	Regional law, Regional Monitoring Centre on ICZM
	Marche	Tool adopted (2005)	Integrated Coastal Area management Plan
	Emilia-Romagna	Tool adopted (2005)	ICZM Guidelines
	Liguria	Tool absent	
CYPRUS	Cyprus	Tool adopted (2008, CAMP of Cyprus)	Plan CAMP
CRETE	Crete	Tool under preparation (2011)	Guidelines, Plans

As shown in Table 6, only four partner regions have adopted a specific ICZM tool (Toscana, Marche, Emilia-Romagna and Cyprus). For **Lazio** and **Crete** the preparation of the ICZM local tool is currently work in progress (since 2008 Lazio region has a dedicated Monitoring Centre for ICZM). In **Emilia-Romagna** and **Toscana** the ICZM strategy has been acknowledged in the territorial and urban planning tools at Provinces and Municipalities level. In **Cyprus** several plans and programmes followed the CAMP Plan adoption, such as urban and spatial plans, a coast development strategy, sea use of offshore plants, river management programs and fishery programs.

When asked about the most **common difficulties** encountered in implementing the ICZM strategy, the partners reported as the main factors the

coordination of different sectors and the participation, in addition to lack of integrated legal tools and dedicated governance. **Marche** stresses how the lack of funds is the main issue in the Region.

Among the other types of instruments used by regional governments to manage ICZM issues, the most common are the land policies (i.e. spatial planning), environmental impact assessment and environmental strategic assessment procedures, and economic instruments, such as financial agreements among different levels of governance and/or stakeholders.

Partner Regions that have adopted ICZM strategies or tools also adopted new plans and/or programmes following and acknowledging the strategies, such as urban plans, coast development strategies, and so on.

Some of the MAREMED partner regions have coastal information systems, that include data needed for ICZM. **Emilia-Romagna** developed a new regional information system (Coast and sea Information System), and also **Marche** Region (Coastal GIS). **Crete** developed a new National Environment Information Network, which include ICZM related data. **Lazio** developed a specific web-site managed by the ICZM Monitoring Centre, provided with web-GIS and facilities. **Liguria** and **PACA** enhanced the existent regional web GIS. **Valencia Region** has both enhanced the existent Spatial Data Infrastructure and created a new GIS. Cyprus, Toscana, Corse and Murcia regions do not have such instrument at the moment. Catalunya didn't give information on the matter.

All the MAREMED partners have carried out or started pilot projects and/or studies concerning ICZM, except for Murcia that still haven't. Mostly, such pilot projects and studies followed several projects co-funded by the European Community Operational Programmes, such as Beachmed, Beachmed-e, Coastance, CAMP, etc.

The questionnaire pointed out the fact that none among the MAREMED partners carried out the evaluation of the possible impacts of the ICZM Protocol application on existent regional/national provisions systems. Furthermore, no one of the partners carried out a comparison between the Protocol provisions and the local (regional or national) actual ICZM strategy and/or tools, with the only exception of Cyprus that did it in the occasion of the CAMP.

Section 3 – Evaluation on ICZM progresses and coastal zone governance status

The information requested in **Section 3** were aimed to give an overall evaluation of the progresses achieved by partner regions in terms of governance and sustainable development of the coastal zone.

The analysed answers show as almost all the MAREMED Partners achieved different levels of progress in coastal zone management and governance, both in horizontal and vertical integration among the different sectors operating on the coast, and in fostering stakeholders participation. The only partner that reported no progresses at all, giving negative answers to all the Section 3 questions, is **Murcia**. **Lazio** region reports that very few progresses have been made until now in the governance integration, but maintains that the EU projects are the occasion to achieve such progresses in the governance and ICZM.

Cooperation, consultation and coordination are reported as the main instruments for the horizontal integration among different departments dealing with ICZM related issues, implemented through the institution of dedicated working groups and departments to involve and integrate different sectorial offices in decision-making processes.

As far as vertical integration is concerned, exchange and concertation with different levels of governance are the main instrument. For example, in Italy Regions foster concertation with Provinces and Municipalities in order to involve them in plans and programmes elaboration.

Some of the MAREMED partners achieved some progresses in making education a significant support tool for ICZM in the long term, sometimes developing specific educational tools. **Catalunya** enhanced some educational activities on sustainability and littoral issues; **Cyprus** carried out the dissemination of CAMP results, also for schools and for tourism operators, and produced all the CAMP related communication material (leaflet and website); **PACA** is developing an ICZM dedicated website, and participates to an educational net that involves different levels (Reseaumer). As far as Italy is concerned, **Liguria** has a Regional Centre for Environmental Education, and carried out educational activities presenting EU projects results; **Toscana** enhanced an educational campaign on marine waters quality and elaborates projects on environmental education; **Emilia-Romagna** organized training courses both for regional and local authorities operators to explain ICZM Guidelines policies and objectives, and produced the Guidelines CD-ROM and a special publications dedicated to the youngest (Kids Guidelines). Other partners reported no progresses in this field.

About the increase of the sustainability and rationality in the **use of coastal zones resources** (including space, land, beaches, sediments, etc.), almost all of MAREMED partners report some progresses, except Lazio and Murcia. **PACA** reports that competent authorities are starting a larger scale approach to coastal protection; **Valencia Region** has a Strategy for Sustainable Development of the region; **Liguria**, **Catalunya** and **Crete** enhance sustainability through the implementation of local urban and/or territorial plans and programmes. **Cyprus** deals with the rational use of resources through environmental impact assessment procedures. **Toscana** carries out researches for continental shelf reservoirs of sand and gravel to be reused for beach nourishments and coastal protection works; **Emilia-Romagna** invests in beach nourishment campaigns and fosters the use of renewable energies. **Marche** Region adopted the Guidelines for the management of sediments derived from dredging activities carried out in harbours, marine river and coastal areas.

Some of the MAREMED partners reported progresses in **making the coastal zones more resilient** and prepared for climate change. For example in Italy **Emilia-Romagna** carried out several actions to improve coast resilience, such as beach nourishments and controlled retreatments, restoration of shore bars and coastal sand dunes. **Marche** Region carried out several interventions aimed at the renaturalisation (restoration) of the regional coastal area and improvement of self-defence capacity of beaches, such as removal of artificial barriers, beach nourishments in order to restore the original ecosystem balance. **Toscana** has a specific planning tool, the Regional Coastal Restoration Programme, and **Liguria** has a Coastal and Marine Environmental Conservation Plan, with specific measures to tackle climate change adaptation; **Lazio** region reports progresses achieved mainly through several interventions of beach-nourishment. **Catalunya** carried out several studies on vulnerable areas. In **Corse** region some works of beach restoration have been carried out following a "soft method". **PACA** region carried out a lot of experimental tests for coastal defence, such as acquisition and sharing of data (bathymetric Lidar for example); in France is beginning a process of elaboration of "climate plans" for mitigation and adaptation to climate change. **Valencia Region** maintains that no specific action have been taken to deal with these issues, and no progresses are reported for Murcia, Crete and Cyprus, that realized mostly hard defence structures.

About the progresses in fostering a **sustainable economic development** in coastal zones, the bar graph in Fig. 3.1 summarizes the partners achievements.

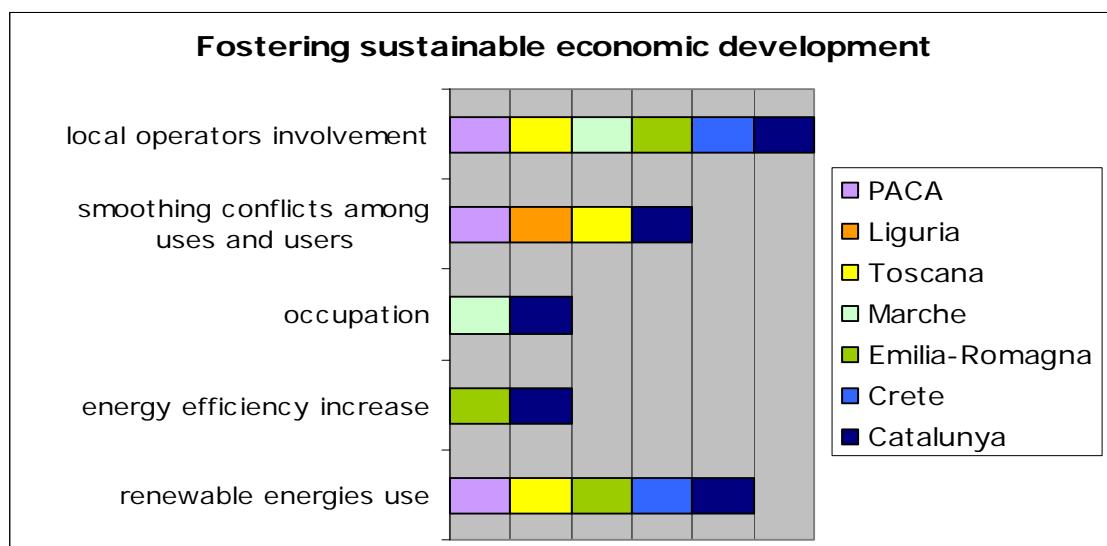


Fig. 3.1 – Progresses achieved in fostering a sustainable economic development.

Besides the cited types of economic development progress, Valencia Region reports the protection of fisheries resources, and PACA the enhancing of sustainable tourism.

Progresses in the **social development** of coastal zones have been achieved mostly by encouraging participation, through information and/or education initiatives, and by increasing creative activities. **Emilia-Romagna** improved social development also by involving the coastal zone residents in ICZM.

All the MAREMED partners, except Murcia, reported progresses in fostering a **sustainable environmental/ecologic development** in the coastal zone. The bar graph in Fig. 3.2 summarizes the instruments used to achieve such progresses by each partner.

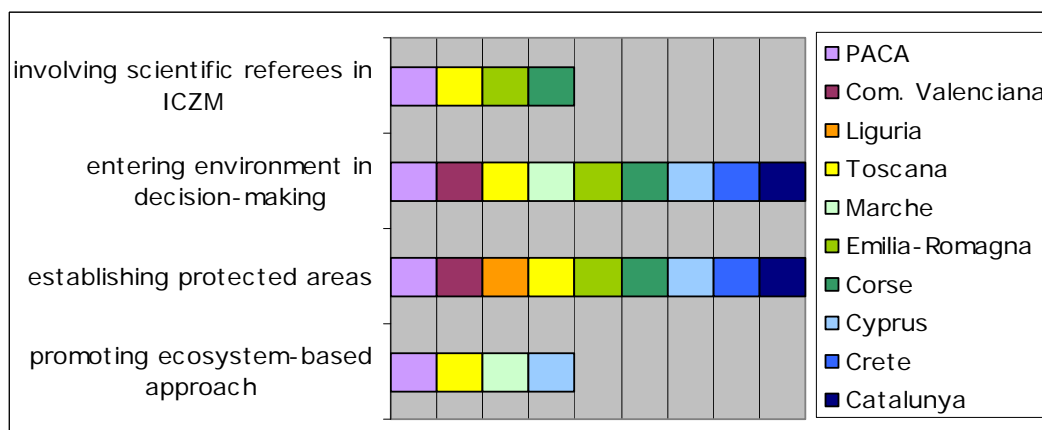


Fig. 3.2 – Progresses achieved in fostering a sustainable environmental development.

Besides all the progresses explained above, all the partners agreed in underlining some **issues that still require significant action**. The most common are the strategic approach, the participation (both of stakeholders and coastal zone inhabitants), the governance and the integration among its different levels. The bar graph in Fig. 3.3 shows the answer of each MAREMED partner.

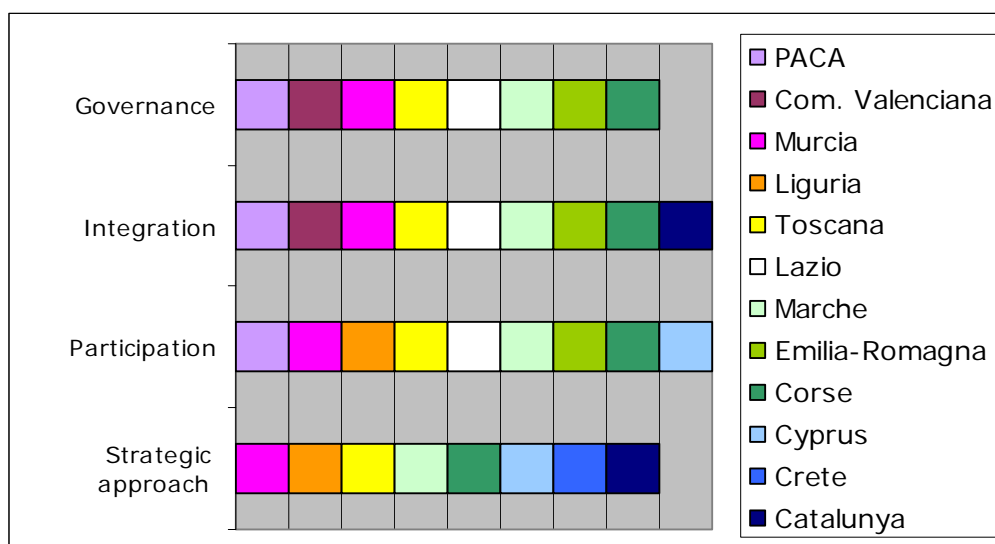


Fig. 3.3 - Issues that still require significant attention in ICZM implementation.

Marche Region indicated as a priority issue the lack of exhaustive integration among land, coastal and maritime compartments in all the management and planning activities, which should be necessary to develop joint and complex strategies, action plans and interventions.

Referring to the above mentioned issues, among the **areas and sectors that still require significant action** listed in the questionnaire most of the MAREMED Partners mentioned coastal protection (strategy, programmes and works), protected areas (management and/or institution), tourism (especially to improve its sustainability and to offer diversification), social environment (safety, employment, quality of life), energy (renewable energies implementation and energy efficiency), education (tools, initiatives), marine transport (safety, pollution). The bar graph in Fig. 3.4 shows the answers of partners.

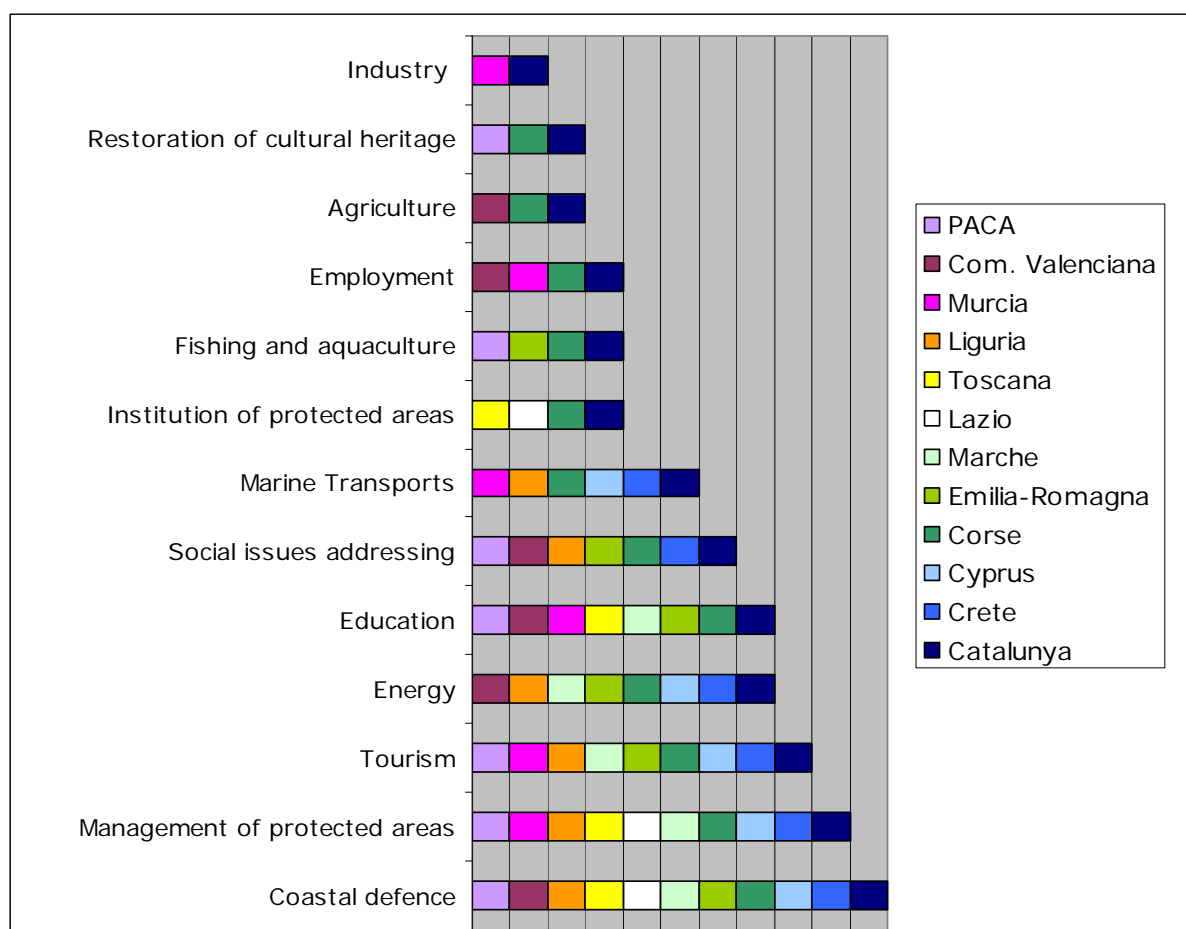


Fig. 3.4 – Areas and sectors that still require significant actions in ICZM implementation.

Besides these areas listed in the questionnaire, **PACA** Region mentioned political awareness and innovation, while **Lazio** pointed out the necessity of attention in habitat and species protection and in resources management.

As for the progresses with regard to the **planning and management of the land-sea interface**, **Valencia Region**, **Catalunya** and **Crete** achieved them through urban and spatial planning tools. In **Corse** progresses came especially following the Water Framework Directive implementation and the Masterplan for Management and Development of Water Resources. In **PACA** region some progress has been made by involving stakeholders and by creating data tools, but there still are no competences at regional level; **Emilia-Romagna** mention the adoption of ICZM Guidelines by Provinces and Municipalities. Cyprus and Murcia report no progresses in this sector; so does Lazio, but underlines how EU projects can be the opportunity to achieve them. Marche reports a lack of integration among terrestrial, coastal and maritime space planning.

Some of the MAREMED partners described some **projects, programs or actions** concerning coastal issues carried out within the ICZM. **Valencia Region** and **Emilia-Romagna** mentioned both pilot actions following EU projects and regional initiatives (Coastal GIS, the establishment of Research Institute for ICZM at the Polytechnic University of Valencia for the first and yearly programs for beach nourishments and other coastal defense works for Emilia-Romagna). **Marche** Region have several projects outlined inside the regional Integrated Coastal Area Management Plan, but only a part of them (30%) have been developed due to lack of funds availability.

As for the **projects, programs or actions concerning coastal issues within the ICZM in cooperation with neighbor regions**, PACA, Cyprus, Catalunya and the five Italian Regions mentioned EU projects focused on the Adriatic and/or Mediterranean area within different funding Programmes and calls, the CAMP and the RAMOGE agreement.

Diagnostic Phase Findings and Conclusions

The answers given in **Section 0** are quite complete by almost all the partners but the data provided are greatly inhomogeneous in quality and format: ***the questionnaire therefore highlighted the need to identify the gaps in the existing data concerning the coastal areas and to harmonize them,*** according to shared definitions on elements to be represented and to common standards on data collection.

The questionnaire results pointed out the necessity to verify the ICZM Protocol provisions implementation effects since it entered in force at the end of March 2011, and particularly to verify the official definition of the coastal zone and of the setback zone. Therefore, MAREMED Partners propose to verify the setback zone applicability and implementation effects basing on current situation and future provisions of urban and territorial planning as a pilot action of the project. Furthermore, as the Protocol is mandatory only for aspects for which the EU has competence, another proposal for a pilot action to develop during the second phase of MAREMED is to verify and define such aspects.

The ICZM questionnaire pointed out the fact that none among the MAREMED Partners carried out the evaluation of the possible impacts of the ICZM Protocol application on existent regional/national provisions systems. Furthermore, no one of the Partners carried out a comparison between the Protocol provisions and the local (regional or national) ICZM strategy and/or tools, with the only exception of Cyprus that did it in the occasion of the CAMP.

The ICZM questionnaire therefore underlines the need to foresee these activities, as a pilot action of the MAREMED project. Aspects of the Protocol on which particular focus should be put are the ones stated in art. 7 (Coordination among sectors, between governance levels), art. 8 (Protection and sustainable use of the coastal zone, with the definition of the "Setback zone"), and art.18 (National coastal strategies, plans and programs).

The ICZM questionnaire analysis highlighted some possible proposals that could be addressed to the EU Commission.

- 1) Concerning ICZM and Maritime Spatial Planning, there is the possibility of launching a Programme, by the EC, for ***demonstration projects on integrated implementation of ICZM and MSP*** (in compliance with Protocol Part V – International Cooperation).
- 2) Concerning Adaptation to Climate Change and Coast Protection, an updating of the assessment of Med coastal status in terms of erosion and submersion risk (dealing with Protocol Part IV – risks affecting the coastal zone) could be

proposed, possibly through an **“Eurosion-Med initiative”**; another possible proposal could be done concerning the **research and estimation of sediment resources available for beach nourishment** on the continental shelf in the Med area (*respectively dealing with Art. 23 – coastal erosion - and Art. 24 – response to natural disaster – of Protocol Part IV*).

- 3) Concerning organizational asset and data harmonization a promotion of an **Interregional Observatory for the protection of the Mediterranean coastal areas** could be proposed at the EC level (*in compliance with Protocol principles, Part III art. 16 – monitoring and observation networks – and Part V art. 27 – exchange of information and activities of common interest and art. 28 - transboundary cooperation*).

In conclusion, some considerations outstanding as final results of the diagnostic phase on the coastal areas management in the 12 MAREMED partnership Regions located in 5 different Countries:

A) in terms of **ICZM governance**:

There is a great variety of governance methods regarding coastal areas management among Countries. The governance process can either be transferred to the Regions, which themselves may delegate part of their competences to lower decision levels, or shared between the State and local governments. On the other hand, when governance is decentralized to the Regions, there may be large differences among different Regions within the same Country on how to implement the ICZM. In France, for example, a recent evolution in the ICZM governance process organizes coastal management by maritime “façade” (Mediterranean, Atlantic, English Channel), with a State control and partnerships with local authorities and professionals.

MAREMED partners support the application of **multi-level governance** models in the context of ICZM by fostering regional participation in a truly decentralized approach and strengthening the transnational, cross-border and interregional **cooperation**.

B) regarding **ICZM interpretation**:

It is not unique and must remain flexible in order to address the differences existing in local governance processes.

Local actors agree on the fact that the **management of land and sea** cannot be separated, and therefore that Maritime Spatial Planning (MSP) and ICZM should form a whole within the Integrated Maritime Policy (IMP). Therefore, the **land/sea interface** should be a focal point in ICZM.

C) concerning the **definition of the coastal zone**:

Many cases related to different local contexts have been presented: the 100 m set back zone (or different) in relation to the sea, the 30 km belt along the coast, coastal Municipality boundaries, etc. It seems therefore imperative to keep a certain level of adaptability to local contexts through more flexible definitions of the coastal strip, based on local existing problems/risks (erosion, submersion, land management, biodiversity...) and not locked in a rigid law enforcement. An example of flexible definition could be the "coastal zone of influence".

D) **future European funds** as levers for integrated policies:

An holistic and integrated coastal management approach, that takes into account both the need/calling for economic development ("blue growth"), the social welfare and the environmental protection is needed but very difficult to implement in practice because of separated and fragmented administrative organizations, conflicts among uses and the lack of specific financial resources dedicated to ICZM. It seems therefore important to MAREMED partners the need to clearly identify **specific budget lines and funds dedicated to ICZM** and its integrated overview in the framework of future EU Operational Programmes for the period 2014-2020.

It is also necessary to foresee **future joint projects** on coastal issues in the next cross-border and transnational cooperation Programmes, this basing on two pillars:

- an explicit **political support** through agreements between Mediterranean coastal Administrations, e.g. the Bologna Charter, in order to include initiatives and projects in a shared framework strategy;
- the development of **synergies** between various projects from different Programmes addressing coastal issues, through joint activities and project clustering, like the FACECOST Med-cluster (www.facecoast.eu).

A project like MAREMED helped the different administrative departments (from the regional partnership) responsible for these issues to share and begin a constructive dialogue on their coastal zone management.

Messages from partner Regions

Over the last years, coordination of public policies in the field of ICZM was strengthened in the Mediterranean area through the follow-up of the 2002 EU Recommendation on ICZM and the adoption of the Protocol for ICZM in the Mediterranean Area. A debate is currently taking place concerning a new European initiative (Framework Directive) that the EC is proposing concerning both ICZM and MSP.

In this context, partner Regions stress that:

1. The organisation of the coexistence of human activities in coastal areas require a holistic and integrated coastal management approach able to balance economic development ("blue growth"), social welfare and environmental protection, which are closely interrelated.
2. The implementation of the concept of multi-level governance in the context of ICZM, must be supported by promoting the participation and the role of the Regions. The Regions are better able to develop concrete actions and have a central role and skills of management in this regard.
3. In the definition of the "coastal zone", it should be taken into account a flexibility approach ("coastal zone of influence") depending on the related problems (e.g. erosion, submersion risk, land management, environment and biodiversity protection) in the different /specific geographical contexts.
4. The difficulties of achievement, beyond the different administrative organization in the different contexts of the Mediterranean, are mainly given by the lack of specific financial resources dedicated to the implementation of ICZM.
5. The implementation of ICZM and MSP must be carried on in an integrated manner and with a strong "cooperation" connotation: transnational, cross-border and interregional cooperation. The land-sea interface must be considered a key element, not "separation element" between the marine and coastal ambits.
6. The European Commission should encourage and enhance the role of Regions in the implementation of the integrated vision and management of the coastal territories and of the maritime space of competence. In this perspective, new initiatives to be taken at Community level should ensure a strong and concrete involvement of the Regions.

PILOT ACTION PHASE ON ICZM PROTOCOL PROVISIONS

REPORT

Pilot action A
comparison between local legal framework on
coastal zones and ICZM Protocol provisions

Pilot action B
testing ICZM protocol Art.8-2 (set-back zone)
provisions application

PILOT ACTION A - *Comparison between local legal framework on coastal zones and ICZM Protocol provisions*

Introduction to Pilot Action A

The aim of step A is to analyse to what extent the Country's/Region's legal framework complies with the provisions of the Protocol. The present report will thereby enable the relevant authorities to identify the legal reforms needed in order to fully comply with the Protocol legal requirements.

This analysis of the compliance of the national/regional legal framework with the provisions of the Protocol is proposed not to be conducted article by article, but rather according to the analytical reconstruction of the text following four mayor components:

1. sectoral policies (biodiversity, coastal activities, addressing risks)
2. governance (integration mechanisms, information and participation)
3. strategic planning (national ICZM strategies, coastal plans and programmes)
4. cooperation.

Such analysis was carried out through a Common Outline elaborated and provided by PAP/RAC, coordinator of SHAPE project WP3 "Integrated Coastal Zone Management". The outline foresees on the first hand to describe the legal coverage for each Protocol provision, i.e. in which current laws, decrees, by laws, plans, etc. there is an obligation to act in a way requested by the Protocol. And on the second hand to provide information on how such obligations are implemented in practice, with the description of possible gaps, needs to further implementation, etc.

The aim of the present report is to summarize the results of the Pilot Action A, in order to build a picture on the actual state of implementation of the ICZM Protocol provisions and on the current coastal management practice, in order to identify the opportunities and possible obstacles for the Protocol implementation, as well as to propose solutions and further actions as regards to coastal zone management policies.

The Common Outline was submitted in June 2012 to 10 MAREMED partners (except the CRPM, for whom the analysis is obviously not applicable). The return situation by the mid December 2012 was of 8 answers.

The following chapter shall report the conclusions of each partner on the outline.

Results of the comparison

In this chapter we summarise the conclusions that each MAREMED partner reported at the end of the comparison between the ICZM Protocol and the local legal framework.

PACA Region

As far as Article 6 is concerned, PACA Region defended the principle of inter-dependence sea-land for several years opposite to the European Commission. Moreover, it seems that the "load capacity" is still a very difficult concept to define, describe and implement on the territories. As a matter of fact, it should not remain a technical or scientific concept, but should be rightly appropriated by all stakeholders. Similarly, the concept of "ecosystem approach in the planning and management of coastal zones" turns out to be a pivotal notion that suffers from a lack of definition. It should be accompanied by concrete examples of implementation and by practical cases consultation worn by politicians. Without this, local considerations would still remain a priority. As far as sea activities are concerned, use conflicts related to coastal tourism and seashore real estate are particularly strong.

As for Art. 7, it seems particularly relevant and reveals a sensitive topic. The fulfillment of a shared multi-level governance between all stakeholders of the coast would be the centerpiece of the development of a truly integrated and balanced management (ICZM) that could cover all the pillars of sustainable development. In this respect, the notion of time is clearly important: at stake, the implementation of a revised management methodology of coastal land that would overcome the simple perimeter and limited duration of a "project".

Speaking of Art. 8 provisions, in France, 20 years ago, the "Loi Littoral" imposed the creation of a 100 meters "set-back zone". However, the possibilities for exemption from this Act showed the limits of the exercise upon an area very popular and crossed by high financial issues. In addition, the social dimension of access by local inhabitants to their own coastline must be defended constantly when facing the challenges of privatization of the coastal zone. The establishment of organized anchorages, accompanied by ban anchor outside authorized areas, puts the same problem of temporary confiscation of these areas by pleasure crafts coming out only a few days a year and thus entering into competition with local units. Several municipalities in our region have faced this difficulty and had to backtrack on their projects. Furthermore, the rise of cruising activities at sea

also poses anchor problems on fragile sites and damages caused by extraordinary (non-standard) units.

As for Article 9 provisions, we find the same theme of use conflicts reported to sea activities, especially those related to coastal tourism and seashore real estate. It is relevant to stress that our region developed a strategy aiming at assessing and managing its water resources (SOURCE program). The problem of sea waste from land is still real despite many efforts done. About pollution coming from land and watersheds, many efforts have been made since twenty years through sewages in the framework of the "Schéma Directeur d'Aménagement et de Gestion des Eaux" (SDAGE) coordinated by the Water Agency Rhône-Méditerranée-Corse ("Agence de l'eau RMC") competent for our territory. For maritime pollution, an agreement with Italy and Monaco (RAMOGEPOL) allows states to work together and help each other on the north-western Mediterranean area. It is noted, however, decreased capacity to enforce regulations. As mentioned above, the indicators are not really controlled and "load capacity" is not currently available at sea. Codes of good behavior exist for divers or boaters, but consist of a voluntary approach for users to join a charter. In general, these are individuals already sensitized to the environmental issues who are involved in these processes. For others, it is necessary to make efforts to inform them by facilitating exchanges between site managers and users, or enforce regulations more strictly.

Concerning provisions of Article 19, for now an environmental assessment for programs affecting the coastal zone is not systematically established.

Regarding coastal management, there is no specific financial instrument for property policy yet (Article 21).

Concerning international cooperation (Part IV) on the Protocol themes PACA Region established coherent collaborations with neighbours and other regions of the Mediterranean area, also through EU territorial cooperation project, and signed the Bologna Charter in March 2013.

Valencia Region

In Spain, although there is a "formulation" of the ICZM National Strategy, initiatives have been taken from the central government, from some Autonomous Communities, even from some Municipal planning, but we cannot talk about compliance with Protocol provisions neither in form nor in the content; because there is no an effective State Strategy for ICZM. Spain is still in the very early steps on the long road to establish the basis for effective coordination mechanisms between all the parties involved in the State. As a matter of fact the

principles of good EU territorial governance (participation, responsibility, efficacy, territorial coherence...) are still practically inexistent.

Spain is not yet part of the group of Countries which are able to offer an acceptable list of good practices. For more than a decade territorial dynamics led to outline some major challenges that still remain to be addressed: having suitable institutional mechanisms, overcoming the territorial culture that is still “developer oriented” and reducing the excessive gap among legal tools, cultural contexts and territorial practices. Paradoxically, there have never been so many directives, laws and regulations relating to territorial governance, protection of the landscape, environmental impact or environmental strategies assessment. Nevertheless, there have never been so much debate about territorial non-governance, lack of coordination, crisis in the territorial governance model or the risks of “blocking”. In theory we have one of the most impressive sets of rules in the EU. In practice Spain has eluded or has moved away from the directives and regulations in terms of good governance and territorial cohesion.

As far as the different regional parliaments and governments are concerned, several laws, Plans and Strategies, have been adopted all at regional levels, or Territorial Strategy Models at sub-regional levels, and the progress in the field of diagnosis and proposals for good coastal governance are appreciable. Nevertheless, except for some very specific cases, the truth is that there are as many strategies as there are city and town halls; the real instrument for territorial management is still the General Urban Ordinance Plan at local levels.

In 2002, the Regional Government presented the “Valencian Strategy for Integrated Coast Management” (EVGIZC) which was established as “the political basis by the Valencian Regional Government in this field”. Nevertheless, it did not have the expected implementation and in general it could be said that the region has no specific Integrated Management of Coastal Areas (GIAL) governance policy, at least in an explicit manner.

Several management documents (generally strategic), widely recognize the extreme fragility of the Valencian coastline, the threats it is subjected to and its current state of degradation, mainly due to excessive urbanisation or to the serious problems of regression on stretches of the coast of Castellon and Valencia (in Alicante the erosion problem is structural). This unanimity is in stark contrast to the absence of specific, firm and shared political statements about how the governors intend to face the obvious need to change the current management model, at least in form of a new integrated approach shared by all the departments involved and suitable to address the implications of administering such a complex environment.

In general, sectoral policies that are not sufficiently integrated: territorial governance and urban development, tourism or the port sector. These should be priorities, determining regional policies and also bringing the attention on the lack of a clear definition of a management policy for the marine environment. A common policy establishing basis and criteria for action to be carried out by the different regional departments would enable a better administrative coordination and a greater coherence among the different sectoral policies.

The rapid increase in wealth production in the coastal zones caused the occurrence of pressure factors (urbanisation and tourism sectors, local governments...). Different initiatives can be identified, with more or less institutional weight, aimed at changing this trend, but many of the projects have been neutralised during approval stages or later on. The lack of government agreements which involve administrations and private businesses increases the vulnerability of these initiatives in view of the distant political and economic conditioning factors, focused on scientific/technical issues and general interest issues. This situation leads to a context that complicates inter-sectoral and inter-territorial integration and can lead to a general loss in wealth if initiatives to halt alteration of the coastal infrastructures ("the coast is the most valuable territorial asset in the Valencian Community, a key factor for the region's future. Nevertheless, even reducing the growth seen over the last few years, the trend shows clear sign of unsustainability" (PIE, 2010)).

As for the EVGIZC, approved in 2002 and promoted by the no longer existing Council of Public Works Urban Development and Transport, follow up is scarce. It is not a real strategy itself, but more a draft document that should have led to social and institutional debate. Nevertheless, it represent a step forward by recognizing the relevant problems and the importance of the GIAL for their solutions (despite placing specific emphasis on its sectoral nature, as territorial policy). After being published, no further progress has been made in the design of the strategy and currently, except for occasional initiatives, there are very few instruments or managing bodies with competences on the coast that actually use this document as a reference.

The "Valencian Territorial Strategy" on the other hand, includes very interesting aspects for the GIAL such as governance, and after a long period of consensus and public information that began in 2007 it has just been approved (DECREE 1/2011 of January 13th by the Council, approving the Territorial Strategy of the Valencian Community). Even though some contents are in line with those included in the EVGIZC, they make no reference to it at all. In the document made public in 2010, Objective 9 was "Integrated Planning and Management of the Coast"; this made reference to "sustainable management of the coast should be a priority territorial policy" and it also stated "this is a

suitable environment for implementation of advanced formulae for territorial governance". Nevertheless, no strategic proposals were made following these lines. Finally, after final approval, Objective 9 was re-drafted as "Recovering the coast as a territorial asset". Afterwards, in the directives addressing the coast (Title VI), it did state the guideline "integrally managing the territory of the coastal strip, coordinating all action and promoting participation by territorial agents operating along the coast".

The aspects concerning governance, those envisaged in Objective 25 "Developing innovative formulae for territorial governance" which should be transversal to all others (this being the most strategic point), make no reference to any priority or specificity of coastal/marine issues, but do discuss the previous documents including concepts concerning integrated management. The ambitious but encouraging baseline that came to light during the drafting process of the Strategy in this section, has a major obstacle in some of the risks pointed out in the same working documents: the excessive degree of political polarisation, which does not favour the search for consensus in territorial models; the lack of willingness to formal and informal cooperation by local governments; the time lag between approving plans and applying the investments foreseen in them.

It must be stressed that in this Community special attention must be paid to the significant progress observed in the landscape policy by the regional government, which is favouring progress in integration and public participation to a certain extent.

As far as international cooperation (Part IV of the Protocol) is concerned, Valencia Region established coherent collaborations with neighbours and other regions of the Mediterranean area, also through EU territorial cooperation project, and signed the Bologna Charter in March 2013.

Liguria Region

From the regional competences point of view, the comparison between the ICZM Protocol provisions and the regional current legislation allows to outline the following comments:

- several fulfilments seem to be already covered by regional legislation. In particular we underline the issues concerning coastal landscape and cultural heritage (art. 11 and 13), for which Liguria Region has a long history of planning tools (first Landscape Territorial Coordination Plan approved in Italy; Plan and projects for Use of maritime demesne areas) and activities (Nino Lamboglia, a pioneer of underwater archaeology was born in Liguria, and founded the Experimental Centre for Underwater Archaeology);

- other fulfilments, as related to the ratification of EU Directives, are foreseen by regional legislation for a long time; for example: the protection of marine ecosystems as defined in Habitat Directive (art. 10), the application of EIA and SIA in coastal zones (art. 19), the management of fisheries and aquaculture activities (art. 9);
- as far as the risks related to coastal erosion (art. 23) are concerned, Liguria Region provided itself of several tools and procedures aimed at improving coastal resilience and minimizing the effects of erosion on maritime works (see the latest Plan for the Protection of Marine and Coastal Environment, from which a first Trial Plan for Tigullio area has been recently adopted).
- on the other hand, there is no correspondence in the regional legislation with the provisions foreseen by art. 8; in our opinion, a first ratification at State level to provide implementation criteria would be necessary;
- also issues relating to institutions (art. 7) and participation (art. 14) seem to be deficient in the current legislation.

Concerning international cooperation (Part IV) on the Protocol themes Liguria Region established coherent collaborations with neighbours and other regions of the Mediterranean area, also through EU territorial cooperation project, and signed the Bologna Charter in March 2013.

Toscana Region

The Regional Development Plan and the results of the first Regional Conference on marine economy held in 2001 agree on considering the environmental balance and the hydrogeological rearrangement of the coastal zone as strategic premises for a sustainable development of marine economy in Toscana Region.

The protection of marine and coastal environment and thus the hydrogeological balance of coastal zones is one of the priority commitments took by the Region during the last years. Among the realised initiatives, which marked a real breakthrough in this sector, so important for a mediterranean region such as Toscana, insomuch as they became a "tuscan model" recognized internationally, the most important is the proposal for a **Regional Plan for the Integrated Coastal Zone Management with Hydrogeological Rearrangement Purpose**, approved by the regional government by act n. 1214 of November 2011. Such Plan is characterized by a strong link with the regional fundamental political and administrative principles, and has the central focus on the governance, giving full acknowledgement of the necessity to improve participation, responsibility, efficacy and coherence.

Later, the engagement of Toscana Region was put into practice through two other steps of great relevance. The first is the signature of an Agreement Protocol with coastal Provinces in November 2002, which stated the will to carry out joint actions between the Region and the local institutions starting from the entrustment of tasks aimed at completing the coastal knowledge framework and of the realisation of interventions aimed to restore the littoral balance for the ICZM. The second followed in March 2003, with the allocation of about 10 million Euro to fund the programme of interventions aimed at the restoration of littoral balance and at the activities for the elaboration of the ICZM Plan (Regional Council Act n. 47/2003), which gives fundamental resources in the framework of the strategic plan for investments.

As far as Art. 8 of the ICZM Protocol is concerned, we consider the definition of the setback zone to be of utmost importance. Currently the Region is working on the elaboration of a new Regional Landscape Plan, and a study is ongoing on the definition of the baseline for calculating the non-building belt. The current Italian law sets a belt of 300 metres, but the ratification of the Protocol is still pending and the width of the setback zone still to be defined.

As far as Art. 9 is concerned, the sustainable development of the fisheries is among the priorities of Regional Law 66/2005, which states the regulation of the activities of fishery-tourism and ichthyic-tourism with the purpose to promote and develop the diversification of fishery activities. During the implementation of the European Fisheries Fund, priority was given to the projects which foresee the use of selective fishery equipments, and the actions aimed at the elaboration of local management plans and at the transfer of good mariculture practices with low environmental impact were supported. Toscana Region also elaborated a management plan dedicated to the Rossetto fish (*Aphia minuta*), aimed at a sustainable management of the species, and a plan for the restoration of heels stocks.

As far as the coastal dunes are concerned (Art. 10, point 4), they are often included in regional protected areas. With the Regional Council Act n. 47/1990 a Directive on the Coastal Belt Use was issued, which foresees the protection of the coastal dunes environment. Toscana Region has also adhered to the national network on coastal dunes (www.itdunenetwork.net).

As far as the participation process is concerned (Art. 14), the Region involved the coastal Provinces in defining the interventions of coastal defence, and this process lead to the signature of the abovementioned Agreement Protocol in November 2002. Furthermore, in every EIA and SEA process the participation of all the stakeholders is foreseen, belonging to both private and public sectors.

As far as the provisions of Art. 16 are concerned, there is a regional coastal monitoring network to evaluate the efficacy of the interventions for coastal defence realised, and also cross-border networks realised by European projects such as RESMAR.

As far as cooperation is concerned, Toscana Region cooperates with coastal Provinces and the Universities for the creation and the implementation of the Regional Centre for the study of littoral dynamics (CReStDiL) in Cecina (Livorno Province). About cross-border cooperation, currently Toscana adhered to the FACECOAST Cluster in 2012, and signed the Bologna Charter in March 2013. Furthermore, with the instruments provided by cross-border cooperation, and particularly by the O.P. Maritime Italy-France, Toscana shared the coastal monitoring strategies with Liguria, Sardinia and Corse.

Lazio Region

Thanks to Regional Law n. 1/2001 "Rules for the use and development of the coast of Lazio" Lazio Region created **a tool for testing a ICZM methodology**.

The actions related to the points discussed today by the ICZM Protocol, give the Region all the regulatory instruments and financial resources necessary to the current structured process taking place within the EU ICZM Protocol.

Thanks to Action I.1.7 "Testing ICZM (Integrated Coastal Zone Management) in pilot areas", Lazio Region has tested the methodology on 3 different pilot areas: Montalto di Castro/Tarquini; Ostia/Castel Porziano; Terracina/Fondi. Guidelines are defined for the application of ICZM methodology in each pilot area.

The ICZM methodology is a process of integrated management of the coastal zone and its watershed. This procedure can be carried out through methodologies for integrated and coordinated interventions aimed at erosion control, environmental restoration, prevention of environmental risk, fight against pollution, not only at a local level, but also at a broader level including the hinterland territories and rivers.

Guidelines represent an effective way to provide criteria and outlines for programming, planning and design of the coastal area. They are presented as a path to follow to ensure the quality of the transformation project in compliance with environmental sustainability and landscape requirements, and responding to the demand for development of tourism, the promotion of integrative forms of integrated planning, participation and involvement of public and private different stakeholders. Guidelines are represented by a matrix which highlights: the strategic objective, the specific objectives, the programs in progress, indications

emerged from the forum, actions and recommendations ("Sustainable development of Latium coasts", 2009).

One of the main objectives for the ICZM methodology future application is to overcome the tendency to isolate the various coastal areas management tools (urban and territorial plans, watershed plans, community programs of recovery and environmental protection, port plans, utilization plans of beaches, etc.). This objective requires the legal jurisdiction integration between national and international legal frameworks relating to the administrative areas of land and sea, without whom it is difficult to innovate projects in coastal areas in a sustainable way.

Marche Region

The comparison between the ICZM Protocol and Marche Region's current practice highlights how the Region had already developed a comprehensive set of legislative and strategic tools on ICZM-relevant issues before the definition of the Protocol itself and, in some cases, even before Recommendation 2002/413/CE. The regional policy for territorial management and governance aims at formulating complex programmatic frameworks and strategic actions based on a common long-term vision of defence and conservation of coastal areas. The goal is to achieve a factual integrated management of coastal zones and of activities impacting on them, rather than to carry out a series of punctual interventions merely aimed at facing emergency situations.

Marche Region developed the **Integrated Coastal Area Management Plan** (ICAMP) which aims at improving the conservation and rational use of coastal areas and resources. The Plan was adopted according to Regional Law n. 15/2004 "Regulation of functions in the field of coastal defence", and approved by Regional Council's Administrative Resolution (DACR) n. 169/2005. ICAMP represents the framework to address a complex set of issues related to the interaction between the coastal territory and the sea. It was developed through a participatory process which involved a high number of stakeholders in both private and public sectors, following a concertation method which aims at facilitating information sharing and participation.

Among the Plan's priority objectives, it is worth pointing out the planned interventions for beach restoration, especially aimed at coastal defence, environmental conservation and tourism promotion, as well as the detailed activity planning for the maintenance of existing structures. The Plan's main challenge is to achieve a satisfactory integration between the economic pressures of tourism and the well-established territorial situation on one hand, and the

urgent need to improve the environmental quality of coastal areas (e.g. sediment movement and pollution, water quality, biodiversity level) on the other hand.

In December 2010, the Region delivered a Report on the 2004-2010 Implementation State of the ICAMP. The most relevant conclusions are:

- economic aspects: fund availability is a very critical issue in implementing the Plan and in general the ICZM Protocol in the current practice.

- environmental aspects: need to develop tools and measures aimed at preserving the coastal landscape and geomorphology, carrying renaturalisation /restoration interventions (i.e. soft coastal defence structures, beach nourishments), to improve coastal self-defence from extreme marine events.

A focal point is the integration among terrestrial, coastal and maritime compartments, and the development of policies to coordinate maritime, land and river defence interventions. Also, high priority should be given to (i) the protection of coastal portions still free from hard defences, (ii) the preparation of a report on the environmental status of coastal marine waters, (iii) the assessment of the economic value of beaches and related ecosystem services, in order to make a cost/benefit evaluation and define the investments to allocate to coastal conservation. Another very relevant issue which is currently being addressed is the definition of the setback zone and related interventions. Finally, the comparison between Protocol and current practice highlights the need to further develop specific actions aimed at education and training, in order to achieve a long term development of the ICZM strategy's objectives.

In order to further improve the Protocol's implementation the following objectives should also be addressed:

- A revision of available knowledge at the different spatial scales, by update, integration and adaptation of the new datasets.
- The implementation of specific actions aimed at coastal defence.
- The adoption of environmental sustainability criteria in the implementation of coastal defence measures.
- The adoption of technical and financial planning tools in the implementation of coastal defence measures.
- A further development of interregional and international cooperation at the Adriatic level, in order to identify common solutions to shared issues.
- The creation of a discussion board between Marche Region and Italian Government to solve legal issues which are of interest for the local socio-economic community.

The ICAMP developed a new approach to ICZM based on a set of macro-indicators (divided in categories addressing different ICZM relate issues) as tools to support analyses, assessments and decision-making. The macro-indicator assessment is carried out using specific spatial criteria (both physiographic and administrative) and through a participatory process involving stakeholders. The final aim is to obtain a list of territorial areas which require priority interventions ranked according to the total environmental and economic values obtained by adding all macro-indicator, which allows to define a multiannual financial planning of the interventions.

Emilia-Romagna Region

Italy has not developed a national strategy for ICZM yet. This lack of an ICZM strategic framework at State level generates a lack of coordination in the legislating activities of the different Regions. Moreover there are no national laws specifically dedicated to the costal zones.

The presence of legislative tools is wide and covers several issues, but it is far from reaching a full efficacy for a lack of coordination between the tools and the subjects that affect the coastal zones evolution. This lack concerns not only the horizontal relations existing among sectors, but also the relations between the policies and the actions carried out at different levels of territorial competence (local, regional, national). Following too strictly the principle of subsidiarity often brings to the fragmentation of responsibilities, which are split among different levels of competence without the possibility to take into consideration the several interactions among such levels. Due to this lack of coordination, the complex and interwoven relations existing between human activities and coastal zones are disregarded, ignoring their nature of complex areas affected by a wide range of interwoven forces and pressures (such as hydrological, geomorphological, socio-economic, administrative, institutional and cultural systems); a sustainable management of these forces and pressures would require a simultaneous and comprehensive attention on all the many systems that act on the coastal dynamics. This requires the gathering of adequate data, the elaboration and production of information and significant indicators, a good exchange and communication, a wide use of integrated evaluation methods.

A better concertation among involved subjects represents the foundation for a sustainable development. As a matter of fact, it is useful to identify synergies and contradictions that exist among the actions coming from different policies, and facilitates the acceptance of the necessary arbitration, giving responsibility to the subjects. Such concertation can only develop by starting from a complete information, understandable by all the subjects, on the environment status, on

the causes of the changes it undergoes, on the implications of policies and measures at different levels and on the possible options. Concertation is a strategic choice to be developed by defining mechanisms and methodologies of work and dialogue among subjects from different sectors, and by realizing a continuous and efficient exchange of information among different levels of territorial competence (from local, to national to community and vice versa).

While the national legal framework covers all the themes addressed by the Protocol (biodiversity, sustainable use of resources, preservation of cultural heritage and landscape, damage prevention and restoration, sustainable use and consumption of territory, etc.), there are no laws on these themes specifically related to the coastal zones.

For example, a major gap in the management of coastal zones at national level is represented by the non-strict definition of a setback zone. The constraint introduced by Legislative Decree n. 42/2004, i.e. a belt of 300 meters from the foreshore line, is merely based on the protection and valorisation of landscape assets, and it doesn't take in consideration any environmental or hazard prevention criteria; therefore actually construction is possible as far as authorisations are granted. As a matter of fact, in Italy there's no strict regulations, at national level, on a "non-building" belt along the coasts.

As far as Emilia-Romagna regional legal framework is concerned, there are several provisional tools (Plans, regulations, etc.) that address to some extent the coastal area under the different aspects (environment preservation, management, defence, risk prevention, etc.).

For biodiversity and vulnerable ecosystem preservation Emilia-Romagna Region operates through the different laws having instituted 153 Natura 2000 sites, 17 Regional Parks, 17 Natural Reserves and other 36 Protected Areas, in a complex system of natural heritage management. A specific Department of the regional Administration has the competence for planning, programming, monitoring and surveillance in collaboration with the various Park management boards. The Po River Delta Park is the only park in the coastal zone, including different natural protected areas and Natura 200 sites. It has specific planning and rules, a master plan and specific plans for different park areas located along the northern sector of the Emilia-Romagna coast.

For cultural and landscape heritage preservation and land management on the coastal zone, Emilia-Romagna Region bases its policies and actions on the PTR, PTPR (Region) and PTCP plans (Provinces), that find their application down to the urban planning level through the PSC level (Municipalities) and moreover, for the beach management, the Beach plans (Municipal level). These plans, and related regulations, are partially compliant with the Protocol provisions. In particular, as

far as the sustainable use /consumption of the coastal territory is concerned there are some gaps in respect of the Protocol provisions. In order to better evaluate such gaps and define possible adjustments in the planning systems, a specific analysis is currently ongoing under action 3.2 of Shape project, concerning the testing of Art.8-2 implementation along the regional coast.

For the management of coastal activities since 2005 **Emilia-Romagna Region has adopted the ICZM Guidelines (DCR 645/2005)** developed following Recommendation 2002/413/CE, a non binding instrument which are acknowledged by the provincial and municipality level planning tools. Nevertheless, the implementation and application of ICZM principles needs a constant action of surveillance and monitoring by the Region, which still encounters a lot of difficulties.

The ICZM Technical Committee (Boards of Directors) and the ICZM Institutional Committee (Board of Regional Assessors, coastal Provinces Presidents and coastal Communes Mayors) constituted within the ICZM process start in 2002-2003, are the main institutional boards for the governance of relations and synergies among sector policies involved in the ICZM process. But, as a matter of fact, there's still a need of awareness raising on ICZM among technicians of the public authorities, at the different levels, and of the private sectors, as well as among citizens and local operators, and the lack of an ICZM dedicated planning tool to better govern policies coordination and implementation of the sectors involved in ICZM.

During the period 2006-2010 Emilia-Romagna Region launched an **ICZM implementation programme** for the realisation of projects and actions concerning ICZM. Such programme, issued with a call that the Region co-financed for 5 million €, brought to the realisation of 18 projects, proposed by the 4 coastal Provinces and 14 Municipalities on the different ICZM related issues, activating a further co-financing of 2,8 million € from the proponent local Administration.

Nowadays the regional Guidelines for ICZM represent the tool to address all the coastal activities towards an economic, social and environmental sustainability, in compliance with the EU Recommendation n. 413 of 30th May 2002.

Corse Region

The first general principle of ICZM listed in Article 6 of the Protocol states the importance of considering as a single entity the marine part and the land part, for their complementary and interdependent nature; one of the major problems is that the current legal framework keeps separated the land and the sea (for example concerning the measures against pollution).

The second principle stresses the importance of considering the carrying capacity of the coastal zone; in Corse the problem is the strong seasonality, with touristic presences peaks during the summertime (July and August).

Principle h) states the importance to balance the allocation of uses along the coastline; in Corse some coastal stretches are much more stressed, and there are great differences.

As far as the setback zone is concerned, law n. 86 of January 1986 on the management protection and valorisation of the littoral (Littoral Law) forbids building within a 100 m belt from the baseline. Such law has some limits in its application, i.e. it allows building in continuity with already built zones and the extension houses built before 1986.

Concerning Article 16, Monitoring and observation mechanism and networks, there is the need to develop means to ensure public access to the information deriving from monitoring and observation activities, even if there are examples of similar networks already existent.

The major risks affecting Corse Region are floodings, forest fires, landslides. As for coastal zones, erosion and submersion occur along some stretches. Such risks are described in regional reports. Since 1999 a Network on Coastal Observation (ROL) was instituted.

Crete Region

In Greece there is a high sensibility of the public and of authorities when it comes to coastal zone management. Coastal zone management concerns 12 out of the 13 Greek Regions and the vast majority of Greek municipalities.

Greek coastal areas are a pole of attraction for all economical activities (urban development, industry, tourism, agriculture). At the same time, due to the morphology, many stretches of coastal zone are remote and isolated, especially in the islands, and they are still "pristine". This is also reflected in the Greek map of Natura 2000 sites, which include many coastal and marine areas.

The result of the Greek morphology and the economical importance of coastal zones is that many activities and cities have already been installed in coastal

areas without respecting any restrictions for setback zone. Law 2971/2001, which was issued before the ICZM Protocol and its ratification from Greece, creates a setback/ non building zone of 50 m and basing on local, case by case, criteria this zone can be extended landwards. The shoreline and the beach zone are declared public property. Currently this is the main legal instrument for the protection of the coastal zone. The law clearly exempts the existing urbanisation but it sets good foundations for future coastal development.

National Laws and Decrees on the protection of habitats and biodiversity, are useful tools for the protection of coastal habitats. Especially in the recent law 3937/2011 on the Preservation of the biodiversity there are special articles on protected coastal areas. In these areas, new roads construction is forbidden. In the “critical coastal zone” which is defined in this law as a zone including the shoreline, the beach zone, dunes and rocky cliffs, only low and medium impact land uses are permitted. This law provides the suitable legal framework for all coastal and marine protected areas creating in these areas a setback zone larger than the beach zone of law 2971/2001.

The EIA and SEA procedures also include many ICZM elements and could be used as instruments for the application of ICZM in projects or programmes affecting the coastal area.

Land management (Spatial Territorial and Urban Planning) and all the relevant procedures on National, Regional and Municipal level are the most appropriate procedures for the applying ICZM. These procedures take in consideration all the necessary variables (social needs, economic growth, population dynamics, existing infrastructure, protected areas (habitats, cultural and heritage monuments, water resources) etc.) in order to propose sustainable plans. They also offer the opportunity for collaboration among the different services and for the information and participation of the public.

Many recent Municipal Plans (“Open Cities Urban and Rural Plans” OCURP (Σχέδια Χωρικής και Οικιστικής Οργάνωσης Ανοιχτών Πόλεων (Σ.Χ.Ο.Ο.Α.Π.)) give special importance to the protection of coastal zones, defining new coastal areas with building restrictions, defining enlarged parks and other open public space on coastal areas etc. These plans express the will of local authorities and local stakeholders to apply the ICZM and protect the coastal zones from excess development even before the formulation of a National ICZM strategy.

The official tool for applying ICZM on national level is the “Special Framework of Spatial Planning and Sustainable Development of the Coastal Areas and Islands” which fully complies with the 2008 ICZM Protocol. This national planning tool is expected to be issued in 2013.

PILOT ACTION B - *Testing ICZM Protocol Art.8-2 (set-back zone) provisions application ICZM*

Introduction to Pilot Action B

This chapter briefly illustrates the results of the consultation made within the MAREMED partnership concerning the regional planning framework and the methodology assumed for the individuation of possible measures for the application of the ICZM Protocol, with a specific focus on a coastal set-back zone (Art. 8). The pilot action B involves 5 partners: Emilia-Romagna Region, Crete Region, PACA Region, Liguria Region and Valencia Region. The pilot action B was subdivided in 3 sub-actions, concerning methodologies and activities for:

- the evaluation of the state of the art of regional planning instruments provisions (B1),
- the individuation of the set-back zone methodology definition (B2),
- the individuation of possible additional measures to be introduced, according with the ICZM Protocol provisions and objectives, entailing the set-back zone role in biodiversity protection, ecosystem maintenance and coastal adaptation to climate change (B3).

Results of the testing

Hereafter are resumed activities that each partner has developed on this specific pilot action.

Crete Region

Crete has approximately 1148 Km of coastline out of which 69.7% is rocky coasts, 27.7% beaches and 2.7% artificial beach (according to the EuroSION 2004 project).

The existing economic activities and urbanisation is concentrated mainly on the north of the island and along the north highway (Figure 1). The south part of the island also attracts activities but in smaller scale and concentrated near the existing cities. Tourism is a very important source of income and almost all tourism activities are concentrated on the coastline. The vast majority of big hotels (having more than 500 beds) are installed on the north coastline.



Figure 1: Map extracted from the Regional Framework on Spatial Planning and Sustainable Development for the Region of Crete (issued in 2003). This map shows in red the main existing road network which attracts the main economic activities. It also shows in red hatches the areas under urbanization pressure. It can be seen that the pressure for urbanization is located on coastal stretches near the existing cities.

Crete also has an extend network of Natura 2000 sites (Figure 2). These sites include coastal and marine areas. In the Natura 2000 Crete network, 69 small (<8 hectares) island wetlands were added in 2011 (Law N.3937/2011). 44 of these wetlands are river or stream outlets and 2 are salinas (marine salt fields).

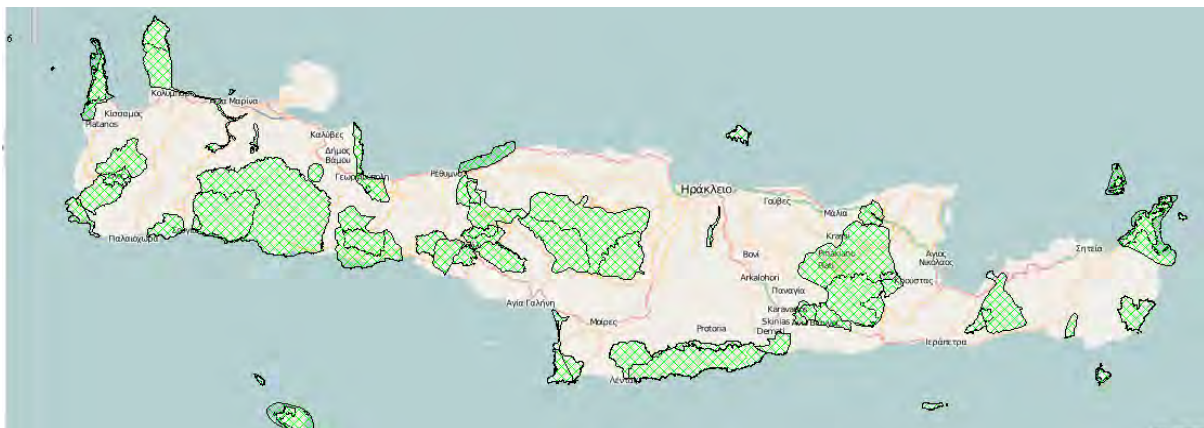


Figure 2: Visualization of the Natura 2000e layer on the www.geodata.gov.gr

From the above we can draw out the main parameters of coastal zone management in Crete:

- The vast majority of economic activities are already installed near the coastline and especially on the north axe of the island

- Tourism and urbanisation are putting pressure on long coastal stretches near the existing cities
- The extended coastal natural areas demand protection measures and also they “limit” the future planning of different activities in these areas

Taking these parameters in consideration it becomes clear that ICZM in Crete is a complex issue and there is a strong conflict of land uses as well as conflict of interest between the different local stakeholders.

Crete legal framework

Relevant National legal framework

Many laws, in Greece affect different aspects of ICZM without referring to a “set-back zone” these laws are illustrated in the Step A document “Analysis of ICZM practice in CRETE”. Two are the main national laws, that define directly a “set-back zone” with restrictions of land uses:

- Law 2971/2001 : Shoreline and Beach zone

This is the main National legal tool for the protection of the coastline and coastal land management. This law defines that the shoreline (land limit wetted by the winter high waters) and the beach zone (50 m landward from the shoreline):

- Are public property;
- The public must have free access to the shoreline and the beach zone
- Only environmental and cultural activities can be established in this zone
- Exceptionally activities of the highest public interest (ports, military activities etc.) can be established in this zone
- No buildings, except the ones stated above, can be constructed in this zone

The law defines a specific procedure, including an in situ topo survey, an interministerial committee, the approval of several different services and the information of many local stakeholders, for the definition of the shoreline and the beach zone.

The law stipulates that any buildings in this zone are expropriated and demolished. In case of pre-existing urban plans or any other legal and authorized urbanization of the beach area (traditional villages, etc.) the legally urbanized area is exempted from the beach zone. Buildings classified as “cultural monuments” are also exempted from the expropriation and demolition rule. In

case of beach erosion, buildings that were legally built in the past outside the beach zone and are now situated inside the beach zone are exempted from the beach zone, but there is the possibility to expropriate these buildings and include them in the beach zone. In case of beach accretion, artificial beach nourishment, land reclamation or other coastal works which result to the seaward advancement of the shoreline, the newly created beach zone automatically becomes public property.

Any new urban plans or other development plans cannot extend into the beach zone.

In the beach zone only temporary mobile structures can be installed for the convenience of bathers, cultural and sport activities. The beach zone can be "rented" from the state/municipalities to private managers.

Any urban plan, development project of other isolated activity, which is situated 100m or less from the shoreline has to proceed to this official procedure of "shoreline and beach zone definition" before final approval.

Law 2971/2001, which was issued before the ICZM protocol and its ratification from Greece, creates a setback/ non building zone of 50 m and based on local, case by case, criteria this zone can be extended landwards. The shoreline and the beach zone are declared public property. For the time being this is the main legal instrument for the protection of the coastal zone. The law clearly exempts the existing urbanisation but it sets good foundations for future coastal development.

- Law 3937/2011 : Preservation of the biodiversity

This law is renewing the legal status of the Natura 2000 network, including new areas and it is also restoring the status of Wild Life Reserves. It also makes reference to ICZM and the European Parliament COM 2002/413/EU on ICZM.

There is a special article dedicated to "small (<8 hectares) island wetlands" and their protection. The first list of these "small island wetlands" has been issued with a presidential decree in 2011.

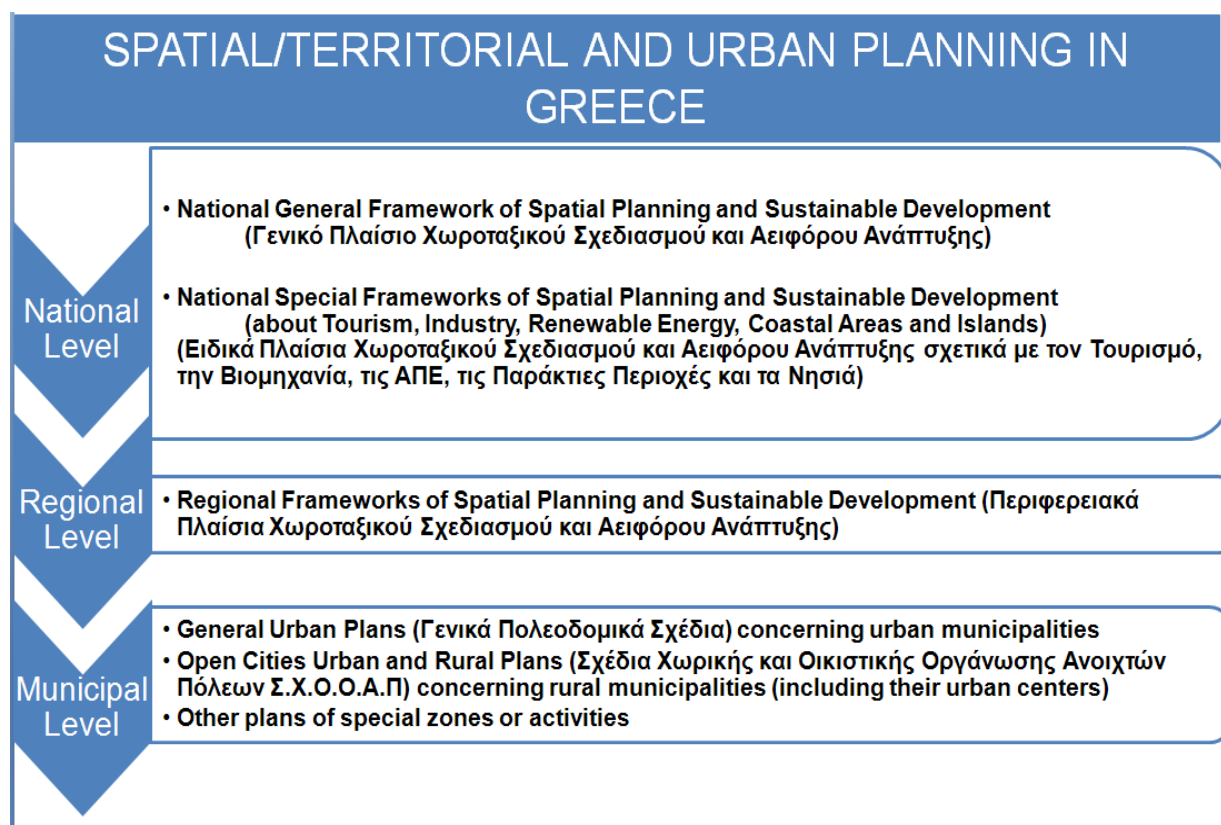
In the protected coastal areas (land and marine area) the construction of new roads is forbidden, the off-road traffic is forbidden and the marine traffic is monitored (Vessel traffic Monitoring Information System). In the "critical" coastal zone only low and medium impact land uses are permitted. The "critical coastal zone includes at least the shoreline, the beach, the sediment deposition zone, the dunes and rocky cliffs. Presidential decrees, based on proposals from the Minister of the Environment, Energy and Climate Change, are necessary for the delimitation of the "critical" coastal zone in national level

This law provides the suitable legal framework for all coastal and marine protected areas creating in these areas a setback zone larger than the beach zone of law 2971/2001.

Crete relevant National/Regional and local planning procedures

In Greece, the law 2508/1997 on the Sustainable Urban and Rural Development of Cities and Villages, sets the directives for all urban and rural plans. The details of each planning procedure are defined in ministerial decisions. The law 2742/1999 on Spatial/Territorial Planning and Sustainable Development, sets the directives for spatial and territorial planning in National, Regional and local level.

Figure 3: A schematic of the Spatial/Territorial and Urban Planning in Greece



The National General Framework of Spatial Planning and Sustainable Development was issued in 2008 (ΦΕΚ 128Α/3-7-2008) and has a 15 year horizon. It sets the basic axes on Spatial Planning.

Special Framework of Spatial Planning and Sustainable Development of Coastal Areas and Islands (under preparation) includes articles on the protection of coastal zones from flooding by proposing minimum high of buildings in the coastal area (construction of building at least +2 m from Mean Sea Level, or construction on pilotis). It also creates a coastal zoning (critical zone, dynamic zone, the rest of the coastal zone) and defines which activities and land uses are permitted in each zone. The main objective of this document is the application on national level of the ICZM protocol.

The Regional Framework on Spatial Planning and Sustainable Development for the Region of Crete was issued in 2003 (10-10-2003) and has a 15 year planning horizon. In June 2011, an additional study on the revision of the Regional Framework of Crete was launched and it is expected to be completed in May 2013.

On local level, by the ministerial decision 9572/1845/00 (ΦΕΚ-209/Δ/7-4-00), all municipalities have to prepare "Open Cities Urban and Rural Plans" OCURP (Σχέδια Χωρικής και Οικιστικής Οργάνωσης Ανοιχτών Πόλεων (Σ.Χ.Ο.Ο.Α.Π.). The detailed outline of these plans is defined in the aforementioned ministerial decision. These plans define the future land uses on all municipal territory: future urban space, agricultural zones, industrial zones, environment protection zones etc.

In this document, we will discuss the provisions relevant to coastal management within the Regional Framework on Spatial Planning and Sustainable Development for the Region of Crete and the OCURP of the municipality of Gouves.

Provisions of the Regional Framework on Spatial Planning and Sustainable Development for the Region of Crete

The Regional Framework has special articles on coastal zones.

It identifies the main problems of Cretan coastal zones:

- Concentration of activities and land uses in conflict on the coastal zone
- Concentration of activities mainly along the north highway
- Construction and urbanisation without planning on coastal zones (in Greece it is permitted to construct buildings outside the city plan limits if the plot is more than 2.000 m² and if there are no other restrictions (protected area, beach area, archaeological site etc.)) this kind of urbanization does not leave

enough space for future urban infrastructure and especially in Crete it depreciates the local tourism product by creating “ugly” coastal areas

- Many Special Spatial Studies (Ειδικές Χωροταξικές Μελέτες) and Studies of Urban Control (Μελέτες Ζωνών Οικιστικού Ελέγχου) concerning coastal zones and mainly the coastal zones near the existing cities, have already been prepared (before 2003) but they have never been applied because of the reactions of local stakeholders

It also identifies the areas with sea pollution problems related to pollution from industrial, agricultural and urban activities, where waste water treatment plans should be created or other measures taken.

The Regional Framework gives the following directives relevant to coastal zone management:

- Application of Spatial and Urban Studies on local level
- Local spatial/urban planning on the north coastline which is under urbanization pressure with the objective to improve the local tourism product and control the activities installed in the coastal zone



Figure 4: Map extracted from the Regional Framework on spatial Planning and Sustainable Development for the Region of Crete (issued in 2003). This map shows in red the coastal areas near the existing cities where provisions should be taken to stop unplanned urbanization and improve the local tourist product. There is also proposition of mountain areas and south coastal areas (in deep red) where new tourist infrastructure should be promoted.

- Proposition of areas in the hinterland, in mountain areas and near the south coastline where new tourist activities of should be installed including ecotourism activities, agrotourism activities etc.



Figure 5: Map extracted from the Regional Framework on spatial Planning and Sustainable Development for the Region of Crete (issued in 2003). Zoom in the area of Chania where excessive urbanisation should be avoided and the local tourist product should be improved.

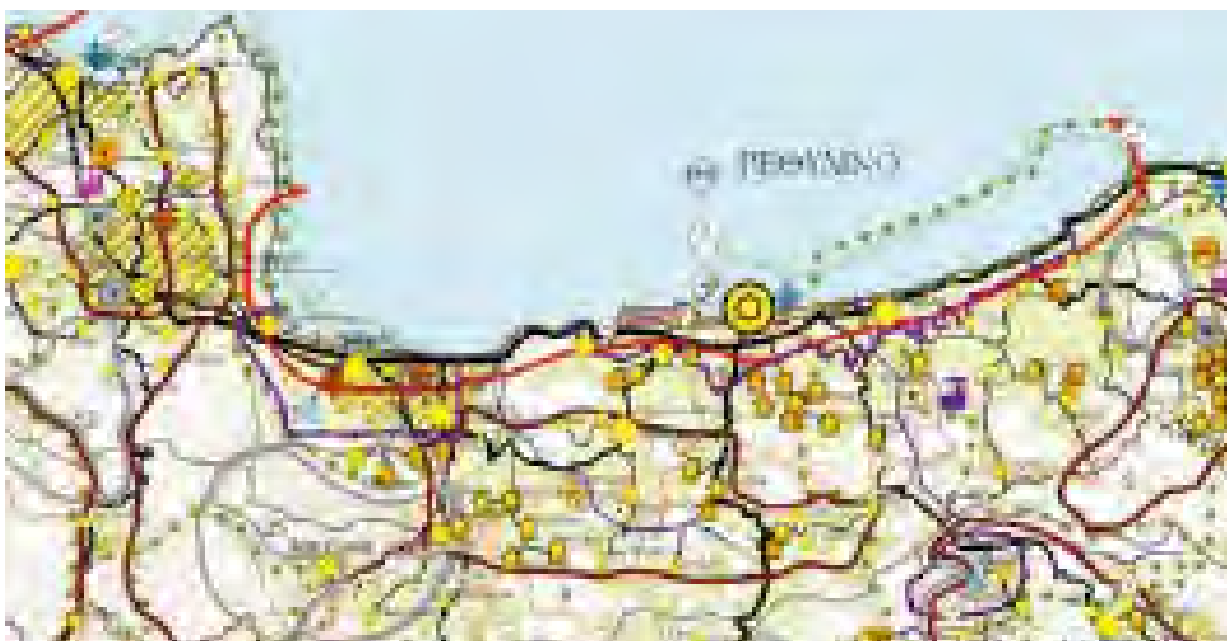


Figure 6: Map extracted from the Regional Framework on spatial Planning and Sustainable Development for the Region of Crete (issued in 2003). Zoom in the area of Rethimno where excessive urbanisation should be avoided and the local tourist product should be improved.

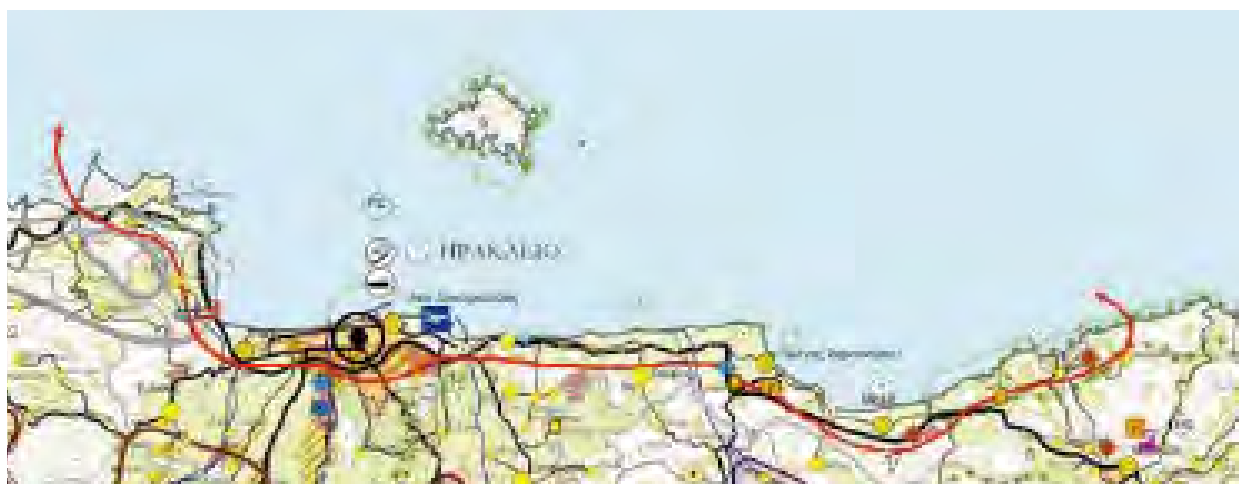


Figure 7: Map extracted from the Regional Framework on spatial Planning and Sustainable Development for the Region of Crete (issued in 2003). Zoom in the area of Iraklion where excessive urbanisation should be avoided and the local tourist product should be improved.

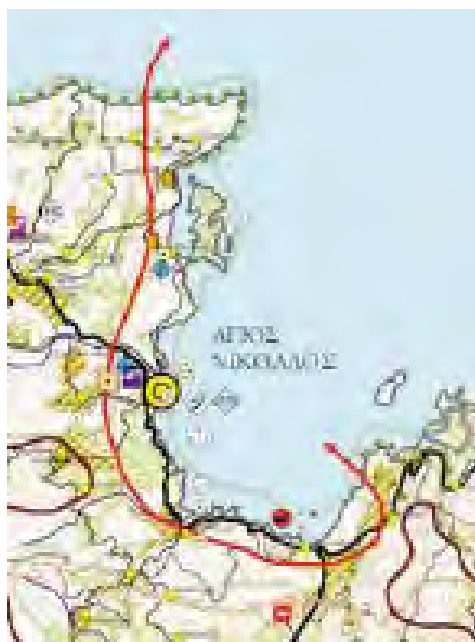


Figure 8: Map extracted from the Regional Framework on spatial Planning and Sustainable Development for the Region of Crete (issued in 2003). Zoom in the area of Agios Nikolaos where excessive urbanisation should be avoided and the local tourist product should be improved.

The main objective of the Regional Framework is to protect the coastal area from excessive urbanisation, promote the installation of high quality tourism activities on the coastline, discourage the installation of other conflicting uses on the coastline (warehouses, depots, etc.) and diversify the Cretan tourism product so as to relieve some urbanisation pressure from the coastline and promote the development of hinterland and mountainous settlements.

Existing methodology for defining the “set-back zone” in the municipality of Gouves

The coastal municipality of Gouves is located east of Irakleion and it includes many coastal settlements which have been developed parallel to coastline tending to create a continuous urbanized sea front. Small touristic units (rooms to let) are installed next luxurious hotels. Numerous are also the secondary houses and touristic/commercial shops which are installed mainly behind the first line of buildings on the coastal front.

The OCURP of Municipality of Gouves was issued in 2010 (Α.Π. οικ 787/5-2-2010) and it includes special provisions for the coastal zone:

- The whole coastal zone of the municipality is characterized as an Area of Special Protection (Περιοχή Ειδικής Προστασίας) in this zone the provisions of law N.2971/2001 apply: the beach zone is defined 50 m landwards from the shoreline, where the shoreline has been officially defined and 100 m landwards from the shoreline, where the shoreline has not been officially defined. In this beach zone only mobile constructions are permitted for the convenience of the bathers and sun beds and parasols. The coastal road will be turned into a pedestrian and bicycle road.

Behind the 50 to 100 m. coastal zone the following land use areas are defined:

- Existing urbanized areas that dispose a city plan
- Areas of Special Protection of Archeological interest: in these zones only activities and buildings allowed by the archeological service are allowed
- Areas of Control and Restriction of Building (Περιοχές Ελέγχου - Περιορισμού Δόμησης) of Tourism development: in these areas construction can take place only on plots of more than 10.000 m² (this provision favors the installation of important hotels VS small units of rooms to let), the permitted land used are limited to the ones relative to tourism (hotels, commercial stores, sport and cultural facilities, restaurants, bars, housing projects etc.).

For this coastal zone of approximately 13 km the shoreline has been officially defined by 23 different procedures that took place from 1972 till 2000. Each official procedure concerned a specific coastal stretch according to the local needs (ex. definition of the shoreline in front of a hotel development, definition of the shoreline in front of a new urban development etc.). According to the date that the official shoreline definition took place the relative maps are georeferenced or not (connected to the national georeference coordinates). Most

maps are only available in hard copy and no digital copies exist. As a result it is extremely difficult to merge these maps and create one continuous shoreline. These 23 different procedures do not cover the total sea front of the municipality.

From the reports, accompanying the shoreline definition procedures, we notice that in many cases the shoreline was eroded (in one case 10 m in 10 years) making previous shoreline definition procedures invalid. Another problem frequently reported, is that previous shoreline definitions were too subjective, not taking in consideration important parameters, and thus they were invalidated some years later.

These two important problems have resulted in the creation of a set back zone of less than 50 m. Many buildings and infrastructures are actually built in less than 50 m from the actual shoreline.

On areas, where the shoreline has not been yet officially defined, it will be defined according to the provisions of N.2971/2001 law

According to the N.2971/2001 law and the ministerial decision on the elements to be taken in consideration for the definition of the shoreline and the beach zone (Αριθ. 1089532π.ε/8205π.ε./Β0010, ΦΕΚ 595/Β/4-5-2005), the official shoreline and beach zone definition is necessary for all new urban plans and extension of urban plans and all isolated building or other development activities that take place in less than 100 m from the shoreline.

Historically in Greece, the shoreline was defined as the line of "high winter waves". Law N.2971/2001 and its circular of application (Α.Υ.Ο. 1008244/857/Β0010/ΠΟΛ. 1097/11-3-2002) define the shoreline as "the zone of land that is wetted from the highest and frequent wave run-up" this means that the shoreline includes areas "sprinkled" by the winter storms which are not necessarily submerged by the waves. This definition excludes areas that are submerged by the waves during natural disasters and rare coastal flood events.

These are the necessary technical details in the above mentioned law and ministerial decision for defining the shoreline and the beach zone:

- Each official shoreline and beach zone definition has to refer to a coastal stretch at least 500 m long
- The topographical map of reference has to be at least in a 1:1000 scale (1:1000 and 1:500 scales are most commonly used).
- The topographical map of reference as well as the proposed shoreline and beach delimitation line have to be attached to the national georeference system.
- The elements to be taken in consideration for the shoreline definition:

- Geomorphology of the terrain:
 - High or low beach slope : In high beach slopes, including coastal cliffs, the shoreline is defined by the wave surf zone, in case of dunes and cliffs, the upper limit of the dune/cliff defines the shoreline, even if the waves never reach this point.
 - Coast and beach geology
 - Coastal erosion
 - Natural vegetation limit: it is considered as a clear evidence of the limit of high winter waves surf zone as most natural flora does not develop in this area. In practice, this criteria is commonly used for the definition of the shoreline
- Meteorological data of the area: wind force and duration according to the national meteorological data (for the wind directions effecting the coastal stretch), combination of strong winds, low barometric pressure and high tide.
- Wave data of the area: calculation of the wave climate according to the prevailing winds, Fetch, sea bottom morphology, submerged beach slope, existence of nearshore reefs
- Existence of legally build coastal works: coastal works can influence the shoreline and create sand accumulation, if the coastal works are not legally built they should not be taken in consideration for the definition of the shoreline (some coastal property owners build small coastal works or proceed to land reclamation in front of their property so as to expand the distance between their property and the shoreline and avoid expropriation)
- Existing legally defined land uses
- Existing legally urbanized areas and isolated buildings
- Existing publicly owned land
- Existing protected "cultural heritage" buildings
- Existing vulnerable and protected ecosystems
- Existing sea limits of land properties

The municipality of Gouves, has a project in progress of creating a unique digital cartography of the shoreline definition, compare this cartography with the actual shoreline (taking in consideration the erosion effect) and promote a new unique procedure of shoreline definition for the entire municipal shoreline.

The main goal behind this initiative is to promote many infrastructure and development projects, which are now "blocked/frozen" because of the ambiguity of their position "inside or outside" the shoreline and beach zone.

In conclusion, we can affirm that the existing legal framework (law N.2971/2001) and planning documents (OCURP of the Municipality of Gouves), foresee the creation of a "set-back zone". The necessary technical details and the elements to be taken in consideration for the definition of the shoreline and the beach zone are enough for creating a "set-back zone" according to Article 8 of the ICZM protocol.

But still existing some problems in the actual Greek legal framework and planning procedures relatively to the Article 8 of the ICZM protocol:

- The official shoreline definition procedure is not compulsory in any administrative level, thus the procedure is initiated only in areas under development pressure and in most cases it comprises very small coastal stretches.
- The official shoreline definition procedure is very long and tedious. It also includes the expropriation of the 50m wide beach zone, which has a high public and political cost. It is actually completed only in areas of urban expansion. Many local stakeholders are stalling the planning procedures so as to delay the creation of the no building zone.
- The official shoreline definition procedure does not take in consideration the future erosion effects (the
- The existing law stipulates the creation of a 50 m wide beach zone, which in many cases it can be reduced (existing buildings and infrastructure etc.). This is not in accordance with the 100 m wide no building zone, stipulated by Article 8.
- Even if the elements taken in consideration for the shoreline definition are rich and should allow an accurate definition of the shoreline, the legal texts are vague enough: "high and frequent waves", "winter wave surf zone" and the shoreline definition can become subjective. A more objective method, referring for example to the 100 (or 50 or 10) years return period wave should be adopted. The return period is not taken in consideration by Article 8 either.

Propositions for the improvement of the national legal framework

The creation of a coastal "set back" zone of 100 m in Greece, will not be an easy task because of the extended length of the coastline, the conflicting interests for economic development of the coastline and the important resources needed for this task, both technical and economical.

In this paragraph, we present some propositions in order to achieve this aim efficiently:

- The procedure for the official definition of the shoreline should be compulsory at municipal level. For example in the framework of Municipal Plans ("Open Cities Urban and Rural Plans" OCURP (Σχέδια Χωρικής και Οικιστικής Οργάνωσης Ανοιχτών Πόλεων (Σ.Χ.Ο.Ο.Α.Π.). That way the shoreline and the beach zone of the whole municipal territory would be protected and not only the shoreline of the urban areas. It is important to define the shoreline and the beach zone in natural and rural areas before urbanization pressure starts.
- The non building zone should be extended from 50m to 100m.
- The 100m non building zone could have a restricted land use status
- The expropriation of the beach zone could become optional according to the needs and the resources of each municipality, thus the creation of the 100m non building zone would not require excessive economical resources.
- The technical criteria for defining the shoreline could become more objective defining a detailed procedure for determining the erosion rate (for example from satellite imaging) and the winter surf zone (for example with a deterministic equation).

It is a political decision at National and European level to implement the above mentioned improvements by assigning the necessary resources.

Propositions for the improvement of the planning procedures in Crete

At regional level the Decentralized Administration of Crete can improve the implementation of Article 8 by improving the planning procedures.

A major step for the implementation of Article 8 in Crete is the creation of a unique digital database (a GIS system) which would include all the maps of prior shoreline definition procedures and all approved urban and rural plans. This database should be based on recent satellite imaging which will reveal the current position of the shoreline.

The creation of such a database is a vast investment but it will give a clear image of which zones demand new shoreline definition because of the problems of erosion, of extensive urbanization etc. Furthermore it will simplify the procedure of planning and approving new infrastructures and development projects in coastal areas.

A step further is to initiate, in collaboration with the region and the municipalities, an official procedure for the definition of the shoreline and the beach zone for the entire island of Crete. Such a project would facilitate many development projects on coastal areas, which are now blocked /frozen, because the shoreline is not yet defined. On the same time, such a project would protect the natural coastal areas from future constructions.

Liguria Region

Legal framework

In order to verify the applicability of Protocol art. 8 here below are listed all the spatial planning/land use tools that apply to the coastal zone in Liguria Region:

- **Piano Territoriale di Coordinamento Paesistico (1990):** According to the national law 431/1985, it's aimed to the protection of the landscape. It concerns the features of the settlements, the vegetation and the geomorphology. Through zoning maps it provides rules less or more restrictive towards the activities that can transform the landscape. It applies to the whole regional territory, with not specific rules for the coastal landscape. With the Deliberation n.18/2011 the Regional Council has approved a variance to the Plan aiming to foster the control on the coastal hills zone landscape, with special reference to the so-called "moyen pays" zone. A comprehensive new Plan, consistent with the European Landscape Convention, is going to be adopted.
- **Piano Territoriale di Coordinamento della Costa (2000):** the first territorial Plan in Italy dealing with the coastal zone issues and focused on the ICZM objectives. A "coastal zone" is defined where the Plan applies as the buffer which stretch landward from the borders of the coastal municipalities and seaward until the -50mt bathymetry (lower limit of the seagrass meadows). Although the Plan is aimed to improve the coastal zone management and to assess and preserve the natural sections left of the coastal zone there is not a specific set-back zone provision.
- **Piano di Tutela Dell'ambiente Marino e Costiero:** it is aimed to the restore the littoral sediment balance, to stabilize the cliffs, to improve the coastal waters quality, to protect the marine habitat . The coast is organised in sedimentary cells. On the basis of the marine climate and the geological features the Plan defines strips along the coast where the building activity is forbidden or restricted. With the Regional Council Deliberation n.29/2009 were approved a series of safeguard measures for protecting the coastal

environment in the wait of the drafting of this Plan (it will expire at the end of 2012). In 2010 a first section of the Plan, applying to the "Golfo del Tigullio", "Baia del Silenzio" e "Riva Trigoso" in the eastern part of Liguria sedimentary cells was approved. A second section, concerning the coastal zone from Alassio to Loano is in redaction.

- **Regional laws 13/1999, 21/2012 and Piano di Utilizzazione delle Aree Demaniali Marittime – PUD(2002):** the public maritime domain management competencies were transferred from the State to the Regions in 1998. The State maintains just the competencies in strategic areas (e.g. military ports) and functions (e.g. source of energy supply). With the Regional law 13/1999 and the PUD the Region assigned the main responsibilities on the maritime public domain to the Municipalities, keeping up to the regional level some tasks of control and monitoring. With the PUD were established the criteria for the management and the grant to privates of the concessions. With the 21/2012 law any permanent building on beaches and rocky shore has been forbidden with some exception for public works and works of public interest with a positive environmental assessment.



Figure 9: Example of Liguria coast.

The baseline definition in Liguria region

In Liguria the coastal morphology is severe. There are almost no coastal plains: typically cliffs go directly under the sea, as in Cinque Terre coastline, or a very narrow strip of land is available between the mountains and the shore, as in Genoa coast or where most of the settlements were established

Therefore, wherever a flat space is available, it's usually occupied by infrastructures, as the railway and the main road *Aurelia*, or it's almost totally built up. So Liguria coast can be a test case of special interest for assess whether is possible to implement the art.8 of the Protocol and to find how it can be applied.

According to the article 8 of the Protocol the "higher winter waterline" is the baseline for establish a "no building zone". The zone may be not less than 100 meters in width even if different provisions can be applied in particular cases.

As mentioned before in Italy there is not a national law aiming to protect the strip of land close to the shore. However the art.142 of the *Codice dei beni culturali e del paesaggio* (D.Lgs 22nd of January 2004, n. 42 e s.m.) identifies the 300 m distance from the coastline as the stretch of the coast with special requirements and limitations for landscape protection. These rules apply also to the high coast.

To define the **higher winter waterline** is thus the first step for the planner in order to verify the consequences of the Protocol implementation

For this purpose we found two different references:

A) in the last years, in order to protect the coastal environment and avoid floods and erosion, the Liguria Region is developing a special plan, named "Piano di tutela dell'ambiente marino e costiero". The plan is organised following the partition in sedimentary cells of the 350 km of the Liguria coast.

For each sedimentary cell, through specific surveys, the plan analyzes the meteo marine climate, the geomorphologic features, the seabed biocenoses, etc. (for more information: www.ambienteinliguria.it).

So far the Tigullio, Baia del Silenzio e Riva Trigoso sedimentary cells plan is completed and entered in force (in red in the fig.10). The western coast of the Savona province is in a draft version (in yellow).



Figure 10: Tigullio, Baia del Silenzio e Riva Trigoso sedimentary cells in red color and Savona province in yellow color.

The Plan, with the help of a model, defines a dynamic buffer zone of the beaches based on the storms of return time of 1 and 50 years. So one of the line of the 1 or 50 years wave could be applied as the higher winter waterline.

B) in Italy, the public maritime domain is defined as *"il lido, la spiaggia, i porti e le rade"* (the shore, the beach, the ports, the harbours). The word *"lido"* defines, following a well established legal interpretation, the area where the ordinary sea storms arrive and *"spiaggia"* is the land contiguous to the *"lido"* not more interested by the waves but still suitable for the public uses of the sea.

So the public maritime domain border could be also taken in account for the baseline we need.

Finally we tried to compare the lines we have to find out if they can give some suggestions to go further with the analysis.

In the following maps are shown the three different lines in the area of Chiavari, Sestri Levante, Riva Trigoso (in red the public maritime domain, in blue and light blue the 50 and 1 years return time lines)



Figure 11: Chiavari



Figure 12: Sestri Levante



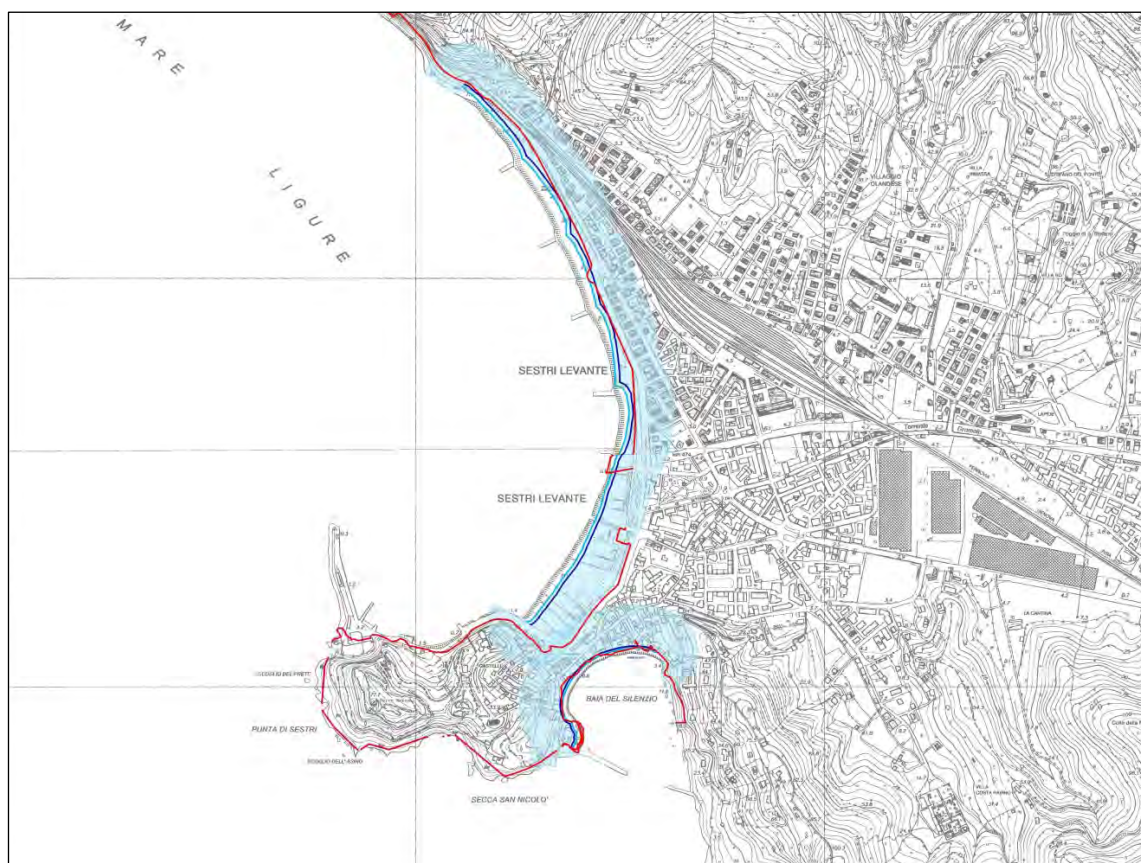
Figure 13: Riva Trigoso

Where there is no possibility to know with accuracy the higher winter waterline the public domain border could be used as a reliable reference, even if , in these cases, is more conservative than the model results. This at least for the low coast, given that the public maritime domain doesn't exist in the high coast. Some different considerations must be done where the coastline has been artificially modified, as in the case of the port of Chiavari.

Taken as valid this conclusion we can try to delimit a set back zone drawing landward a buffer of 100 meters, starting, in this case from, the 50 years return time line.

Here again our three pilot areas:





The results are, as we could easily imagine, in conformity with the features of the territory.

Almost all the set back zones are already built, with very few exceptions. The urbanisation in these cases is mostly recent (sixties and seventies of the past century) but there are also villas of some historical interest.

Since the in-depth analysis on the art.8 of the Protocol is at the beginning we don't want to give an early opinion on its implementation feasibility.

According to the PAP/RAC document on the "Establishment of coastal set back":

"..the Protocol fully agrees that the idea of ultimate building ban inside the 100 m coastal strip is unrealistic, and in this respect, does not require any systematic expropriation of constructions that already exist. On the other hand, the Protocol does not specify the cases of non-application of the coastal setback zone in the already built-up areas." In that sense, the successful implementation of the Article 8 requires a considerable level of flexibility confirmed by adding the "adaptation clauses" 8-2b(1) and 8-2b(2), respectively, where Parties: *"May adapt (the implementation of the setback zone provision), in a manner consistent with the objectives and principles of this Protocol...: 1) for projects of public interest; 2) in areas having particular geographical or other local constraints, especially related to population density or social needs, where individual housing, urbanisation or development are provided for by national legal instruments.*

The art.8 Protocol implementation, in Liguria but also in territories with similar features, must follow this direction.

In the meanwhile, the Liguria Region Council recently approved the Regional law 21/2012 which ban permanent buildings on the natural public maritime domain. That was a major achievement to improve the Protocol in the coastal management. In fact, in order to build a large consensus towards the ICZM, we need to approach it by degrees, beginning with the principle that the shore must be let free from concrete.

Emilia-Romagna Region

The coastal area in the frame of the Emilia-Romagna planning system

In Emilia-Romagna the general spatial planning system is arranged according with the three level of territorial governance (Region, Province, Municipality) following subsidiary and integration principles: namely PTR and PTPR, for the regional level, PTCP for the provincial level, PSC for the municipal level. This general planning framework is then articulated in sectoral planning instruments (i.e. water, waste, transport, energy, etc.)

The **PTR** (Piano Territoriale Regionale) represents the strategic framework for the sustainable development of the regional system and the reference for the integration of policies and actions of the Region and local Administrations on the regional territory.

The **PTPR** (Piano Territoriale Paesistico Regionale), sprung out of the national Law n. 431/1985, is the thematic part of the PTR and the central reference of regional spatial planning and programming, giving rules and objectives for the conservation of regional landscapes and environment, individuating specific "systems", "ambits", "elements" within 23 Landscape Units. The regulation provision of the PTPR acts on strategies and land transformation actions through a frame of rules for the provincial and municipal planning, either with specific measures for the conservation and valorisation of environment and landscape.

Following the rules and the indications of the PTPR, the Provinces elaborate their **PTCP** (Piano Territoriale di Coordinamento Provinciale) assuming and deepening (even integrating) the regional Plan contents. The Municipalities taking into account the two above levels provisions, elaborate their **PSC** (Piano Strutturale Comunale) guaranteeing cohesion between landscape and environment conservation and territorial development and regulating public and private actions on the territory.

It must be highlighted that the PTPR was approved in its first version in 1993 (then integrated by different Provinces PTCP approval starting from 1997), ending the period of the most pervasive development of the coastal territory. Its aim was - and is - the protection of the landscape and the environment and the introduction of the sustainable development concept. The PTPR individuates and gives rules for the coastal system (art. 12) and the relative ambits and elements: coast and beaches re-qualifications zones (art.13), coastal urban areas (art. 14), coast and beaches conservation zones (art. 15), marine colonies (art. 16). Moreover the PTPR regulates a number of other ambits and elements intersecting the coastal area (i.e. naturalistic interest zones conservation, regional natural protected areas, river mouth zones, historical and archaeological zones, etc.).

In addition, in year 2005 the Guidelines for Integrated Coastal Zone Management were adopted by the Regional Council (Deliberation n. 645/2005). Far to be a strict planning act, the **ICZM Guidelines** give anyway recommendations to the several sectors affecting the coastal area on policies and actions to be implemented, in an integrated way considering sectors interactions, for the sustainable use of the coastal zone and for the preservation of its environmental and ecological heritage.

The conservancy system along the regional coastal zone is today well developed and extended, comprising non building or building constraints. In this frame, approaching the analysis of WP3 Action 3.2, it is opportune to first evaluate the situation in the set-back zone (for its individuation please see the following point) considering the current provisions of the regional general planning instrument (PTPR) as integrated and deepened by the provincial planning instruments (PTCP).

Once individuated those areas not covered by PTPR/PTCP specific building provisions within the set-back zone, it will be carried out an in depth analysis of municipal PSC and of other related instruments at the local level (operative plans – POC; urban and building regulations – RUE; harbour plans, beach plans) focusing on those specific areas.

The further step will be the individuation of possible measures to be proposed, for those kind of areas, in order to introduce modification in plan provisions according with art. 8 set-back zone provisions.

Given the current arrangement, the regional coastal area can be subdivided in two main portions: the southern part characterised by a dense urbanisation (the so called “linear city”, about 60 km between Lido di Savio, in the north, and Cattolica, in the south) and the northern part characterised by coastal urban settlements alternated by extended natural or semi-natural areas, most of them being part of the Po river Delta natural protected area.

It is obvious that in this frame for the application of Art. 8 provisions it will be faced different situations. On one hand, already structured areas in which to find out how to re-modulate foreseen and acquired rights on new building interventions in residual urban destination areas or eventual foreseen demolition and re-building interventions. On the other hand, non urbanised areas not covered by specific provisions of the above outlined regional conservancy system, in which to find out how to introduce non-building provisions or re-enforce building restrictions within the set-back zone, taking into account “adaptation clauses” 8-2b (1 and 2) and eventual acquired rights.

The baseline definition in Emilia-Romagna

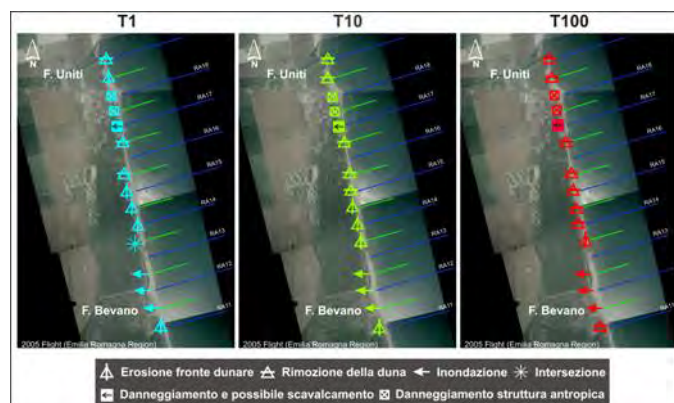
The Emilia-Romagna coastal zone extends about 130 km from the Po river delta, in the north, to Cattolica in the south. It's an arched, flat and sandy coast interrupted by minor Apennines rivers, drainage channels and by the jetties of several harbours. Some beaches are over than 200 meters wide, while some others are completely eroded and has been replaced by seawall.

The regional coastline is characterised by an intense urbanisation specially in the south sector, while the north sector beyond some urbanised areas is characterised by the presence of different environments such as natural areas with dunes and coastal woods, beaches with tourist infrastructures protected or non-protected by defences, river mouths, coastal lagoons and marshes. Many areas behind the coastal belt, mostly in the North sector, are below the m.s.l.

The Emilia-Romagna coastal zone is affected by coastal erosion and flooding during storms which are worsening due to the decrease in river sediment transport and to the persistence of high subsidence rates.

In order to better manage these phenomena, within the Coast and Marine Information System (developed by the Regional SGSS- Geological, Seismic and Soil Survey), several studies have been carried out, now useful to better trace the 'baseline', briefly described as follows.

a) The vulnerability map based on run-up formula



Along the Emilia-Romagna coastline a risk evaluation was undertaken for combined events of storm waves and surges, with return periods of 1, 10 and 100 years (Ciavola et al., 2008; Armaroli et al., 2009; Perini et al., 2010; Armaroli C. & Perini L., 2012).

A matrix for calculation of maximum water level (run-up + tide + surge), for the different return periods, has been created along profiles previously extracted from the high resolution digital elevation models.

An aerial photograph of a coastal city, likely San Francisco, showing a large area of red and yellow hazard zones along the waterfront. The red zones are concentrated in the northern and central parts of the coastal area, while the yellow zones are more extensive in the southern and eastern parts. The city's grid street pattern is visible, and the water is dark blue. The image is labeled 'Figure 1' in the bottom right corner.

The model takes in account an attenuation factor depending on the distance from the shoreline. Such maps offer a continuous limit derived by the sum of tide, surge and set-up.

That allowed to trace particular morphologies related to impact of marine storms. A detailed study on this topic was further developed by Micore projects where main morphological indicators were defined and mapped (Calabrese et al., 2009).

danni

- allagamenti
- invasione
- erosione e allagamenti

0 100 200

The sea storm catalogue, produced within Micore project, allowed to collect maps and information about the maximum inundation occurred in occasion of several past storms and to define areas at risk for flooding (Perini et al., 2010).

Methodology for drawing the baseline

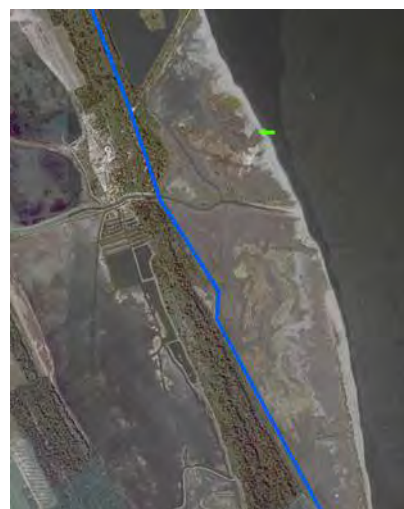
The above mentioned tools are used to trace and to validate the coastal baseline. As suggested in the guide lines ("explanatory report" M. Prem), the followed procedure first of all takes into account the maximum waterline computed using the run-up formula for a return period of 10 years. The T50 probability is assimilated by forcing the concomitance of T10 maximum levels of the different factors (high waters, tide, surge, run-up). The procedure is here described.

1. A preliminary baseline is mapped interpolating results of 'vulnerability maps' point **a)** compared with the 'flooding maps' described at point **b)**.

Preliminary baseline due to run-up interpolation (T10).



2. In the natural areas, such as Reno River mouth, where the coastal dynamic is very strong and the Vulnerability maps can be unrepresentative, we define the baseline considering the morphologies due to storms, as described at the point **c)**.



Example of baseline in a wash-over area.

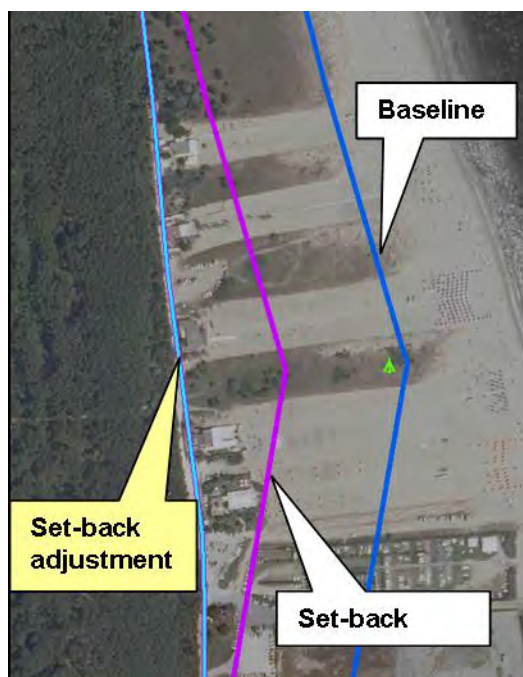
3. Other particular cases are represented by river mouths, which sometimes are vulnerable to the combined effects of sea storm and river flooding . For this reason it is considered to give more importance to the Historical Sea-storms Catalogue, where such events are described in detail.

Example of baseline landward migration in
correspondence of the river mouth



Indications for the set-back zone tracing in Emilia-Romagna

The first approximation of the set back zone is simply created as a 100 meters buffer of the baseline. In some cases it is adjusted (the second approximation) in order to comprehend the most relevant morphologic coastal features, in particular dunes and coastal woods located outside 'special protection areas', as indicated in the ICZM Protocol .



Example of set back adjustment in correspondence of relevant morphologic features.

Details on activities for Art. 8 applicability evaluation

The analysis will be focused on the entire regional coastal belt. Once defined and validated the set-back zone following the above described methodology, the activity will be developed according with the following three main tasks producing specific analysis reports and a final document on Art. 8 applicability.

Task 1	Output
<p>1. Analysis of current land uses and spatial planning instruments regulations, individuation of "criticalities" in the light of the Art.8 provisions</p> <p>Compared analysis on cartography and provisions of PTPR/PTCP instruments and Land Use cartography:</p> <ul style="list-style-type: none"> - Urbanised territory - Industrial areas - Infrastructures and facilities - Harbours - Agricultural areas - Natural areas <p>Individuation, within the set-back zone, of areas not covered by PTPR/PTCP provisions with particular reference to non-building or building strict constraints.</p>	<p>Preliminary report and maps on state of the art in the set-back zone with the individuation of those areas for which the foreseen uses don't fulfil art. 8 requirements.</p>

Task 2	Output
<p>2. Evaluation of urban planning provisions and regulations on the "criticalities" individuated</p> <p>Deepening the evaluation on "critical areas" individuated in Task 1, through the analysis of local level planning instruments PSC, POC, RUE, Beach Plans, Harbour Plans with particular attention to:</p> <ul style="list-style-type: none"> - Building and infrastructural interventions - Industrial areas enlargements - New dockyards, new port facilities areas, etc. - Use destination changes of agricultural areas - Modifications in or nearby natural reserve areas 	<p>Intermediate report and maps on local planning provisions and regulation focused on "critical areas" individuated</p>

Task 3	Output
3. Applicability of Protocol Art. 8 provisions Definition and evaluation of possible measures to be adopted in the individuated "critical areas" for adapting planning provisions, possible modifications of implementing provisions of local planning instruments, towards the application of Art. 8 provisions even considering the adaptation clauses 8-2b (1- projects of public interest; 2- geographical or local constraints). Individuation of possibilities and obstacles for Art.8 application.	Final Report integrating Preliminary and Intermediate, evaluations and proposals for adapting planning instruments provisions to Art. 8 requirements for the set-back zone, possibilities and obstacles.

Closing remarks, implementation and mainstreaming process

During the activities and after the results analysis some adjustments of the set-back zone will be possible (third approximation) in order achieve the final one, always according with the Protocol principles. Adjustments should be normally in the direction of widening the set-back (more than 100 m) where opportune according with its role in biodiversity protection, ecosystem maintenance and coastal adaptation to climate change. Set-back zone narrowing (less than 100 m) should occur by "adaptation clause" cases (8-2b), in particular for projects of public interest and for particular geographical or other local constraints.

Final results of this activity, with the final set-back zone individuation and proposals for planning instruments adapting to Art. 8 provisions, should be submitted to an institutional path in order to make results be transposed to the system level (mainstreaming).

Given the planning system and relative legal framework arrangement in Emilia-Romagna, the proposals for the introduction of Art. 8 provisions should be acknowledged first in the regional level planning instrument and rules (PTPR), in order to be introduced in the provincial instruments (PTCP) and then in the Municipal level instruments (PSC, POC) – and relative Building and Urban Regulations (RUE) – where such provisions should find their actual implementation.

In order to activate a mainstreaming process, it should be opened an internal discussion (regional level) on results and proposals coming from this Action, accompanied by the direct involvement of Provinces and Municipalities (local government level), according with the participatory approach assumed by the regional Guidelines for Integrated Coastal Zone Management (DCR 645/2005).

The institutional boards that should be used for the implementation of the process are the "Integration Area for ICZM" (Board of regional Directorates General – coordination level) and the "ICZM Institutional Committee" (political

level) composed by competent regional Assessors, Presidents of Provinces and Municipalities Majors of the coastal area, introduced within the regional ICZM Guidelines formulation process.

Following this approach, any decision on the Art. 8 provisions on the defined set-back zone will be supported by a coordination board and finally taken by a political board, thus finding the needed applicability conditions.

Valencia Region

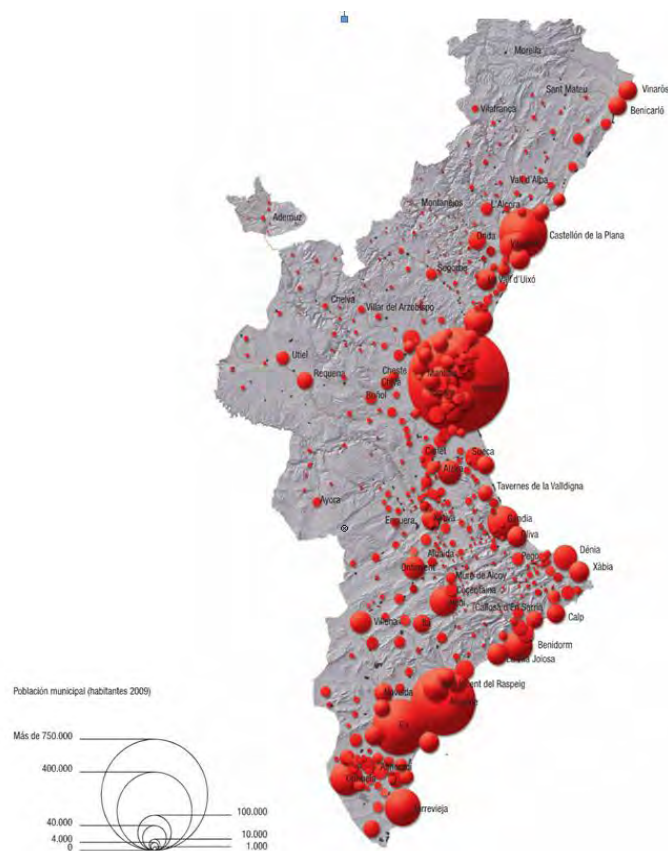
The coastal area in the framework of the Valencia Region planning system

The coastline of the Valencian Community is 470 kilometers in length, over 75% of which is low-lying, sandy coast featuring pebbles or lagoons and sandbanks, the remainder being high and steep. The furthest point from the sea is a mere 100 km away, making the Valencian Community a region of a predominantly coastal nature. The majority of the population reside in the coastal strip. 53% of the total population live in the 60 coastal towns and cities, which account for 14% of the surface area of the Valencian Community. Furthermore, the population of these coastal towns swells considerably in the middle of the year due to the influx of tourists. The trend favouring the concentration of productive activity on the coast has been increasing since the 1960s due to the importance of beach-oriented tourism and all the sectors associated with the same (construction, services, etc.), in addition to the growth of maritime trade and the logistics services associated with the same.

Besides its economic importance, the coastal region of the Valencian Community boasts important environmental/landscape-related (10 natural parks, 23 maritime and coastal community attractions, 90% of the wetlands area has been catalogued) and social values (around 260 beaches stretching over 265 km, 109 of which were awarded a "blue flag" in 2010).

On the other hand, the Valencia coastline is subject to a series of natural and induced risks, the most significant of which are:

- the high risk of flooding due to the climate, geomorphology and the artificial use of the land.
- there is also a major risk in relation to ocean storms and the rising level of the sea, which according to forecasts may rise as much as 1 meter this century, whereby 4,000 hectares of land would be affected.
- and coastal erosion. Over 60% of the coastal region is receding, serious problems in relation to stability having been detected in certain areas.



Urban population (inhabitants 2009)

(Source: Valencian Community Territorial Strategy. Department of Infrastructure, Land and the Environment)

Planeamiento municipal del litoral



Coastal town planning.

(Source: Valencian Community Territorial Strategy. Department of Infrastructure, Land and the Environment)

An analysis of the town planning for the Valencian Community coastal region, using the 500-meter area of influence defined under the coastal law, reveals that of the approximately 20,000 hectares of this strip, a little more than 61% is urban and developable land, 33% is urban and non-developable protected land, and the remaining 6% is non-developable common land.

No single institution in the Valencian Community is dedicated full-time to the management of the coastal region, this function being performed by several different administrative bodies:

- STATE SCOPE: Ministry of Agriculture, Food and the Environment
- REGIONAL SCOPE: Department of Infrastructure, Land and the Environment)
- LOCAL SCOPE: The coastal town and city councils

This assortment of jurisdictions hampers the management of the region, already complicated due to its own peculiarities (competition between different uses and activities, high levels of urban development, disjointed planning, phenomena of coastal erosion, risk of flooding, etc.).

Main rules and regulations and reference texts

At state level, the main reference standard for the management of the coastal region is **Coastal Law 22/1988 dated 28 July**, passed under RD 1471/89, while on 05 October 2012 the Spanish government approved the bill on the protection and sustainable use of the coastal region, amending the 1998 coastal law, although the same has not yet come into force.

At autonomous regional level, the management of the region does not include a general policy facilitating administrative coordination, but several different sectoral policies (land planning, tourism, ports....) which are insufficiently integrated.

The basis of autonomous Valencian policies in relation to the management of the coastal region was addressed in the "**Valencian Strategy for the Integrated Management of the Coastal Region**", approved in 2002, designed as a tool to promote social and institutional debate, and which has not developed as expected.

Valencian Law 4/2004 dated 30 June, governing on Land Planning and the Protection of the Landscape, overrules and replaces Valencian Law 6/1989 dated 07 July, governing on Land Planning. This new law, together with other land planning tools, sets forth the planning of the coastal region (article 15) as follows: "Due to its special environmental and economic values, the coastal region of the Valencian Community should be the subject of specific

planning. The Consell de la Generalitat is due to approve a sectoral **Plan of Action for the Valencian Community Coastal Region**, which will establish the guidelines for the occupation, use and protection of the coastal strip,...".

This Plan of Action for the Valencian Community Coastal Region was submitted to public opinion in 2006 by the Valencian government, but has not been approved to date (November 2012).

A tool of a more global nature also proposed under Law 4/2004 was approved recently (in 2011), specifically the **Territorial Strategy** for the **Valencian Community**, Item VI of which addresses the coastal region, grouping the proposals in three chapters: Generally applied provisions in relation to the coastal region of the

Valencian Community, sectoral criteria and a coastal settlement system. Each of which has its corresponding guidelines and guiding principles. Guideline 135, item 1 quotes one of the guiding principles as *"The integrated management of the coastal strip, coordinating the series of activities and promoting the participation of territorial agents working in the coastal region"*. In any case, the land planning criteria set forth in Item VI of this Territorial Strategy for the Valencian Community are of a recommendatory nature.

Ultimately, there is no specific standard on integrated management in the coastal regions of the Valencian Community. However, other regulatory standards exist which are applicable in the coastal regions in connection with the urban development of the coastal area (Law 4/2004 on Land Planning and the Protection of the Landscape; Law 10/2004 on Non-developable Land; Valencian Urban Law 16/2005; Decree 67/2006 approving the Ruling on Land and Urban Planning and Management) or with environmental protection (Standard on the Protection of Natural Environments, Environmental Impact and Strategic Environmental Assessment).

Set-back zone: definition

A set-back zone meets the requirement of protecting the biodiversity in an extremely fragile environment, to guarantee the needs of these eco-systems, and to prevent the phenomena of coastal erosion, in addition to ensuring the public have access the Maritime-Terrestrial Public Domain, and adapting the coastal region to the possible effects of climate change.

Spanish Coastal Law 22/1988 passed on 28 July under RD 1471/89, defines and regulates the **Maritime-Terrestrial Public Domain (MTPD)**, extremely valuable from an environmental point of view, when used correctly so as not to

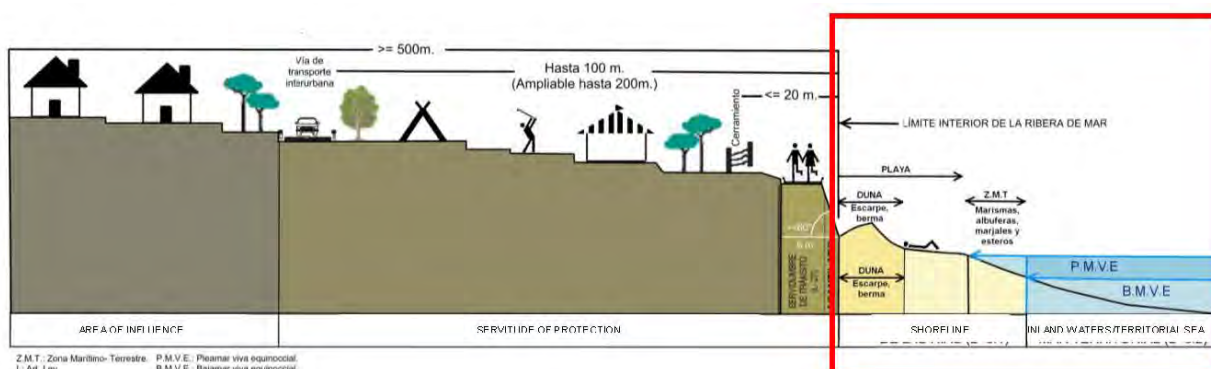
compromise the physical integrity of the same, nor preventing others from taking advantage of the area.

Furthermore, the coastal law rules on the land adjacent to the shoreline, a series of restrictions on ownership by means of **legal servitudes** (protection, traffic and access to the sea) in relation to the private land adjacent to the MTPD.

There follows a description of the MTPD as set forth in the Coastal Law; followed by the technical instructions given by the Ministry of the Environment for the delimitation of the MTPD, and finally the legal servitudes set forth in the Coastal Law.

Definition of the Maritime-Terrestrial Public Domain

Assets of the MTPD include the maritime-terrestrial region, the beaches, inland waters, territorial sea, the natural resources of the economic region and the continental shelf.



Schematic diagram of the MTPD and servitudes (Source: www.juntadeandalucia.es)

The Coastal Law defines these concepts as follows:

- the maritime-terrestrial region (ZMT) is composed of:
 - o The strip of land reached by the sea (waves) during the severest storms known, or when the maximum equinox high tide is greater, in accordance with reliable available references. In other words, not just to where the waves normally reach, but up to where the water may reach in infrequent, extraordinary situations. For this reason, in many areas the MTPD, and the ZMT in particular, may extend far beyond the maximum high tide mark.

- It also includes all the coastal wetlands such as estuaries, marshes, lagoons, inland lakes, salt marshes, and lowlands situated below sea level, subject to flooding by sea water, or in those which emanate water by means of infiltration.
- The ZMT also extends to the banks of rivers affected by the tide.
- the beaches are the coastal areas composed of deposits of loose materials such as sand, shingle and pebbles or boulders, formed as a result of coastal and marine dynamics or other natural and artificial causes. This definition includes dunes of any type and size, with or without vegetation. The "beach" concept also includes areas untouched by seawater, not even during extreme weather conditions, and reason for which the MTPD, or more specifically the "beach", extends to limits which are relatively distant from the seashore, and beyond the maximum high tide mark, in certain dune areas.
- the territorial sea and inland waters, including beds and the subsoil.
- the natural resources of the economic region and the continental shelf, defined and regulated by their own specific legislation.

The following also belong to the MTPD:

- Access routes to the shoreline due to material deposits or the sea having receded, whatever the cause may be.
- Land gained from the sea as a direct or indirect result of civil works, and dried up shore areas.
- Land claimed by the sea and which for any reason becomes part of its bed.
- Substantially vertical cliffs in contact with the sea and containing areas of maritime-terrestrial public domain, to the crest of the same.
- Land demarcated as public domain which for some reason has lost its natural characteristics of a beach, cliff or maritime-terrestrial region nature.
- Islets in inland waters and the territorial sea.
- Land incorporated by concessionaires to complete the surface area of a maritime-terrestrial public domain concession granted to the same, when the concession so demands.
- Land adjacent to the shoreline acquired for incorporation into the maritime-terrestrial public domain.
 - All works and installations in connection with coastal lighting and maritime signaling built by the State, in addition to land used for the servicing of the same.

- State-owned ports and port facilities, ruled by their own specific legislation.

The shoreline is the region composed of the maritime-terrestrial region and the beaches. In certain coastal areas the "shoreline" encompasses a considerable area, as is the case when coastal wetlands are situated behind coastal spits and wide chains of dunes, cutting them off from the open sea.

Delimitation of the Maritime-Terrestrial Public Domain

The process of delimiting the Spanish coastline, necessary in order to ensure the proper management of the MTPD, involves significant legal, economic, political, social and environmental repercussions, and faces a variety of difficulties, the most noteworthy of which are:

- Technical complexity, due to the large amount of technical analyses required to justify certain land belongs to the MTPD.
- Administrative complexity, due to the large number of interested parties involved in a delimitation process, making the handling of information laborious.
- Political-social complexity: due to the considerable social repercussions involved in a delimitation process and the owners affected.

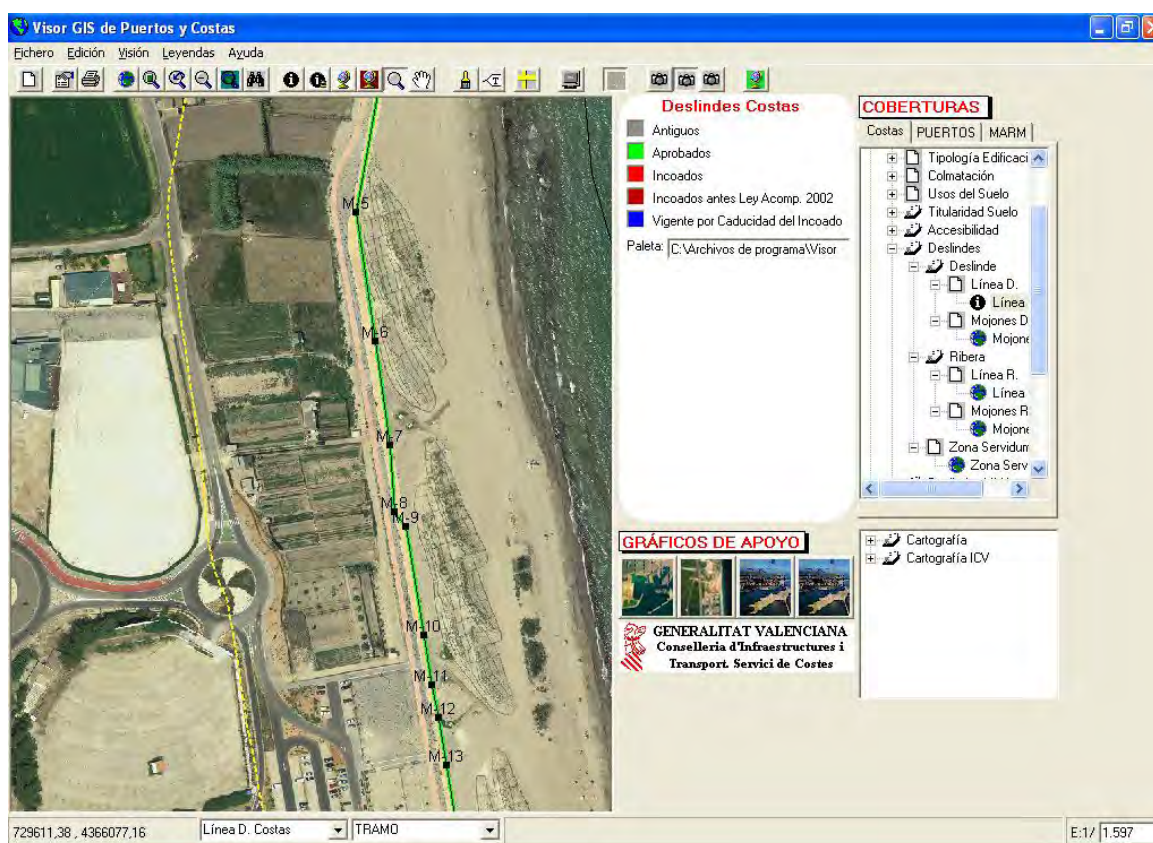
The delimitation and justification of the MTPD in Spain is conducted taking the specific and special characteristics of each stretch of coastline into account. In relation to the same stretch of coastline to be justified exclusively in accordance with its natural maritime-terrestrial region characteristics, there are occasions on which it is necessary to divide the same into small stretches, as the argument proposed for each one is different from the remainder.

The former Ministry of the Environment (now the Ministry of Agriculture, Food and the Environment) published technical instructions in 2006 on how to conduct the demarcation of the MTPD. A summary of the phases of this process and the criteria established by that Ministry follows below.

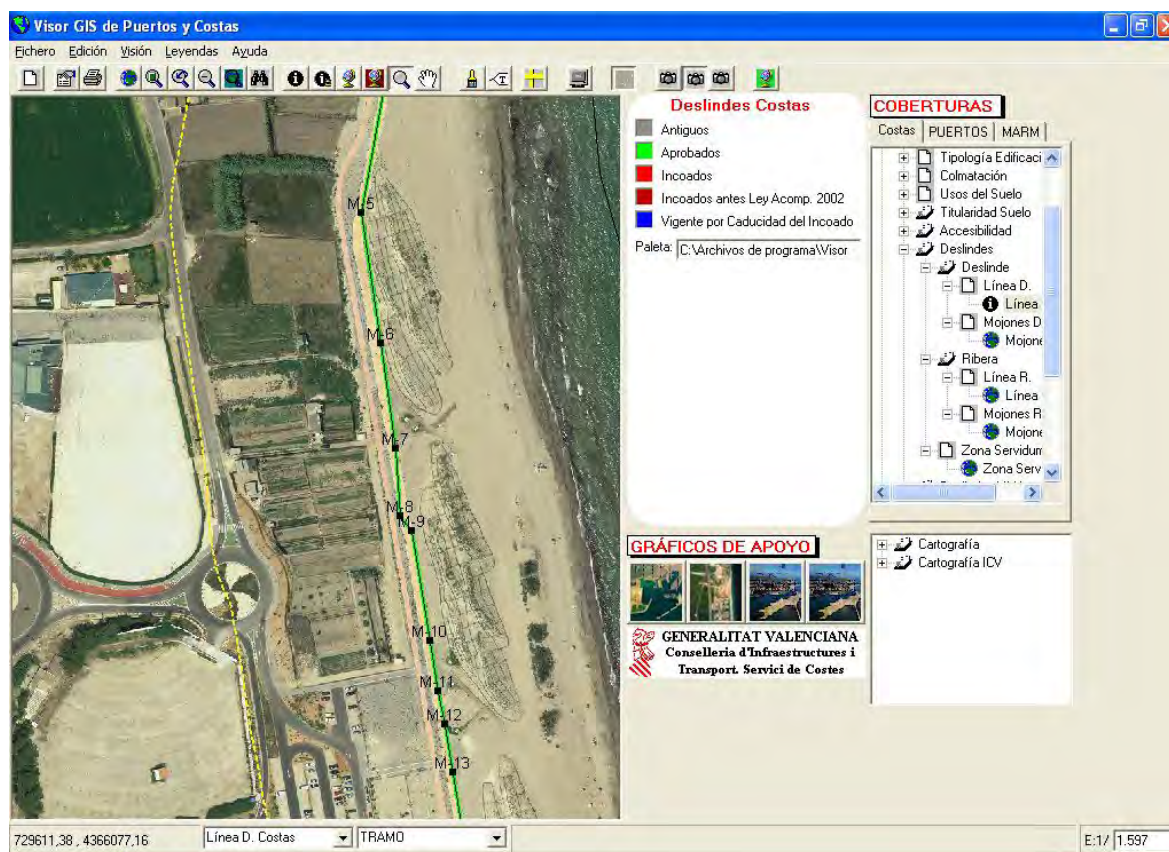
The phases followed to obtain a demarcation zone are:

- 1) The definition of the stretch of coastline to be assessed and an analysis of the administrative and technical background.
- 2) The definition of the likely demarcation line (inner limit of the MTPD) on aerial, vertical and oblique photographs, taking into account:
 - The reach of the waves during the severest storms.
 - Mouths and banks of rivers.

- Floodable lowlands: Natural flooding (marshes, estuaries, lagoons...); artificial flooding (salt pans); artificial origin (marinas).
- 3) Field trips to check the probable line adapts to the reality of each stretch.
- 4) The execution of technical analyses addressing the general aspects of the stretch of coastline in question, prior to the detailed analysis, defining the specific characteristics of the stretch under analysis, with aerial photographs taken on different dates, in addition to maps on a scale sufficient for the magnitude of the analysis.
- 5) A field trip to review the demarcation proposed in the technical analysis in minute details.
- 6) Definitive proposal



Example 1. Image of a demarcation line drawn on a stretch of coastline (Source: GIS View of Ports and Coasts)



Example 2. Image of a demarcation line drawn on a stretch of coastline (Source: GIS View of Ports and Coasts - GVA.)

Based on the vast amount of jurisprudence generated since the approval of the coastal law, and caused by the demarcation activities conducted, the Ministry of the Environment issued the document *Technical Instructions for the Demarcation of the MTPD*, containing the **criteria** to be taken into account when delimiting the MTPD. The main criteria involved are defined below:

In the Maritime-Terrestrial Zone:

- MTPD land is that reached by the sea (waves) during the severest storms known, or when the maximum equinox high tide is greater. The maximum reach of the sea both in relation to severe storms and the highest tides is determined using reliable available references.
- Certain land is considered as part of the ZMT when reached or flooded by waves or tides during severe storms, even though this has occurred only once.

- The banks of rivers affected by the tide are MTPD areas, even when the banks contain vegetation incompatible with salt water, as what matters is the existence of variations in the level due to the ebb and flow of the tide, even in the existence of fresh water.
- The effects of the tides on riverbanks should be registered independently of the flow of the rivers, high in the rainy season and low in the dry season, as the law does not establish an exclusive parameter in relation to the effect of the tide. The maximum reach should be used, even if the same is exceptional.
- Land the natural flooding of which has been eliminated using artificial methods is part of the MTPD. If proven evidence exists of the sea having flooded a certain region, that region is part of the MTPD, even though man has prevented this from happening again.
- Dried up marshes with insufficient administrative documentation are also part of the MTPD.
- The existence of civil works does not exempt land from belonging to the public domain.
- The flooding of land by the infiltration of seawater does not need to be permanent for that land to be regarded as public domain. It is also irrelevant that the salinity of water from a lagoon is less than that of seawater due to being mixed with fresh water from aquifers, as this does not detract from its nature of public domain.
- Walls surrounding salt pans and cliff tops also belong to the MTPD, even though the seawater does not completely cover the same.
- Salt pans and channels are part of the MTPD if the strength of the tide has resulted in the continuous flow of seawater within the same for a considerable time.
- Salt pans are regarded as MTPD when dealing with naturally floodable land which has been made floodproof using artificial means.
- Land claimed by the sea as a result of the construction of infrastructure such as fish farms or aquaculture facilities is part of the MTPD.

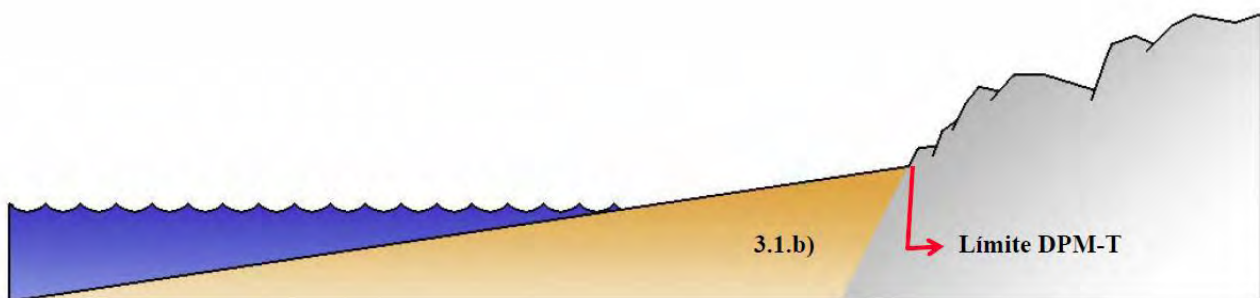
Experience has proven the best references available to determine the reach of the tide during the most severe storms are photographs, taken from both the air and on land.

Other data which might serve to determine the limits reached by the waves are salt residue in the soil, the presence of halophytic vegetation and soil samples.

Likewise, by using numerical wave propagation tools of the Coastal Model System type, designed by the General Coastal Department and the University of Cantabria, and based on existing data from scale model buoys of the Coastal Network of State Ports, historical data (HIPOCAS) and other data from several official sources, the execution of surveys in relation to extreme ocean conditions and coastal dynamics with the purpose of determining the maximum height of waves and consequently the level of flooding in the region under analysis, could be of great interest.

In the case of the beaches:

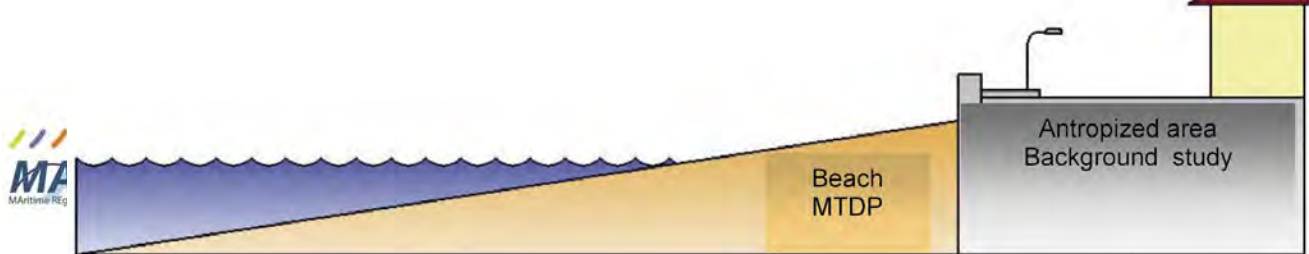
- Beaches or areas of deposits of loose materials such as sand, shingle and pebbles, including those featuring abundant vegetation, are part of the MTPD.



A beach is regarded as land featuring sand on the surface

(Source: *Technical Instructions for the Demarcation of the MTPD*. The Ministry of the Environment)

- In cases where the region has been altered by man (promenades, roads, buildings, crops...):
 - o If the anthropization occurred after July 1988, the area will be included in the MTPD.
 - o If it occurred between April 1969 and July 1988, it will be included in the domain if the alterations were made on the beach (with no vegetation). If the anthropization was conducted on a beach with abundant vegetation or on dunes, the majority composition of the region will prevail.
 - o If the anthropization occurred prior to April 1969, the area will be regarded as public domain if located on the "wet part of the beach".

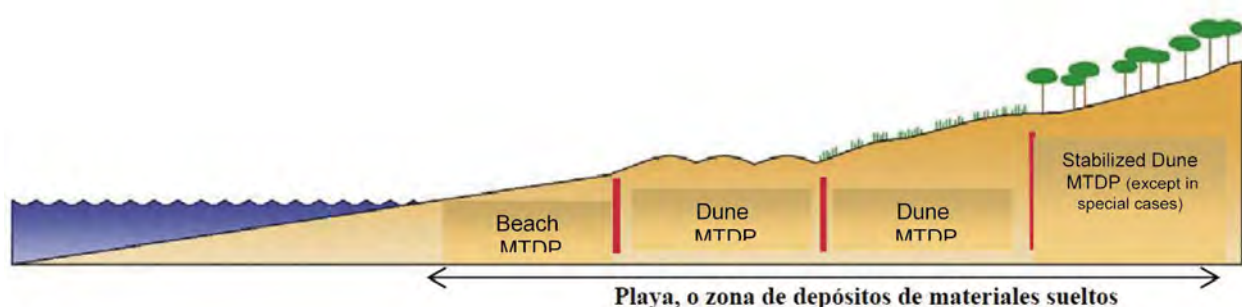


Urban beach diagram (Source: Technical Instructions for the Demarcation of the MTPD. The Ministry of the Environment)

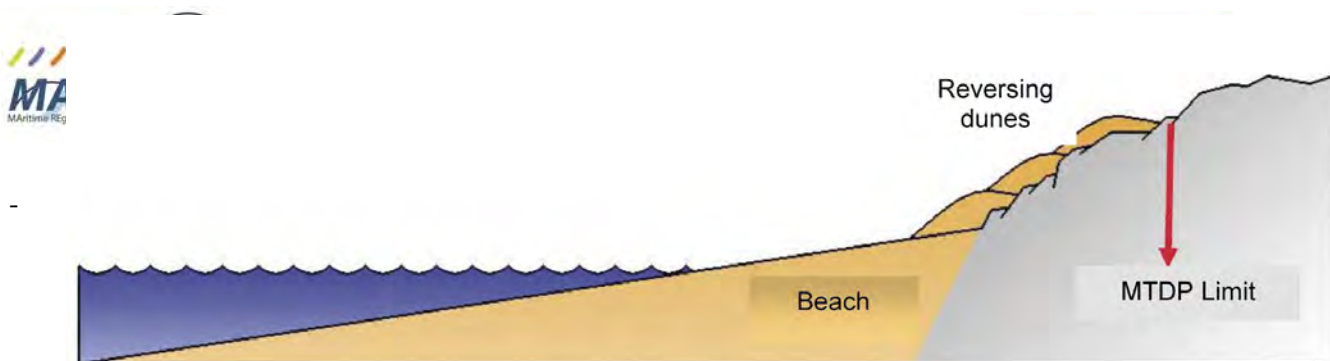
- Artificial beaches belong to the MTPD.
- When as a consequence of the receding coastline sand has crept inland, forming what we might call a "new beach", the same shall be part of the MTPD, regardless of the thickness of the sand layer.
- If owners of adjacent plots of land prevent the sand from advancing by building defences beyond state property, these plots shall not be included in the demarcation areas if they did not previously belong to the MTPD.
- Delimitation of the MTPD shall be in accordance with the predominant characteristics of the region. Thus, rocky areas on a beach will be regarded as an integral part of that beach, and therefore public domain.
- Deposits of materials may not be excluded from this category of public domain, due to the fact the concept of a beach includes deposits of loose materials formed by both natural, and alluvium is a natural cause, and artificial causes, regardless of the origin.

In the case of dunes:

- Dunes, with or without vegetation, are part of the MTPD when the same are developing, shifting or growing due to the action of the sea or sea wind.



Schematic diagram of a beach featuring dunes (Source: Technical Instructions for the Demarcation of the MTPD. The Ministry of the Environment)



Schematic diagram of a beach featuring reversing dunes (Source: Technical Instructions for the Demarcation of the MTPD. The Ministry of the Environment)

- In order for a dune covered in vegetation to be excluded from state property, specific and convincing evidence is required to prove the dune has been covered in vegetation in such a manner that it is no longer necessary to guarantee the stability of the beach and the defence of the coast.
- Manmade artificial dunes are also part of the MTPD.
- All anthropizations of dune systems effected after July 1988 shall be regarded as part of the MTPD.
- Dunes degraded prior to July 1988 shall not be regarded as property of the state, unless the predominant characteristics of the region imply the opposite.

In the case of cliffs:

At the time of delimiting and justifying the MTPD it is extremely important to analyse the faces of the cliffs present in the different stretches to be delimited, and to perform the work required to ascertain the land bordering such cliffs is also state property.

The most important criteria to take into consideration are:

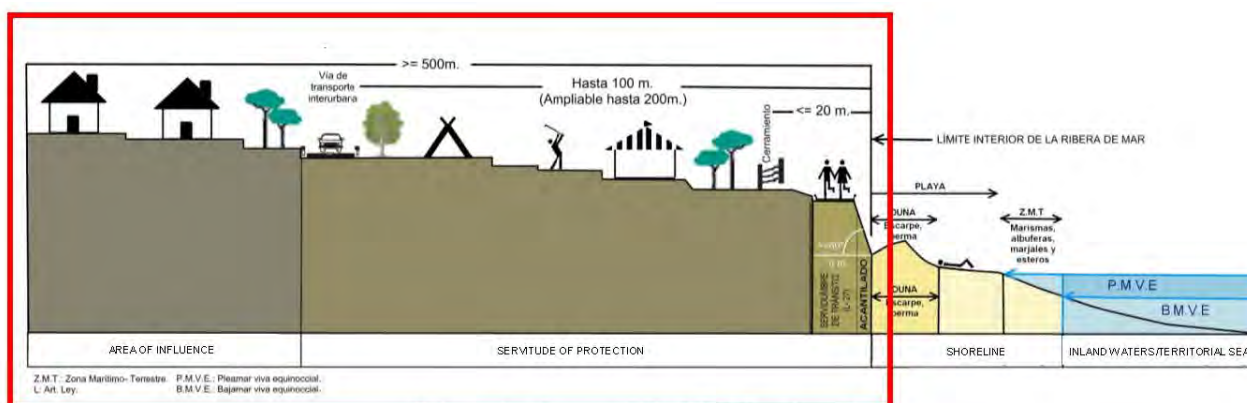
- Cliffs in contact with the maritime-terrestrial domain and whose average slope is equal to or greater than 60° are regarded as state property and should be demarcated as maritime-terrestrial public domain.
- In relation to visibly vertical cliffs the coastline will correspond to the crest of the same, coinciding with the inner limit of the maritime-terrestrial public domain.
- The MTPD should include not only visibly vertical cliffs bordering the sea or beaches, but also those which border other types of maritime-terrestrial domains such as ports, concessions, etc.

Photographic reports are of great use at the time of conducting analyses of cliff faces. These analyses may be based on measurements of the terrain (if the

physical nature of the same so permits) using topographical stations or GPS, or topographical calculations and profiles conducted in the office using maps of the region, whereby in both cases it is extremely important to select the points for taking measurements or profiles and the density of the same, which will depend on the complexity of the region and the degree of obviousness of the state property nature of the cliff in question.

Legal servitudes in relation to land adjacent to the shoreline

In relation to land adjacent to the shoreline, the Coastal Law defines a series of restrictions on ownership by means of legal servitudes in relation to protection, traffic, access to the sea, and area of influence. The concept of the "shoreline" is important as it marks the limit from which the extent of the legal servitude of the MTPD is measured.



Schematic diagram of the MTPD and servitudes

Schematic diagram of the MTPD and servitudes (Source: www.juntadeandalucia.es)

The legal servitudes established under the Coastal law are:

The **servitude of protection**, which applies to an area 100 meters inland from the inner limit of the shoreline, although the same may vary from 20 meters in urban centres (in the case of classified urban land, in addition to the coming into force of the Coastal Law), to 200 meters in cases where the efficacy of the servitude, in accordance with the peculiarities of the stretch of coastline in question, needs to be guaranteed.

Uses in relation to the protected zone shall be adapted to that set forth in articles 24 and 25 of the Coastal Law, subject to the authorization of the pertinent entity of the Autonomous Community (in the case of the Valencian Community) in accordance with the terms of articles 48.1 and 49 of Royal Decree

1112/92, under which the regulations of the Coastal Law were partially altered. Uses permitted in this strip include uncovered sporting facilities, plantations, camping sites, equipment and services designed for users of the coast, in addition to other uses and activities which due to their nature may not be conducted anywhere else. Activities which are expressly prohibited in this coastal strip include all types of residential use, or in other words, the construction of housing or hotels of any nature whatsoever. Housing built in the protection zone prior to the approval of the Coastal Law shall be subject to a special urban scheme equivalent to “beyond planning”, which allows the interested parties to keep their property, with all the consequences involved, and to repair and upgrade their dwellings, provided this does not involve expansion, and always subject to the authorisation of the corresponding Autonomous Community.

The **servitude of traffic** zone is a strip of land of between 6 and 20 meters in width located adjacent to the inner limit of the shoreline and which is therefore part of the protection zone. This area should be permanently available for the pedestrian public and surveillance and rescue vehicles, except in specially protected areas.

The **servitude of access to the sea** is the area of land adjacent to or contiguous to the public domain, of the length and width required to ensure public access and use of the same.

Finally, the Coastal Law defines an **area of influence** of at least 500 meters from the inner limit of the shoreline, in which minimum conditions for the protection of the MTPD are established, and which land and urban planning should comply with. In accordance with the jurisdiction of the Coastal law, the Autonomous Communities exercise their powers in relation to issues of land and coastal planning, ports, urban projects, ocean dumping and others in relation to the scope of the said law in accordance with their respective bylaws.

Analysis of the applicability of article 8 in the Valencian Community

The current Spanish coastal law includes the delimitation of the MTPD and the creation of a protection zone of 100 meters (20 meters in urban areas), expandable to 200 meters whenever an agreement has been entered into with the State, the Autonomous Community and the municipality in question. Moreover, servitudes of traffic and access to the sea are also set forth.

Jurisdiction in relation to the MTPD in the Valencian Community is the responsibility of the central government. The autonomous government is

responsible for issues in relation to the oversight and administration of works and uses in the protection zone, and coastal planning.

The demarcation process in the Valencian Community has almost been concluded. On 31 December 2012, the percentage of concluded demarcated regions registered 96% in the province of Castellon, 98% in Valencia and 94% in the province of Alicante¹. This demarcation has been significantly restricted by the considerable degree of erosion of certain coastal areas, which in some cases has forced the government to conduct second-generation demarcation, moving the demarcation line back in accordance with the changed coastline, generating countless conflicts due to the repercussions of this new demarcation on private property.

By delimiting the MTPD and defining the protected zone at 100 meters inland from the inner limit of the shoreline, the Coastal Law is preserving the 100-meter coastal protection zone set forth in article 8 of the ICZM Protocol (the Parties *"shall establish an area from the highest winter tide mark in which construction shall be prohibited. Taking into account, among other items, the areas directly and negatively affected by climate change and natural risks, this area may not be less than 100 meters in width, in accordance with the terms of paragraph b ..."*), although it is sure the delimitation of the MTPD and protection zone has not been conducted in accordance with the criterion for the mitigation of climate change; in fact, this is one of the critical aspects addressed by the new bill on the Protection and Sustainable Use of the Coastline and the amendment of the Coastal Law (due to replace the current Coastal Law), specifically the effects of climate change were not taken into consideration at the time of defining the protection zone. In fact, certain pressure groups are demanding the new law revising the MTPD include a new demarcation region including the potential effects of climate change in different scenarios in the areas of risk.

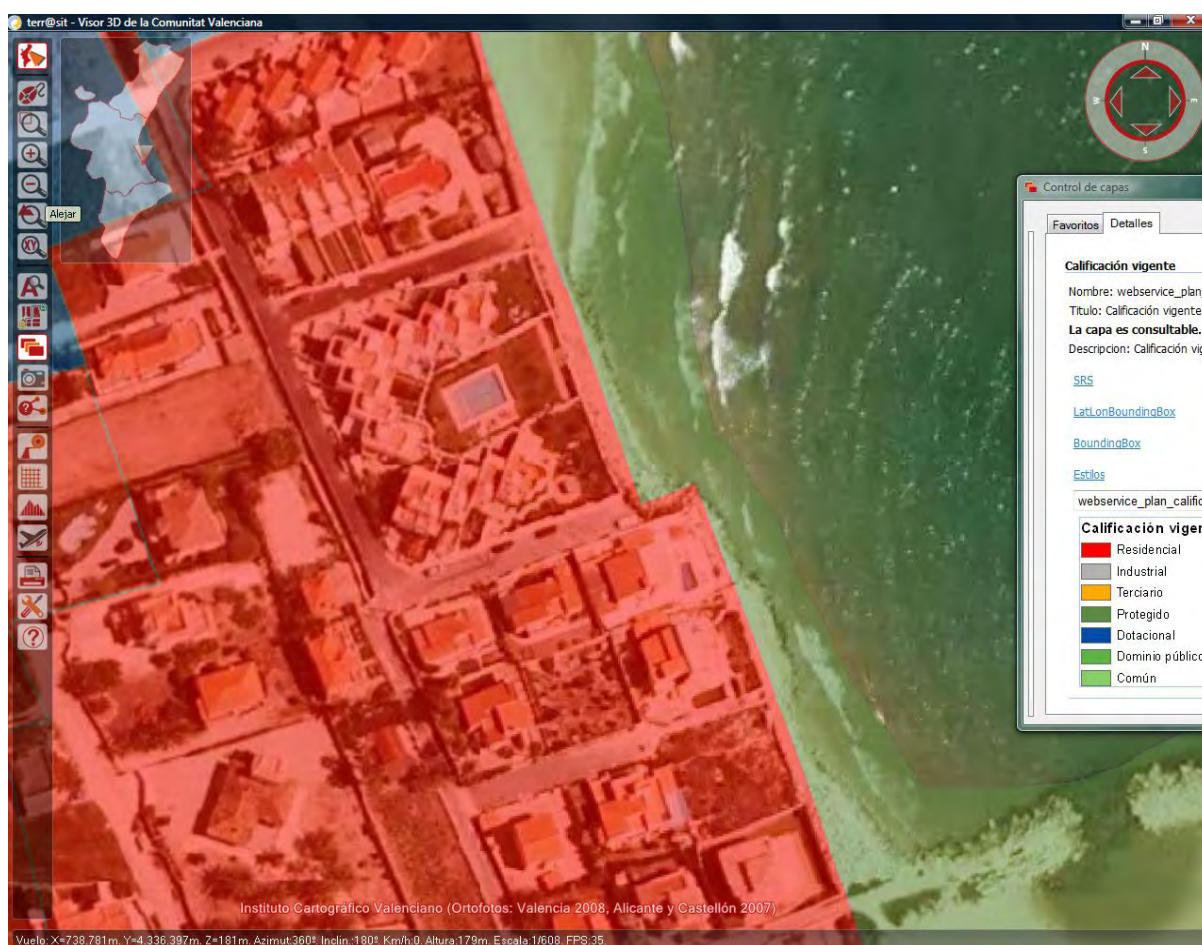
Main critical aspects detected

The review of the land classification maps conducted in the Valencian Community in relation to the coastal strip revealed numerous exceptions where the criterion of maintaining a 100-meter protection zone in accordance with article 8 of the ICZM Protocol has not been complied with. Some of the examples detected are described below:

Urbanised territory

As mentioned previously, an analysis of the town planning for the Valencian Community coastal region, using the 500-meter area of influence defined under the coastal law, reveals that of the approximately 61% of this land is urban and developable, 33% is urban and non-developable protected land, and the remaining 6% is non-developable common land.

Example of failure to comply with the 100-meter protected area on urban residential land (Source: terr@sit – 3D View of the Valencian Community)



Numerous dwellings have been built in the MTPD, many of which were constructed legally prior to the approval of the 1988 Coastal Law, when environmental legislation was minimal, scientific knowledge of coastal dynamics was not as advanced as it is now, and climate change was still not a serious threat. The Coastal Law, in addition to other territorial and environmental legislation, acknowledges the rights of the owners of the legally built housing, but in accordance with a special scheme similar to that of “beyond planning”,

which is also used in other special areas in the country, as they are not included in the uses permitted under the Coastal Law in the MTPD. The Coastal Law establishes a type of "indemnity scheme" on behalf of individuals affected by delimitation.

The provisions in relation to the area of influence do not apply and the width of the protected area is limited to 20 meters in urban or developable areas in which owners of property built there have consolidated their right of use. Dwellings built in the protection zone (the area adjacent to the MTPD), are also subject to an urban scheme equivalent to "beyond planning". Those affected keep their property and may repair and upgrade the same provided this does not imply expansion and subject to the authorisation of the Autonomous Community.

Industrial areas

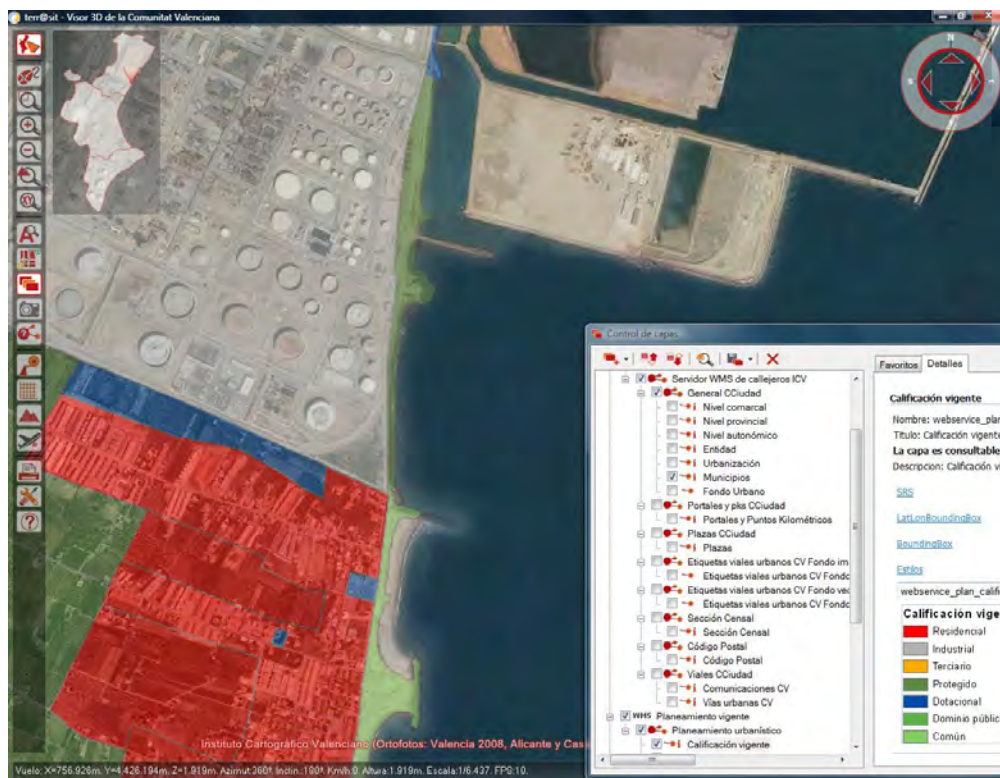


Image of an industrial complex near a port facility (Source: terr@sit – 3D View of the Valencian Community)

The Coastal Law permits the installation of industrial facilities on the coast when the same is of exceptional importance and economically viable, provided the coastal area in question features no beaches, wetlands or other protected environments, and the facilities comply with the urban planning approved by the pertinent authorities.

In general it may be said the industrial areas have been transferred to regions further inland due to the pressure from urban communities in coastal regions, with the exception of industrial and logistics complexes developed around commercial port facilities.

The new bill (due to replace the current Coastal Law) states that the industrial facilities currently located in areas of Maritime-Terrestrial Public Domain will be subjected to a environmental report conducted by the Autonomous Communities, and will be required to operate in accordance with the conclusions drawn from these reports.

Harbours

There are a total of 40 ports in the Valencian Community, occupying around 5% of the coastal strip. There are 5 state-owned general-purpose ports (Castellon, Sagunto, Valencia, Gandía and Alicante) characterised by intense commercial activity, in addition to fishing and water sports, and 35 autonomous ports dedicated to fishing and recreational activity.

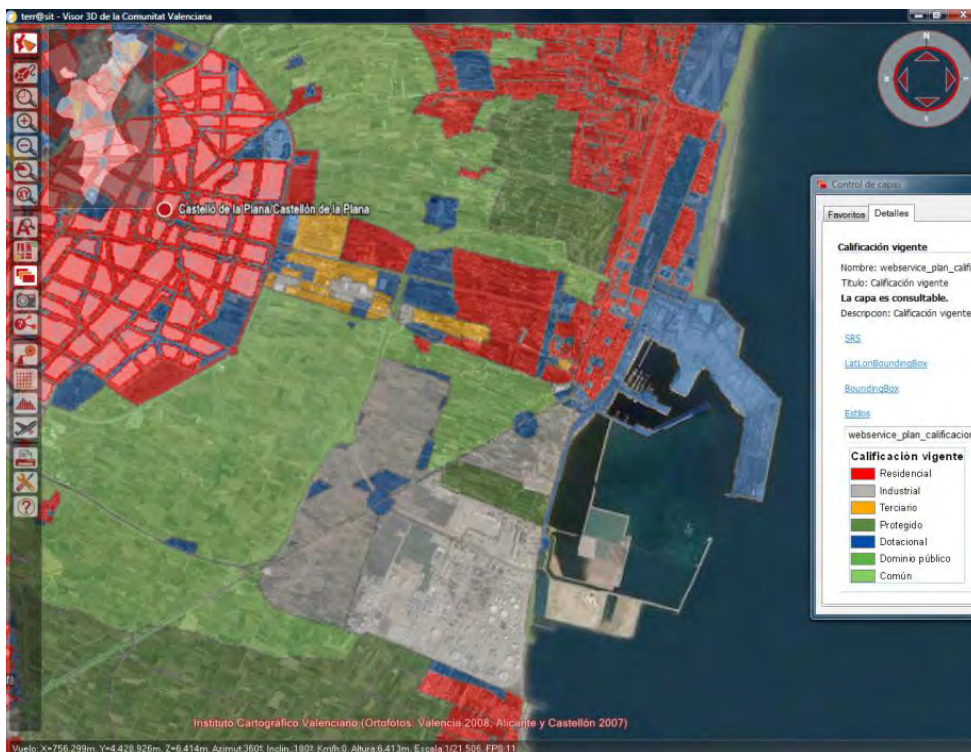
Los puertos de la Comunitat Valenciana según titularidad
Fuente: Conselleria de Infraestructuras y Transporte.



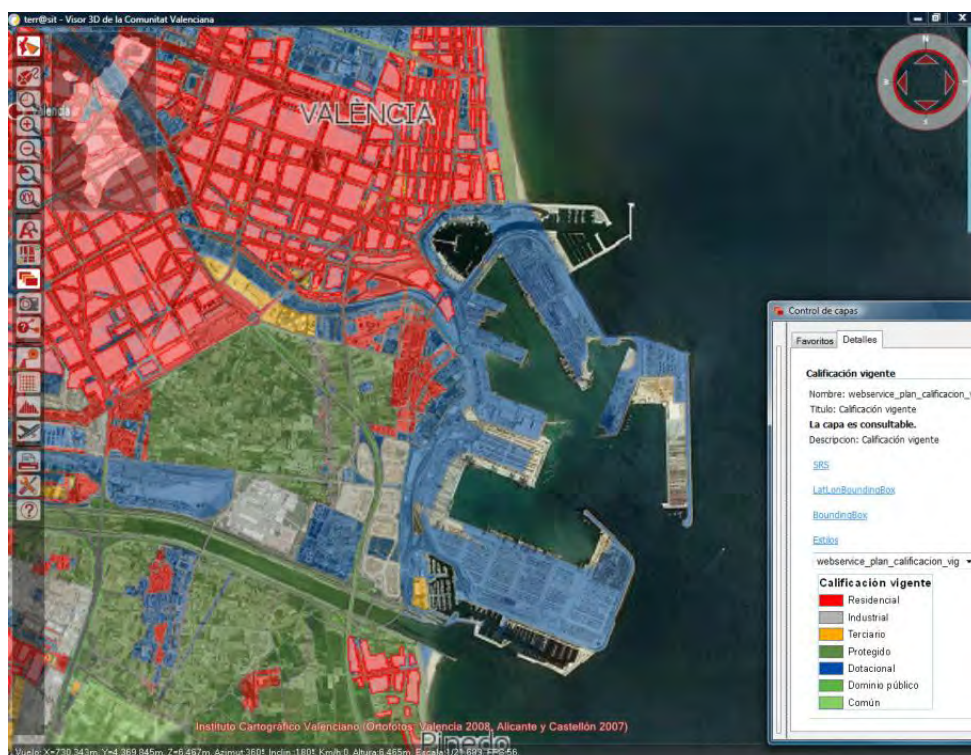
Ports of the Valencian Community in accordance with ownership.

Source: Valencian Community Territorial Strategy. Department of Infrastructure, Land and the Environment)

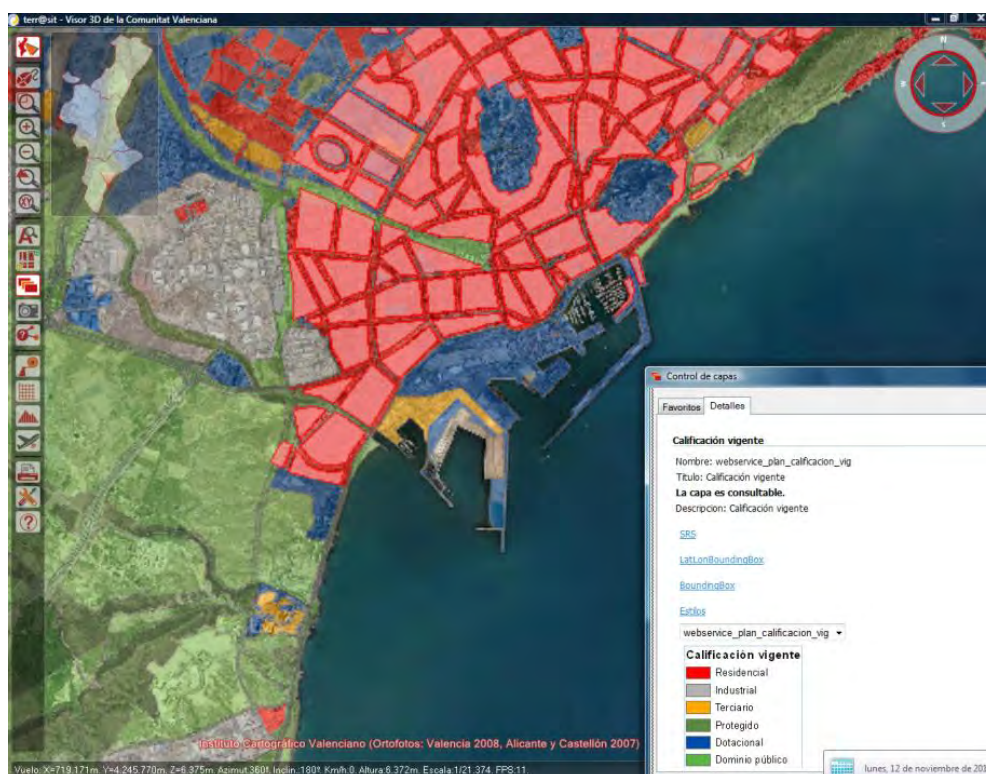
Territorial strategy is based on the enhancement of the current infrastructure rather than the creation of new ports, given the existing structural limitations essentially due to the effects the construction of new port facilities would have on coastal dynamics and certain coastal habitats.



Port of Castellón
(Source: terr@sit
– 3D View of the
Valencian
Community)



Port of Valencia
(Source: terr@sit
– 3D View of the
Valencian
Community)



Port of Alicante
(Source:
terr@sit – 3D
View of the
Valencian
Community)

Nevertheless, certain port facilities have been given permission to expand, a controversial move due to the potential repercussions this expansion might have on neighbouring natural environments.

The general-purpose ports are part of the maritime-terrestrial public domain and the state port public domain, which is governed by the provisions of the Port Law, and additionally, by the coastal legislation.

The planning of the service zone and uses of these ports falls under the jurisdiction of the Port Authorities in conjunction with the pertinent government authorities in relation to land and urban planning. The role of the Port Authorities is to organise the use of the port service zone and to plan and schedule the execution of the same, in accordance with approved land and urban planning tools, in addition to drafting and formulating the special plans for the management of the port service zone in accordance with general urban planning (articles 25 and 26 of the Port Law).

As a means of ensuring the necessary coordination between the administrative bodies with concurrent jurisdiction over port areas, the general plans and other general urban planning tools should classify the service zone of state-owned ports, in addition to the public port domain in relation to the maritime signaling service, as a general port system, may not include determinations which imply interference or disruption to the exercise of powers

of port operations and maritime signaling. This general port system will be developed based on a special plan (article 56 of the Port Law).

The execution of new infrastructure works and the expansion of the existing state-owned ports demand the drafting and approval of the corresponding project and additional analyses, and depending on the type of project subject to the procedure involving the assessment of environmental impact when required in accordance with the specific legislation.

Agricultural areas

Over 30% of all agricultural production in the Valencian Community is concentrated on the coast, the Castellon and Valencia regions specialising in citrus fruits and Alicante in fruits and vegetables.

Livestock farming is insignificant in the coastal region.

Farmland in the Valencian Community is being increasingly used for purposes of tourism and housing.

Natural areas

The coastal region of the Valencia Community is home to unique and highly valuable ecosystems including wetlands, salt marshes, hills and chains of dunes.

Certain undeveloped stretches of the coastal region have been declared natural protected areas since the late 1980s. The Valencian Community coast currently possesses around 115,000 hectares of natural areas protected under environmental legislation.

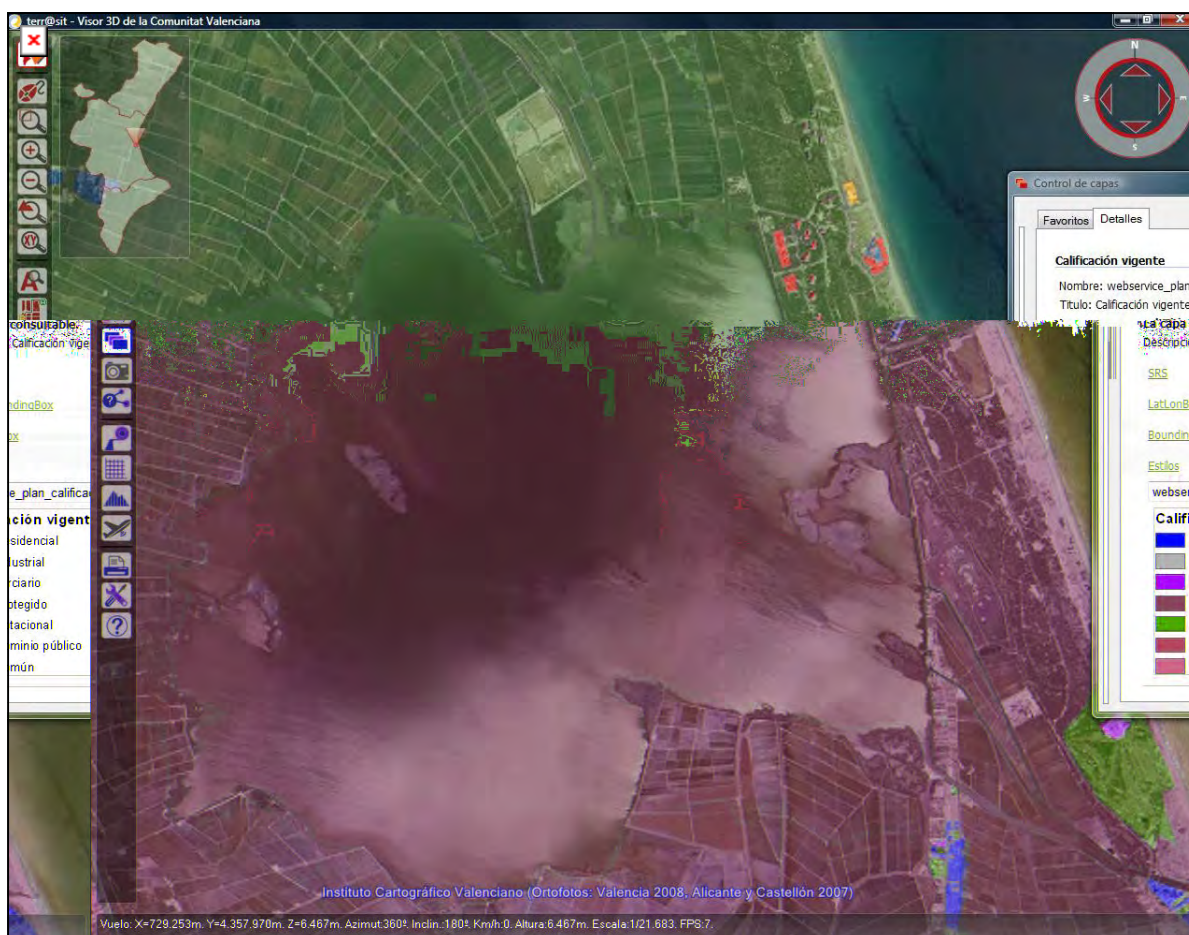
There are different levels of protection depending on the type of natural area in question. Specifically:

- Natural Parks, Natural Settings and Natural Reserves, the protection of which is defined in Law 11/1994 on protected natural areas of the Valencian Community.
- Locations of Common Interest (LIC) and Special Protected Areas for Birdlife, proposed by the Valencia government for the purposes of the Habitat Guidelines (Nature Network 2000).
- The Wetlands, as defined in the *Valencian Community Wetlands Catalogue*.
- These protected areas are the initiative of the municipalities, as the same are catalogued as specially protected non-developable land under urban planning, or because they have been declared Natural Settings.

The Valencia coastal region is home to parks, natural settings and nature reserves, in addition to LICs, ZEPAs, many of the wetlands listed in the Valencia catalogue and natural settings. The planning tools for each of these protected natural areas prevail over land planning tools.

However, despite this protection several problems associated with the enhancement of these natural areas have been detected, mainly due to:

- Insufficient protection, as there are still values requiring protection or further protection.
- The degradation of these areas, many of which are subject to considerable anthropogenic pressure arising from agricultural or urban planning related reasons.
- Insufficient integration of these areas within a single network to ensure more effective use and appreciation of the same.



Parque Natural de la Albufera - Valencia (Source: terr@sit – 3D View of the Valencian Community)

Of the preliminary documents drawn up for the drafting of the ETCV, more specifically the document defining strategic objective N° 9: the coast, the “Guidelines for the planning and integral management of the coast” includes that of “incorporating the natural protected coastal areas and those of the greatest environmental, landscape and territorial value in the green infrastructure of the land”. This “Green Infrastructure” will be composed of ‘a network of open areas in the coastal region encompassing land with some of the following characteristics:

- Protected Natural Areas included in the Wetlands Catalogue, the Catalogue of Caves, and the Network of Microreserves of the Valencian Community.
- Forming part of the Valencian Community Nature Network 2000.
- Areas of high quality in relation to biological diversity such as the “Habitats of Regional Interest”.
- Areas of exceptional landscape and visual value.
- Farmland, particularly that of a high productive capacity.
- The biological and territorial corridors linking the protected coastal areas with those beyond.
- Coastal areas of interest which have not been included in any of the aforementioned categories.
- The areas included in the Network of Valencian Community Coastal Parks might also be considered.

This document also recommends the criteria for town and land planning within the 1,000-meter coastal strip from the MTPD line ensures the biggest possible expanse of open areas, guiding future town planning to comply with the same, particularly in areas of environmental and landscape interest, shorelines free of buildings and biological and territorial corridors, especially those linking the coastline to the rest of the green infrastructure in the region.

Despite these recommendations, several groups have reported significant urban development around coastal areas of high ecological value in recent years.

Conclusions

Based on the above we may conclude that:

- In the scope of the Valencian Community, the management of the coastal region is conducted using different sectoral policies (land planning, landscaping, tourism, ports, protected areas, etc.), whereby there is no general policy facilitating the coordination between the different

administrative bodies with jurisdiction in the coastal strip, and establishing the common bases and criteria for activity in the different autonomous regions with jurisdiction in this field. The ETCV approved in the year 2011 is of a recommendatory nature and not a document binding for all effects and purposes.

- The absence of a general policy in relation to the management of the coastal region has led to coastal planning in the Valencian Community developing under isolated and disjointed urban plans, resulting in ineffective management, whereby economic (urban planning) interests are often placed above respect for and the protection of the environment. The existence of tools of a supramunicipal nature providing coherence to the development of the coastal region would be highly advantageous.
- The demarcation of the Spanish coastline, executed by the Ministry of Agriculture, Food and the Environment, has been a laborious process surrounded by controversy, and is yet to be concluded despite being approved by the Coastal Law in 1988. The definition and delimitation of the MTPD, in addition to the definition of the 100-meter protection zone (20 meters on urban land, or up to 200 meters in cases where it is necessary to ensure the effectiveness of the servitude, in accordance with the peculiarities of the stretch of coastline in question) helps maintain the 100-meter coastal protection zone defined in article 8 of the ICZM Protocol, even though numerous examples of failure to comply with the 100-meter protection zone exist along the Valencian coastline.
- The planning and management of the Valencian coastal region requires the inclusion of criteria capable of dealing with the potential effects of climate change in the area, and particularly at the time of delimiting a protection zone on the coastline. Failure to do so will almost certainly result in many beaches disappearing or dwindling in size within a few decades, and in significant damage to urban coastal facades. This is also one of the weaknesses attributed to the bill on the protection and sustainable use of the coastal region (state level), set to amend the current 1988 Coastal Law, in which there is no mention of strategies and policies in relation to the mitigation of the effects of climate change. Different pressure groups have demanded the need for this bill to include a new demarcation line taking these potential effects into account in order to protect both the population and economic activity, infrastructure, etc, in light of the potential impacts of climate change, in accordance with the principles and goals of the ICZM Protocol and article 8 of the same in particular.

Overall Conclusions and Perspectives

The important experience of MAREMED project, in which the Emilia-Romagna Region had the role of coordinator of the Working Group on ICZM, has allowed to develop effective cooperation, discussion and reflection among the Mediterranean region on policies related to the Integrated Management of Coastal Zones and Maritime Spatial Planning.

This confrontation took as a reference the ICZM Protocol for the Mediterranean (entered into force in March 2011) together with the policies put in place by the European Union in the last years on issues as Integrated Coastal Zone Management, Maritime Spatial Planning, Climate Change adaptation, and mitigation of Coastal Risks by erosion and flooding. The comparison allowed the partner regions to formulate a framework of purposeful activities, contributing to the construction of specific European policies for the Mediterranean for the period 2014-2020. This to support the action of the maritime regions in tackling these themes with a level of efficacy adequate to the specific challenges.

From the Diagnostic phase analysis a number of indications/messages came out about policies for a further and more diffused implementation of the ICZM. These messages, included in the Diagnostic phase report (pp. 47-50), can be considered as a "voice" from the Regions towards the European Commission.

The Pilot Actions work phase allowed, on one hand, the identification of compliances and gaps between ICZM Protocol provisions and regional/national legal framework on coastal zones, on the other hand, the preliminary drawing of a set-back zone (Art. 8-2 of the Protocol) and the analysis of impacts due to the application of the same Art.8, in relation to existing spatial and urban planning instruments together with the identification of a path for their eventual adjustments. This analysis and test can be an useful reference for the future application of the ICZM Protocol by the signatories parties.

The "Bologna Charter 2012", jointly signed by 14 maritime Administrations on the 21st of March at the European Parliament in Brussels, within an event

dedicated to MAREMED project, represents first and foremost a political commitment to cooperate in addressing these issues in a shared way.

The Charter also represents the consolidation and the extension of a Mediterranean partnership of maritime Regions and other Administrations (NUTS II and III) coming from previous project experiences of the former (2000-2006) and present programming period (2007-2013) as the BEACHMED project, the RFO BEACHMED-e (Interreg III C South), COASTANCE (MED program), MEDGOVERNANCE (MED program), SHAPE (IPA-Adriatic), RESMAR (CBC Italy-France), achieving recognized and appreciated results.

The Charter is also a vehicle of concrete proposals inscribed in the Macro-project outlined in the political document that sets out a strategy declined in a number of lines of Action (sub-projects) that the adherent parties, and others that will join in the future, are intended to support and implement in the 2014-2020 period. This in a logic of cooperation and extension of the area of cooperation at the basin scale and of contribution to the implementation of European policies for the Mediterranean that, we believe, will meet the interest and support of the European institutions.

The project proposal COASTGAP recently approved within the call for Capitalisation projects of the MED Programme, will provide, within 18 months from July 2013, the opportunity to prepare in detail the Macro-project and its sub-projects ready to be implemented over the next seven-year period of the Structural Funds programming.

In conclusion of the fruitful experience of MAREMED, that represents on one hand a synthesis of previous and still on going European projects and on the other hand a step forward into the next programming period, we see the opportunity and formulate the auspicious that for the next period can be activated specific financial instruments to support system initiatives that can address the major issues of the Mediterranean. Because it is in this way that we can help create that economy and that smart, sustainable, inclusive growth that we all share as an important goal to pursue with decision and determination.