



MSP in the Adriatic: problem and opportunity analysis, thematic mapping and inputs for a future vision

Action 4.3 Final Report

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External Expert:



Thetis S.p.A.



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Thetis S.p.A.
Castello 2737/f, 30122 Venezia
Tel. +39 041 240 6111
Fax +39 041 521 0292
www.thetis.it





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Annex 1 – Questionnaire on MSP implementation in the Adriatic Sea

Annex 2 – Maps of marine and coastal uses



List of Acronyms

ARPA = Regional Environmental Agency

BPZ = Biological Protection Zone

CAMP = Coastal Area Management Programme

CFP = Common Fishery Policy

COASTGAP = Coastal Governance and Adaptation Policies in the Mediterranean

COM = Communication

CRPM = Conference of Peripheral and Maritime Regions of Europe

DG MARE = Directorate General Maritime Affairs and Fisheries

EC = European Commission

EC COM = European Commission Communication

EU = European Union

EUSAIR = European Union Strategy for the Adriatic and Ionian Region

GES = Good Environmental Status

GIS = Geographic Information System

GPS = Global Positioning System

ICZM = Integrated Coastal Zone Management

IMO = International Maritime Organisation

IMP = Integrated Maritime Policy

IPA = Instrument for Pre-Accession Assistance

IUCN = International Union for Conservation of Nature

LNG = Liquefied Natural Gas

MASPNOSE = Maritime spatial planning in the North Sea

MPA = Marine Protected Area

MSFD = Marine Strategy Framework Directive

MSP = Maritime Spatial Planning

NGO = Non-Governmental Organisation

OG = Official Gazette

PC = Policy Research Corporation

Shape = Shaping an Holistic Approach to Protect the Adriatic Environment between coast and sea

SIC = Sites of Community Importance

SME = Small Medium Enterprise



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SPA = Special Protection Area

TPEA = Transboundary Planning in the European Atlantic

UNCLOS = United Nations Convention on Law of the Sea

UNEP-MAP = United Nations Environment Programme – Mediterranean Action Plan

WFD = Water Framework Directive

WP = Work Package

1 Introduction

The Shape project is structured in 5 Work Packages (Figure 1-1). Apart the horizontal ones, namely WP1 – Project management and Coordination and WP2 – Communication and Dissemination, three WPs have been defined to embrace all the technical activities at the core of the project: WP3 - Integrated Coastal Zone Management and WP4 - Shipping towards Maritime Spatial Planning, and WP5 Within Land and Sea. WP4 is in turn structures in 5 actions:

- Act. 4.1 – Holistic management of the Adriatic Sea. bridging the gap between EU Policy tools (WFD, ICZM, Natura 2000, Marine Strategy, MSP, IMP) and legal framework;
- Act. 4.2 – Define the ecosystem as the basis of MSP;
- Act. 4.3 – MSP in the Adriatic: problem analysis and thematic mapping;
- Act. 4.4 – Pilot project on MSP; integrating MSP and ICZM
- Act. 4.5 – Common methodology for MSP at local scale in the Adriatic.

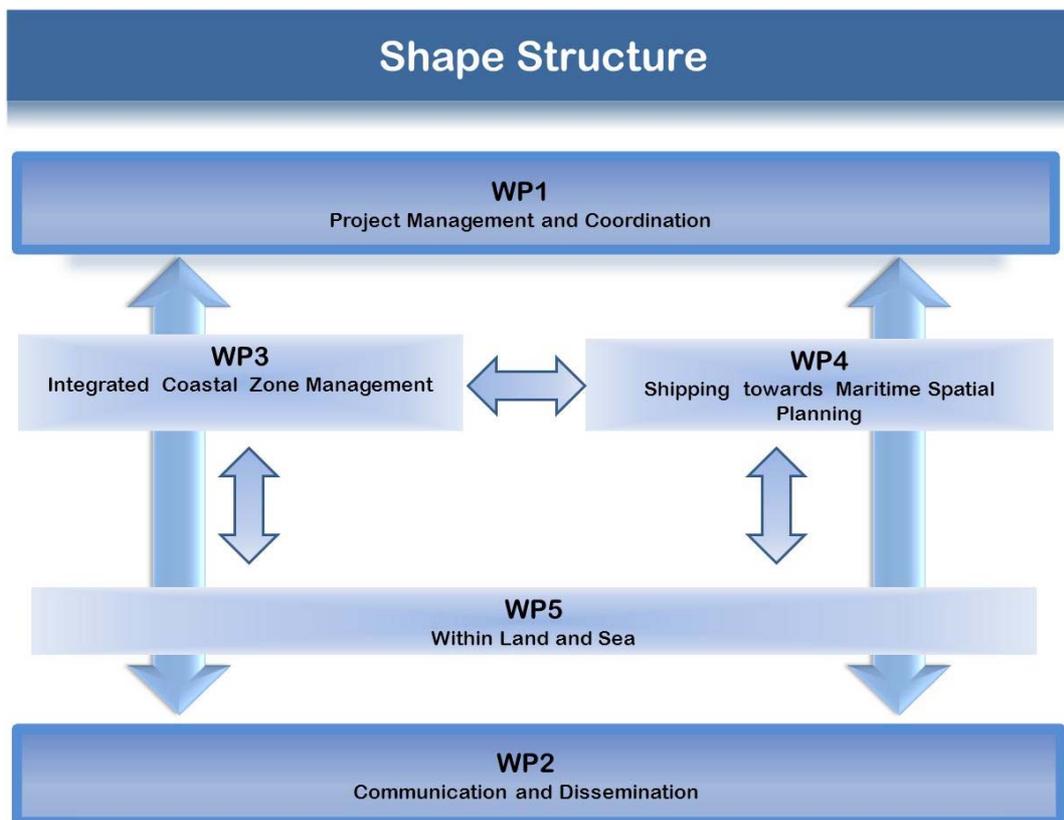


Figure 1-1 The Shape Project Structure.

The present document is the final report of Action 4.3 that aims at analysing main opportunities and challenges related to MSP implementation in the Adriatic Sea. These were identified on the basis of the outcome of parallel Actions of WP4, considering in particular Action 4.1 dealing with the assessment of the existing legal, policy and planning framework and instru-



ments related to MSP implementation in the Adriatic Sea, as well as already developed studies and projects such as: (i) the EC DG MARE study “The potential of Maritime Spatial Planning in the Mediterranean Sea” (PRC, 2011a) and more specifically the case study report on the Adriatic Sea (PRC, 2011b); (ii) the Plancoast project¹. As illustrated in chapter 2, main problems and possible opportunities related to MSP implementation in the Adriatic Sea were further investigated through structured questionnaires (included in Annex 1).

Mapping is a core activity of the MSP process, supporting various methodological steps, as: analysis of existing conditions of the maritime space, spatial representation of conflicts and compatibility among uses and analysis of future conditions of the maritime space, in particular through spatial scenarios of sea uses. Mapping can be therefore useful in the understanding of problems and opportunities related to the concrete implementation of MSP considering present uses and their future evolution. Within WP5, Shape partners put their effort together to develop a first shared set of spatial information supporting ICZM and MSP in the Adriatic Sea, which has been merged in the Web-based “Adriatic Atlas to support ICZM and MSP”. Spatial data available (by 10th February 2014) in the Atlas at the basin or sub-basin scale were used to elaborate the thematic maps included in Annex 2 of this report and illustrated in chapter 3. These maps wish to represent a first spatial information basis for MSP, to be surely improved in possible next activities and projects (as in terms of geographic coverage and mapped elements), in particular dealing with the updating and evolution of the already mentioned Adriatic Atlas.

Given the intrinsic dynamic nature of the MSP process, the full understanding of challenges and opportunities requires also the definition of a common and shared vision of the future evolution of the Adriatic Sea, to be used to orientate the whole planning exercise. Due to its central and guiding role in the whole MSP process, the elaboration of the vision at the Adriatic scale needs a full stakeholder involvement and enough time for drafting, discussion and finalisation. It is therefore a key step of the initial phase of MSP that is out of the scope of the Shape project. Initial inputs for this step can be however derived from existing policy documents and are illustrated by Chapter 4. These inputs were discussed and agreed with Shape partners and are intended to stimulate the future discussion and hopeful implementation on MSP in this macro-region, in particular coherently with the EU Strategy for the Adriatic and Ionian Region – EUSAIR currently under development (cfr. par. 4.1.4). Finally, chapter 5 illustrated conclusive remarks of the report, identifying opportunities and challenges for MSP implementation in the Adriatic Sea in a cross-border perspective.

¹ <http://www.plancoast.eu/>; last access 10th February 2014.

2 MSP in the Adriatic: problem and opportunity analysis

The study “The potential of Maritime Spatial Planning in the Mediterranean Sea” (PRC, 2011a) promoted by the EC DG MARE, and more specifically the case study report on the Adriatic Sea (PRC, 2011b), highlighted that the Adriatic sea is one of the Mediterranean area with the highest potential for the application of the Maritime Spatial Planning. These potentialities are related to:

- the intense use of the sea and the foreseen increase in sea uses and conflicts between human activities, including habitat protection and biodiversity preservation;
- the availability of a good level of marine knowledge, although mainly concentrated on marine areas close to the coast;
- the availability of national and regional frameworks for marine policy or coastal planning, although mainly approached in a sectorial way;
- the existence of cross-border cooperation initiatives among Adriatic countries and coastal regions.

Activities performed by Shape Action 4.1² enabled to analyse the existing legal, policy and planning framework and instruments related to MSP implementation in the Adriatic Sea and to derive conclusions coherent with those highlighted by the EC DG MARE study; main conclusions are summarised below.

Maritime Spatial Planning, compared to land use planning and ICZM, is a fairly new and emerging process in the Adriatic Sea. The process is therefore at an embryonic stage and it is characterised by differences in the existing legal, policy and planning framework depending on various factors, including different needs within the basin and longer or shorter membership to the European Union. Strong and effective coordination on marine and maritime issues within countries (i.e. among national, regional and local authorities) still needs to be established. Countries and regions analysed by Shape Action 4.1 (Italy, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro and Albania) did not develop by 2013 an Integrated Maritime Policy and the management of maritime space and resources is still fragmented. Therefore MSP has not been implemented, yet. However, several sector laws, plans and operative instruments related to the management of the marine space and maritime activities are well developed in all the countries of the basin, with differences also depending on the EU membership; these all together represent a good and well developed starting point for the future development of MSP in the Adriatic region.

Moreover, MSP seeds have been planted and are starting to sprout in the Adriatic, including for example: the Croatian Coastal and Marine Strategy to be developed in the next future, the Italian Ritmare Flagship project on marine research including a sub-project on MSP, the Slovenia Resolution on the National Maritime Development Programme (OG RS, No. 87/2010) taking into account IMP principles and goals, the Strategic Plan for Marine and Coastal Pro-

² See the report “Approaching to a common and legally binding MSP in Adriatic area: an integrated analysis of the legal framework, policies and planning instruments”, Action 4.1 Final Report



tected Areas under development in Albania, the Spatial Plan for the Coastal Zone of Montenegro including territorial waters and the connected CAMP project.

Cooperation among nations within MSP is still far to be reached, even due to relevant differences in government structures that make difficult to introduce uniform solutions for MSP policy making. Four key initiatives on cross-border cooperation already exist in the Adriatic Sea that could help and facilitate the dissemination of the MSP concepts in this basin: the Joint Commission for the protection of the Adriatic, the Adriatic - Ionian Initiative, the Adriatic Euro region and the IPA Adriatic Programme. International agreements are also in place among the Adriatic sea countries and/or regions. All these initiatives, projects and international agreements show that cross-border/international cooperation is well advanced in this area, providing a good basis for a cooperative effort aiming to implement MSP in an Adriatic basin perspective. A big boost to coordinated actions, also on MSP and ICZM issues, will derive from the adoption and implementation of the EU Strategy for the Adriatic and Ionian Region - EUSAIR and the related Action Plan under development (see chapter 4).

In the Adriatic Sea, the need for MSP is very strong, in particular for its intense use and for the potential growing conflicts among user's needs and ecosystem protection policies. The Maritime Strategy for the Adriatic and Ionian Seas (EC COM(2012) 713) (see chapter 0), that is integrated within EUSAIR, stresses this concept, recognising that "Maritime Spatial Planning (MSP) is a key element to achieve the kind of decision-making that balances sectorial interests competing for maritime spaces", in particular in relation to the increased economic use of the marine and coastal space.

The future development of MSP will be highly influenced by the need of a holistic and ecosystem-based approach that allows the contemporary management of an increasing demand for sea space and of an ecologically responsible decision-making. For the implementation of this process it is important to progressively reach a more efficient vertical and horizontal coordination between national and regional authorities and among countries. Indeed, the interconnection of sea spaces, the cross-boundary impact of sea uses and land-based sources, the needed agreement on sustainable management of maritime resources and more generally the broader scale needed to be ecologically meaningful, require the development of an international and cooperative perspective in the implementation of MSP in this basin.

Starting from those considerations, main problems and possible opportunities related to MSP implementation in the Adriatic Sea were further analysed through structured questionnaires. Paragraph 2.1 describes the adopted methodology, while successive paragraphs of this chapter analyse questionnaire results.

2.1 Methodology

The analysis of problems and opportunities of MSP implementation in the Adriatic Sea was conducted through the questionnaire reported in Annex 1. The questionnaire is mostly formed by structured questions with pre-defined answers that respondents were required to tick, while open questions are limited in number to facilitate questionnaire compilation. Questionnaire demands are structured in three main sections:

- Section A – Identification of respondents; this section includes 6 questions enabling to gather information on main characteristics of respondents: Adriatic country of origin, ty-

pology of represented institution or body, areas of interest, marine sectors of interest, familiarity with MSP principles, and actual involvement in MSP implementation;

- Section B – MSP implementation in the Adriatic; this section focuses on the analysis of main elements (problems and opportunities) related to MSP implementation in the Adriatic basin, i.e.:
 - Usefulness of MSP for the sustainable management of Adriatic Sea resources and space;
 - Benefits of MSP implementation in the Adriatic Sea;
 - Importance of the MSP key principles, as identified by the Roadmap for MSP (EC COM(2008) 791);
 - Link between MSP and MSFD;
 - Cross-border cooperation within MSP in the Adriatic Sea;
 - Identification of sectors for which cross-border cooperation can provide most benefits;
- Section C – Uses compatibility in the Adriatic Sea; the first part of C section of the questionnaire aims to analyse the relevance of present and future different uses of the Adriatic Sea. To this regard, respondents were asked to rank present and future uses of the Adriatic Sea through semi-quantitative scores. In the second part respondents were required to fill a matrix to indicate compatibility and incompatibility between different maritime uses.

Questionnaires were distributed to all Shape partners and to external Adriatic stakeholders. In particular, these latter were involved during two events organised within the Shape project, i.e.:

- the “International Conference: Integrated Coastal Zone Management and Maritime Spatial Planning” held in Venice 5-6 June 2012;
- the Coast Day event held in Split on 25 September 2012.

2.2 Identification of respondents

The activity enabled to gather 25 questionnaires; respondents included both Shape partners and other Adriatic stakeholders involved in the Shape project through dedicated meetings. Main respondents' characteristics are summarised by the following points and related figures:

- The great majority of respondents are from Italy, reflecting the participation of all the Italian Adriatic regions in the Shape project. Italian stakeholders were also directly contacted at the International Conference held in Venice in June 2012 (Figure 2-1).
- 68% of respondents are from public authorities (mostly regional administrations) acting at the sub-national level. Other represented typologies of actors include: international organisation, EU project, public research institution, the civil society and medium enterprise (between 50 and 250 employees) of the economic sector (Figure 2-2). It is important to highlight the absence of the national governance level within the respondents' sample.

- Respondents are mostly interested to the coastal component of the marine-coastal space, including coastal waters as well (in 17 cases), that are part of the area of interest of MSP approaches. The continental shelf and the “open sea” are relevant for a limited number of respondents (Figure 2-3). This appears to be strictly related to answers to the previous questions, being the international and national level poorly represented by the collected sample.
- 80% (20 cases) of respondents are involved in sectors and/or policies focusing on environmental issues. Other sectors significantly represented by the collected sample are: spatial planning (52%), nature conservation (24%), marine research (24%) and sand extraction and dredging (16%). Other sectors are related to one or two respondents (Figure 2-4).
- The positive figure emerging from this section of the questionnaire is that almost all the responding stakeholders are familiar with MSP principles (92%, considering both “yes, somewhat” and yes, fully” responses), thus confirming the importance of Maritime Spatial Planning in the Adriatic Sea (Figure 2-5). However, 68% of respondents have not or have not often been involved in MSP (Figure 2-6), confirming the great importance of actions aiming to support MSP diffusion and implementation in the Adriatic basin, such as the Shape project.

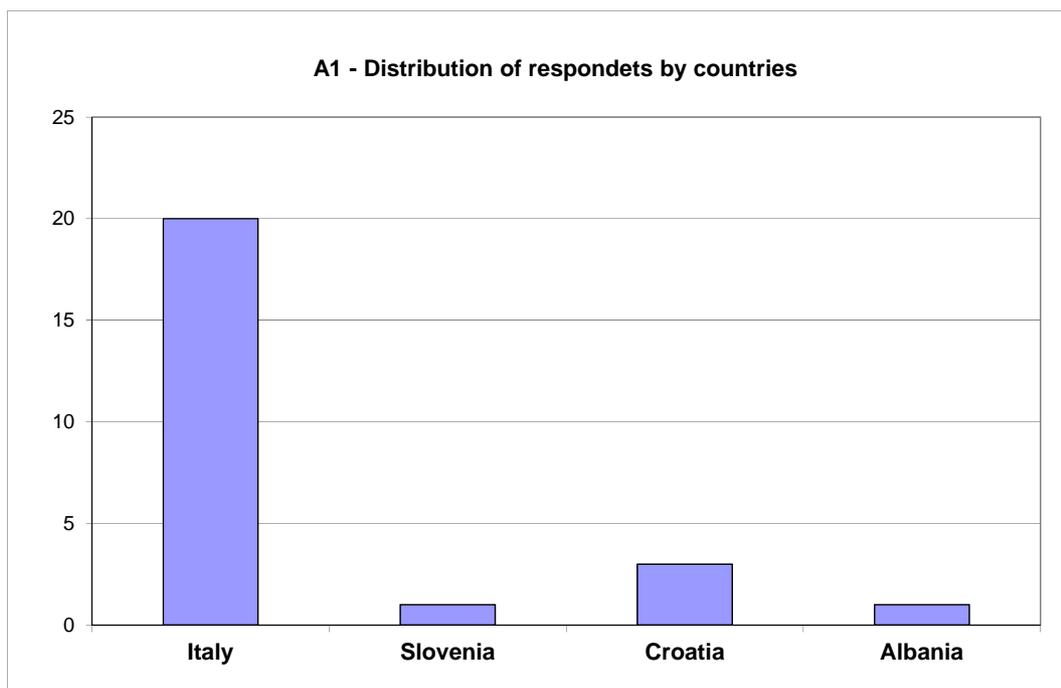


Figure 2-1 Distribution of respondents by countries (question A1; single response allowed).

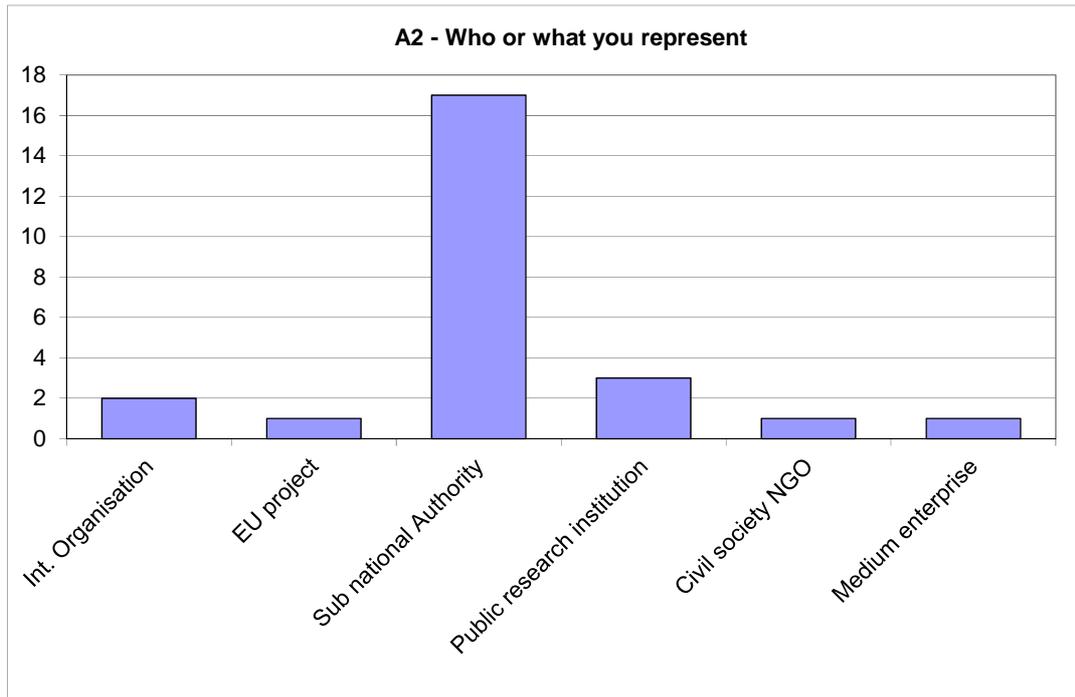


Figure 2-2 Sectors represented in the respondents sample (question A2; single response allowed).

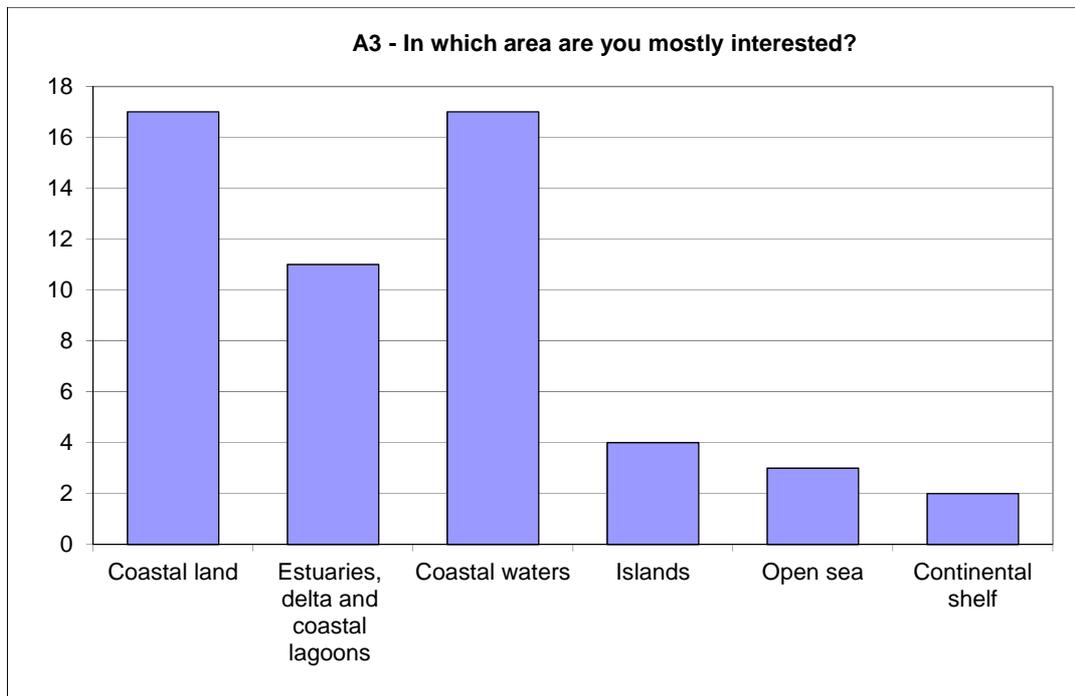


Figure 2-3 Areas of interest of respondents (question A3; multi-response allowed).

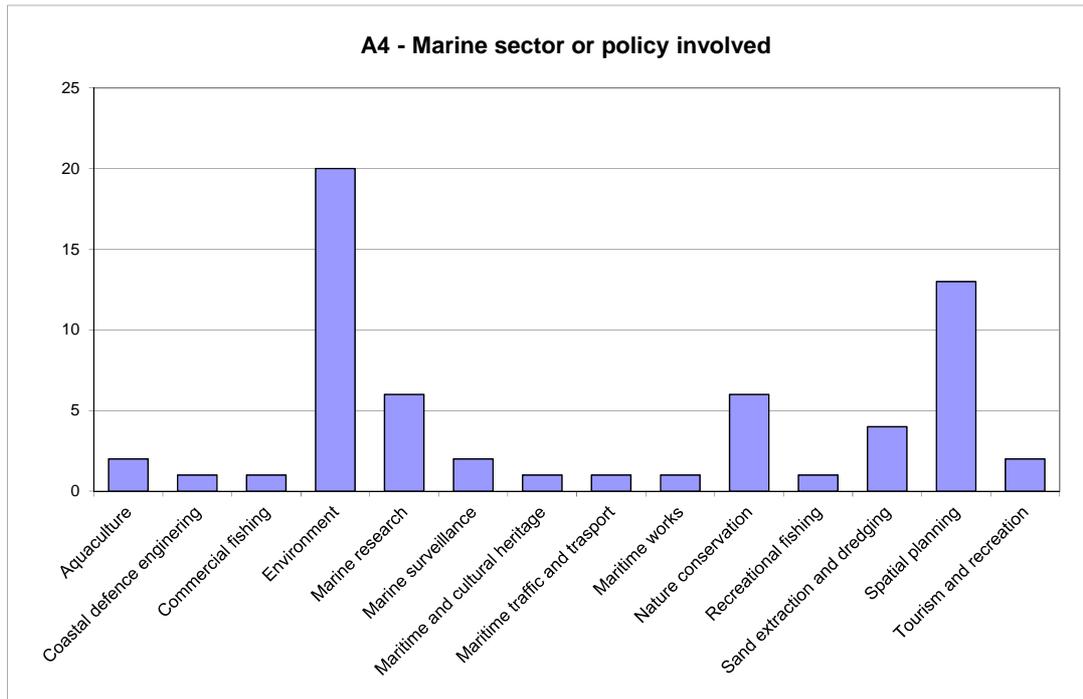


Figure 2-4 Marine sectors of interest of respondents (question A4; multi-response allowed).

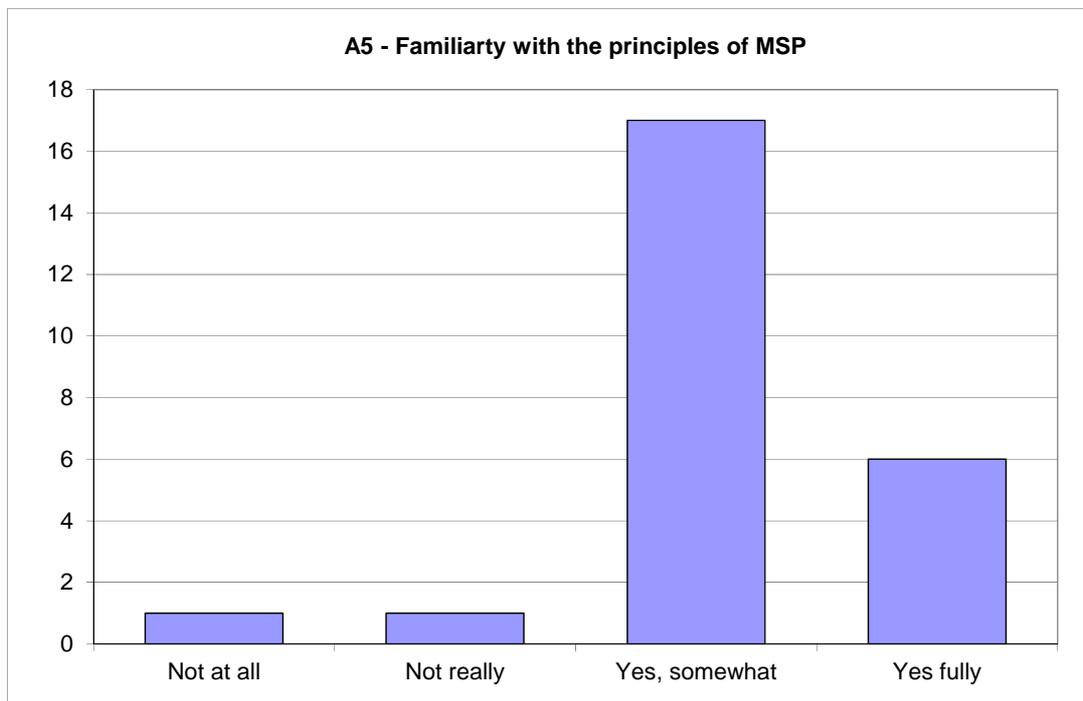


Figure 2-5 Familiarity with MSP principles (question A5; single response allowed).

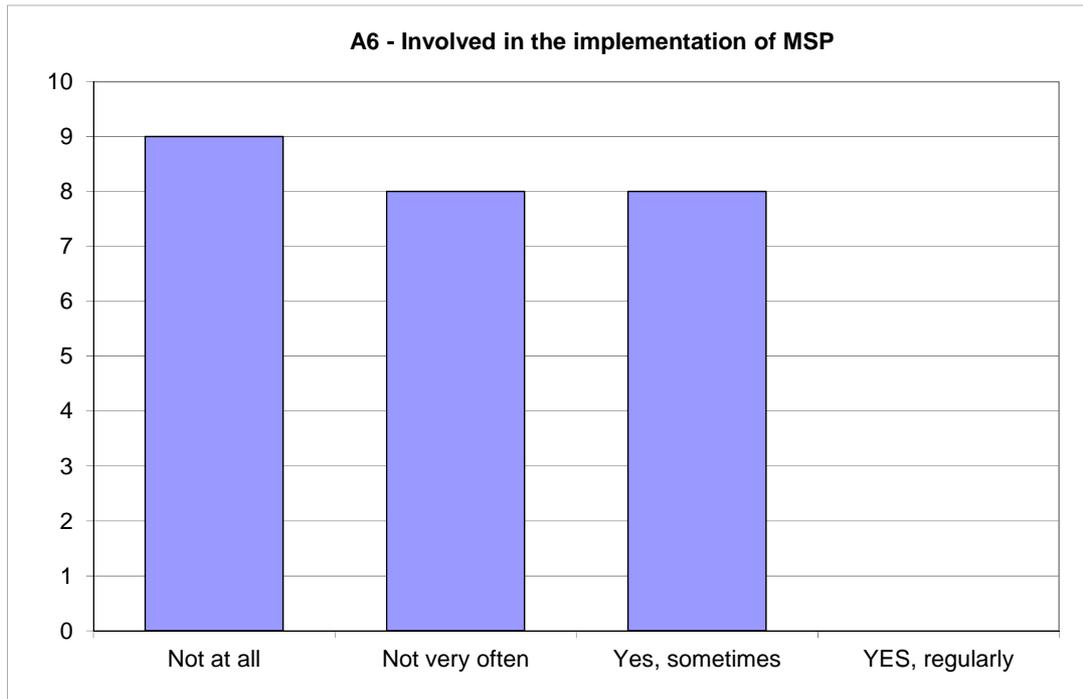


Figure 2-6 Actual involvement in MSP of respondents (question A6, single response allowed).

2.3 MSP implementation in the Adriatic

In the great majority of responses (92%) MSP is considered a useful process/tool for the sustainable management of the Adriatic Sea space and marine resources, as shown in Figure 2-7. As a second question of the B section of the questionnaire, stakeholders were asked to give a 1 to 5 (1 insignificant, 5 very significant) score to expected benefits of MSP for the Adriatic Sea. All considered benefits got an average score greater than 3 (Figure 2-8). Five elements got an average score greater or equal to four, thus being considered as significant or very significant benefits of MSP implementation in the Adriatic Sea:

- Environmental protection (average score = 4.5);
- Sustainable use of resources (average score = 4.3);
- Improved stakeholder involvement (average score = 4.2);
- Improved marine safety (average score = 4.2);
- Maintenance and restoration of ecosystem services (average score = 4.0).

Benefits ranked as most relevant ones confirm the multi-objective nature of the MSP process, including not only environmental protection, but also other relevant aspects, some of which are at the basis of the EC Blue Growth (EC COM(2012) 494), as in particular the sustainable use of marine resources, also depending from the preservation and improvement of ecosystem services.

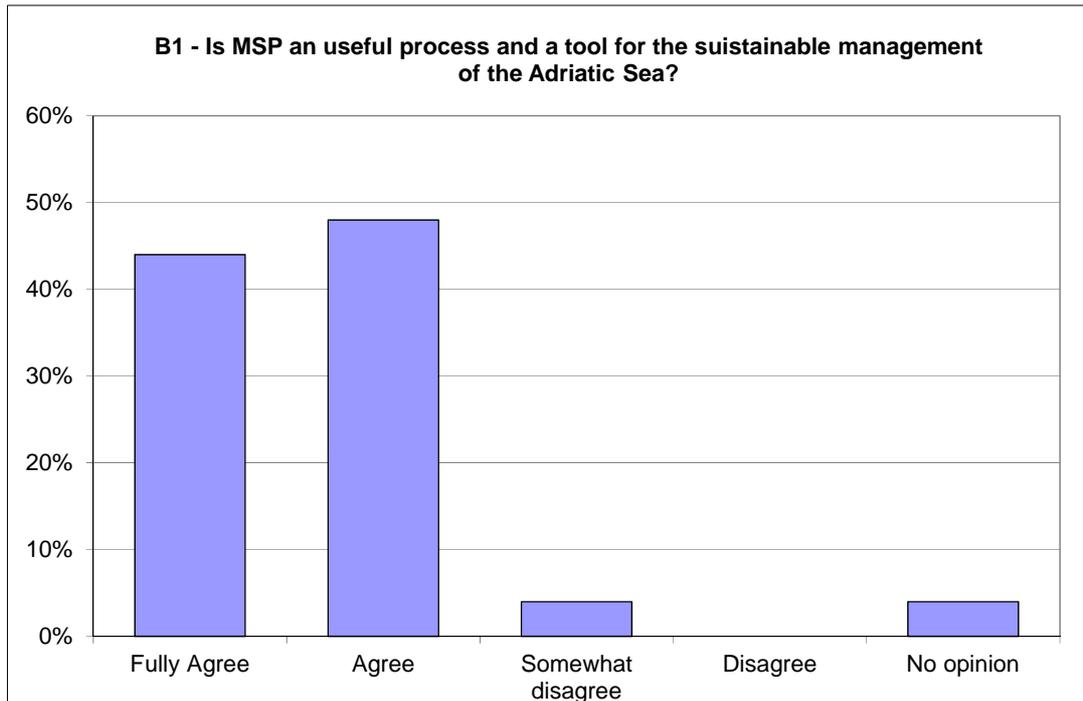


Figure 2-7 Relevance of MSP in the Adriatic Sea (question B1; single response allowed).

EC COM(2008) 791 “Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU” identifies 10 key principles emerging from MSP practice. Similarly to the previous questions involved stakeholders provided a 1 to 5 (1 insignificant, 5 very significant) score to the relevance of each key principle for a successful implementation of MSP in the Adriatic. All principles got high average score (greater than 3.5; first 7 principles got average score greater than 4); score variability is rather limited varying between 3.8 and 4.4. This implies that all principles are considered more or less equally relevant. The highest ranked principle confirms the importance to pursue a coordinated and integrated application of ICZM and MSP in the Adriatic Sea, probably due to the same nature of this basin being a semi-closed sea where coastal (natural and anthropic) processes and pressures exercise great influence on marine dynamics and maritime uses. Stakeholder consultation and cross-border cooperation are also ranked among the most relevant principles for a successful MSP implementation, stressing again the relevance of added-values provided by collaborative efforts and shared objectives and actions.

MSP is considered one of the fundamental tools (together with ICZM) for the implementation of the Integrated Maritime Policy of the European Union (EC COM(2007) 575). The same IMP considers the Marine Strategy Framework Directive (MSFD) as its environmental pillar (EC COM(2009) 540). Links between MSP and MSFD are surely relevant, although still matter of analysis and detailed definition. The ecosystem approach is the overarching principle of both MSP and MSFD and MSP can be one of the measures to be implemented with the aim to contribute to reach the GES. To this regard MSP can be used to: (i) reduce marine-based source of pressure to the marine environment; (ii) eliminate or reduce conflicts among uses and areas with high naturalistic and ecological relevance, (iii) identify areas to be protected to preserve processes and functions that are essential in achieving the GES, (iv) identify environmental hot-spot areas where more intense measures are necessary, (v) define synergies among uses



that can provide win-win solutions for socio-economic development and environmental protection, i.e. sustainable management of marine resources. A more detailed analysis of MSP-MSFD links is included in Shape Action 4.2 Final Report "Definition of the Adriatic ecosystem quality as basis for Maritime Spatial planning. Contribution to the initial assessment of marine Adriatic waters according to Directive 2008/56/CE".

Questionnaire results recognised the relevance of MSP-MSFD links; 80% of responders agree on the statement that MSP can provide added-value to the implementation of MSFD in the Adriatic Sea (Figure 2-10). Related to this question, respondents provided remarks on how MSP can contribute to MSFD implementation; i.e.:

- MSP would drive European states towards the harmonisation of national sectoral legislation on the marine space, including those focusing on environmental issues;
- MSP implementation implies sharing of data and best practice that can provide benefits to MSFD as well, in particular to the achievement of its goals;
- MSP and ICZM integration would support the achievement of coherence between terrestrial and maritime planning, improving the integrated management of land and marine-source of pressure and reducing impacts to the marine environment;
- MSP aims to optimise planning and improve management of maritime uses (including nature protection), reducing conflicts and possibly increasing synergies. In this way MSP can contribute to reduce impacts of maritime economic activities on the marine environment;
- MSP can provide an operative framework for the implementation of spatial measures (including monitoring) to be realised under the Directive to achieve a GES of Adriatic marine waters, in particular in relation to spatial distribution of pressures and impacts caused by human activities;
- MSP could help in dealing with the identification of adaptation measures to climate change at the Adriatic scale, providing also benefits to climate change-related environmental aspects and therefore to MSFD goals;

Responses to question B3 identified cross-border cooperation as one of the most important key principle for the successful implementation of MSP in the Adriatic Sea. Cross-border cooperation is also strategically important to ensure coherence of MSFD application at the Adriatic Sea scale and to include in the MSFD process marine areas not included in those under national jurisdiction. Cross-border cooperation in the Adriatic Sea is considered more or less equally difficult (52%) or feasible (48%) by questionnaire respondents (Figure 2-11). The optimistic view is supported by cooperation initiatives already in place (e.g.: the Joint Commission for the protection of the Adriatic, the Adriatic - Ionian Initiative, the Adriatic Euro region, various cooperation projects as those funded by the IPA Adriatic Programme, and the on-gong initiatives drafting EUSAIR and the related Action Plan) that provide a good basis for a cooperative effort aiming to implement MSP in a Adriatic basin perspective.

Cross-border cooperation in the Adriatic Sea is considered particularly necessary for the following sectors:

- Data gathering and exchange (68%), that constitutes a necessary step in any cooperative planning or management effort;



- Fishing and conservation of fish stocks (60%), considering the relevance of this activity for both shores of the Adriatic Sea and the intense pressure on natural stocks;
- Environment (56%), strictly related to the implementation of the MSFD;
- Spatial planning and regional development (56%), that calls directly for the implementation of an MSP approach at the Adriatic scale;
- Maritime traffic and transport (52%), due to the relevance of this activity in the basin related to industrial and commercial maritime transportation, cruising and coastal and marine tourism;
- Nature conservation (44%), considering that the Adriatic Sea is not only characterised by intense human use but even by the presence of areas of high naturalistic relevance. The issue of nature conservation is strictly related to the need to improve networking among marine and coastal protected areas within the umbrella of the Natura 2000 initiative.

Finally, the questionnaire enabled to gathered suggestions for MSP implementation in the Adriatic Sea through an open question (B7). Most relevant suggestions are summarised in the following points:

- Political willingness of all Adriatic countries, definition of agreements and respect of agreement provisions is essential to start an MSP process in the Adriatic Sea. The initial step of the process should also clearly define MSP objectives and expected results, also to avoid that MSP becomes an undefined and unapplied theoretical concept;
- Particular attention has to be given to improve the (vertical and horizontal) coordination among existing institutional organisations dealing with maritime issues, due to the fragmentation of competences and responsibilities among various governance levels (national, regional and local);
- The implementation of UNCLOS within the Adriatic should be strengthened through cooperation among countries, also to solve existing undefined situations (in particular among ex-Yugoslavian countries). This will provide a legal framework to Maritime Spatial Planning implementation;
- MSP should be based on an adaptive approach, enabling the periodic adjustment and revision of maritime spatial plans based on new information and/or changes in current conditions, assumptions, perspectives and future scenarios;
- All relevant stakeholders should be involved since the initial steps of the MSP process, as process design and information gathering;
- Best use of available data and information and support to future research on existing gaps could help in bridging the gap between science knowledge and decision making that is considered essential in MSP. Knowledge sharing is also essential to ensure the common understanding of main problems and the progressive integration of knowledge base;
- Data gathering and sharing would enable to elaborate spatial representations of main maritime uses, that are essential in feeding any planning exercise;



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- Strictly related to the previous two points, a trans-regional Web-GIS could be a tool to support spatial data sharing and integration. To this regard, WP5 of the Shape project will deliver a demonstrative Web-GIS Atlas of the Adriatic Sea;
- Moving towards consistency between terrestrial planning and maritime planning is considered highly relevant and could imply not only the integration between ICZM and MSP but also with planning/management of drainage basins, in particular in relation to WFD;
- The implementation of MSP at the Adriatic Sea level probably requires the definition of an international agreement, convention or protocol. Cooperation initiatives already in place can provide the framework for its definition and implementation;
- Financial resources are a key factor to provide successful implementation of MSP, considering also differences among Adriatic countries. Other resources would be helpful as well, including: transfer of knowledge, capacity building, EU and pre-accession assistance.

B2 - What do you consider to be the benefits of MSP implementation in the Adriatic Sea?

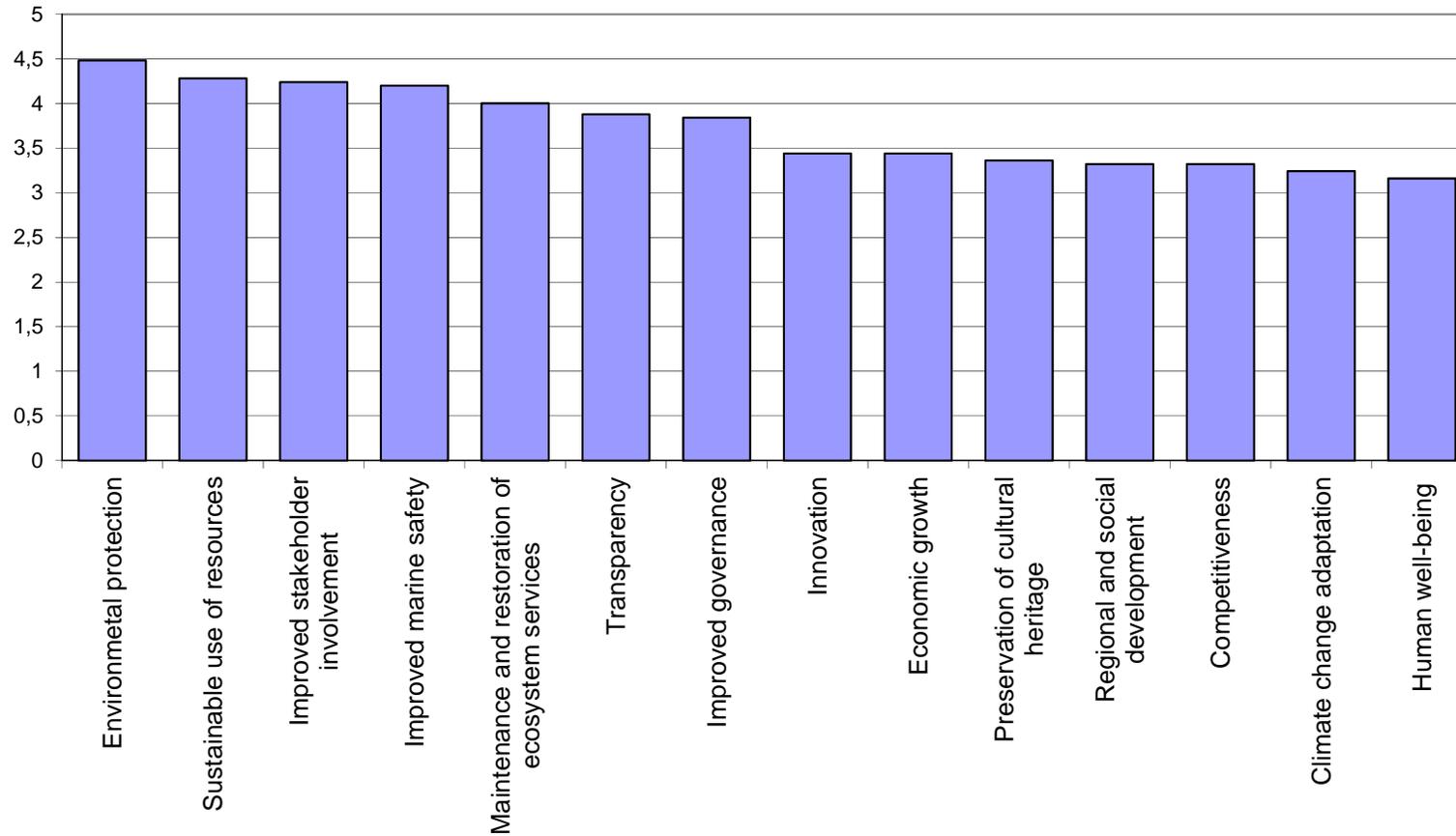


Figure 2-8 Most relevant benefits of MSP implementation in the Adriatic Sea (question B2; respondents provided a 1-5 score for each benefits, 1 being insignificant and 5 being very significant).

B3 - What do you consider to be the most important key principles for a successful implementation of MSP in the Adriatic Sea?

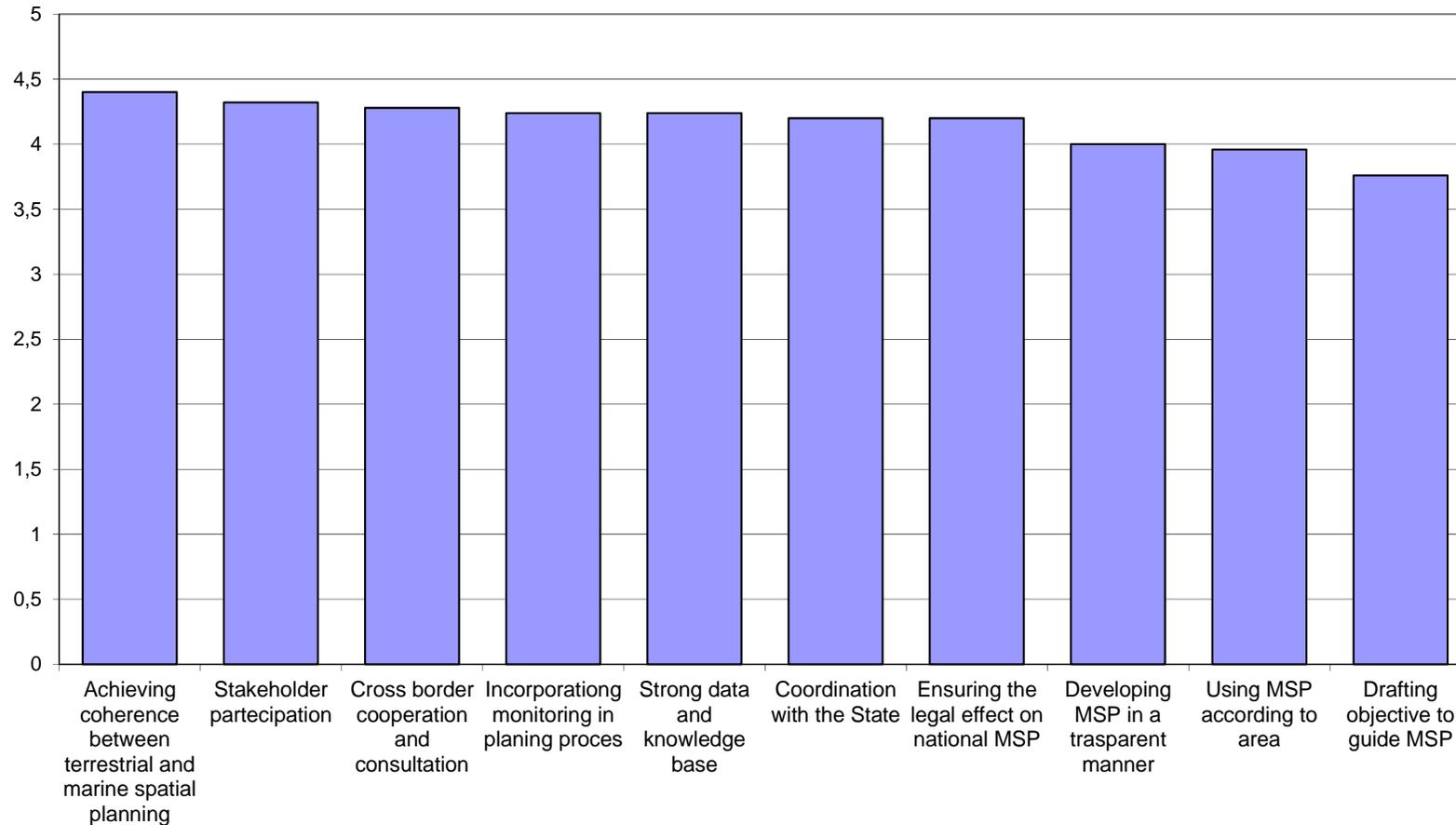


Figure 2-9 Most important key principles for a successful implementation of MSP in the Adriatic Sea (question B3; respondents provided a 1-5 score for each MSP principles, 1 being insignificant and 5 being very significant).

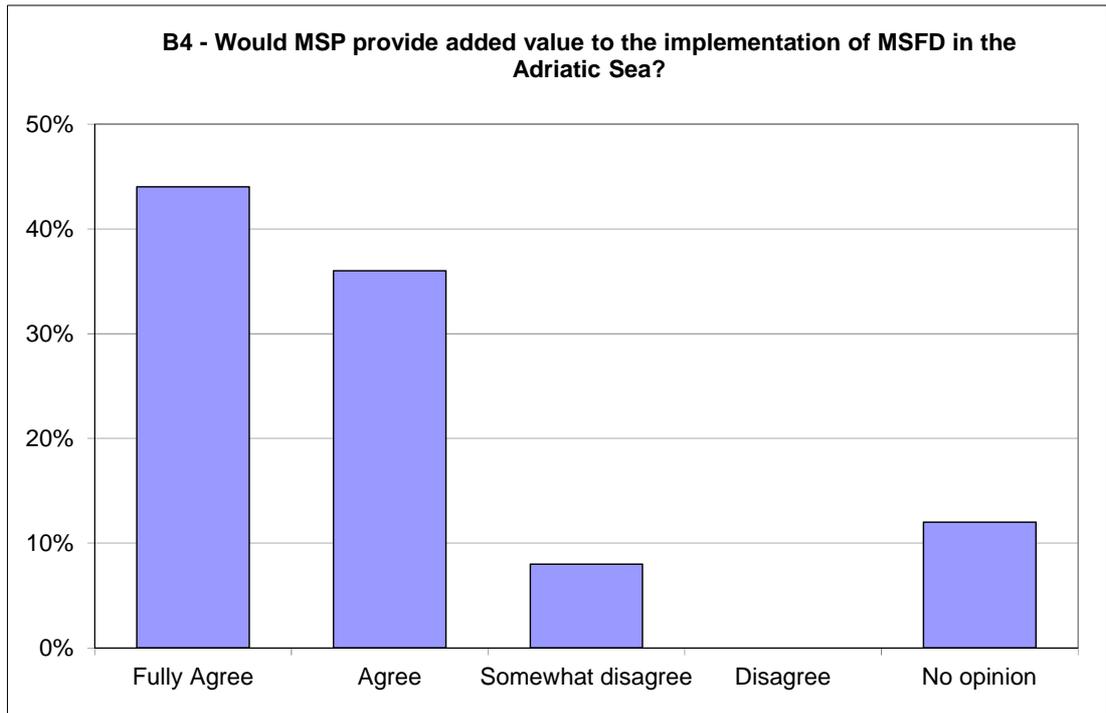


Figure 2-10 Relevance of MSP for the implementation of MSFD in the Adriatic Sea (question B4; single response allowed).

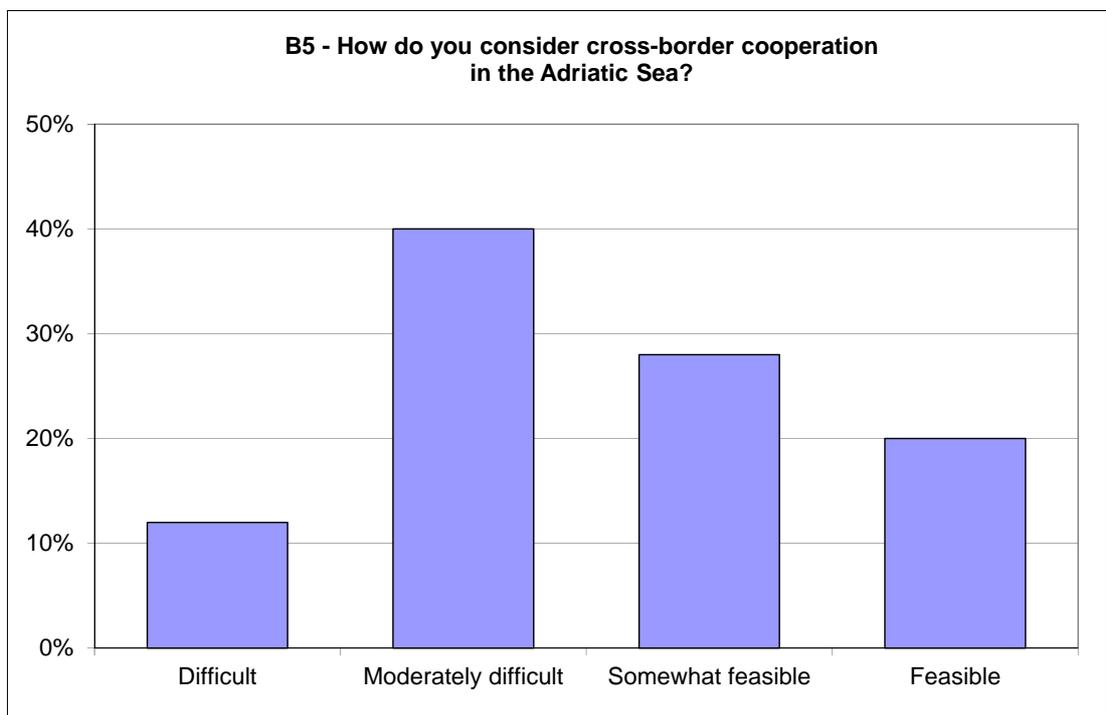


Figure 2-11 Feasibility of cross-border cooperation in the Adriatic Sea (question B5; single response allowed).

B6 - In which sector cross-border cooperation in the Adriatic Sea is particularly necessary?

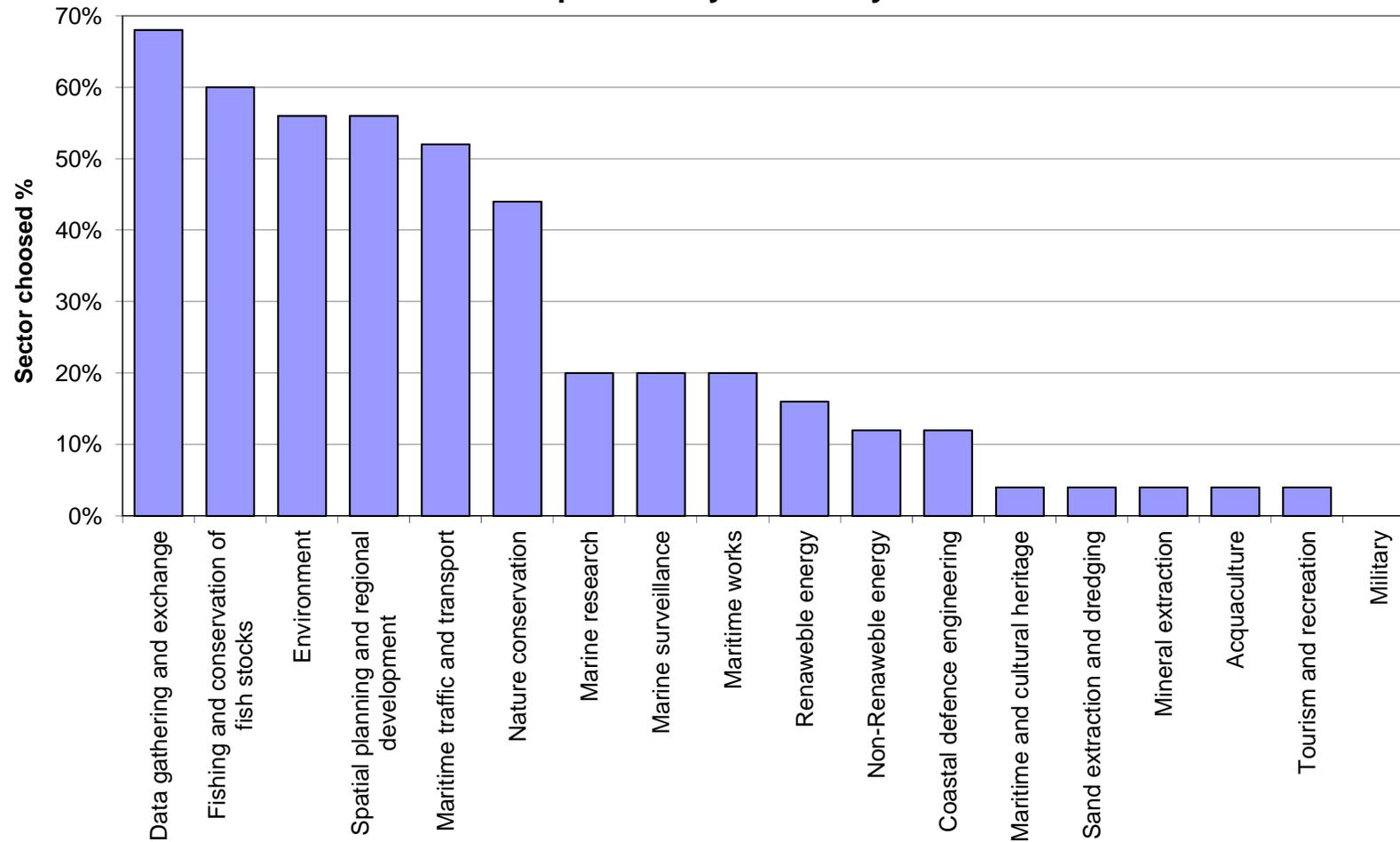


Figure 2-12 Sectors for which cross-border cooperation in the Adriatic Sea is particularly needed (question B6; multi-response allowed).

2.4 Compatibility among Adriatic uses

The final section of the questionnaire aimed to analyse current and future uses of the Adriatic Sea and their mutual compatibility or incompatibility. Initially, respondents were asked to indicate importance of current and future maritime uses according to a 0-3 score scale, where 3 indicates a highly important use, 2 means moderately important, 1 means slightly important and 0 indicates not important uses. Results of this analysis are shown in Figure 2-13; uses perceived as mostly important at present time (those getting an average score higher than 2) are:

- Tourism and recreation;
- Fisheries;
- Coastal defence protection;
- Maritime transport.

In the future perspective the importance of all uses is considered to increase, except for military use (hoping in a pacified Adriatic region) and oil and gas extraction (looking towards the increase in renewable energy production). Increase in uses' relevance implies that the number of most relevant uses (those getting an average score higher than 2) increases as well in the future perspective, including:

- Coastal defence protection;
- Marine protected areas;
- Tourism and recreation;
- Maritime transport;
- Fisheries;
- Aquaculture;
- Off-shore wind farm;
- San extraction;
- Maritime works.

Offshore renewable energy production is the sector perceived to increase most consistently (+115%, according to average score), confirming the relevance of this emerging use of the maritime space, as stressed by the EC Blue Growth communication (par. 5.1 Blue Growth focus areas: Blue energy) and its recent evolution (in particular wind energy production) in the other European sea (e.g. North Sea). However, its concrete application in the Adriatic Sea needs an accurate feasibility study to assess, among the other factors, the consistency of wind resources and identifying most promising areas. Other sectors considered to increase more consistently are:

- Marine protected areas (+50%), expressing the wish that Adriatic areas with high ecological and naturalistic value will be properly protected and managed. This will also imply the improvement of MPAs' network and connection;

- Sand extraction (+39%), mostly to deal with beach nourishment in coastal protection (+32%), also related to projected effects of climate change and sea level rise induced impacts (increased flooding and erosion);
- Aquaculture (+37%), considered as one of the Blue Growth focus areas (par. 5.2 Blue Growth focus areas: Aquaculture) and identified as one of the relevant maritime sectors by Pillar 1 of both the EC Maritime Strategy for the Adriatic and Ionian Sea (EC COM(2012) 713) and EUSAIR under development. Increase in aquaculture will likely relieve the pressure on natural fish stocks, already significantly affected by fishing activities;
- Maritime transport (+31%), as generally expected due to the increase demand of goods and transportation facilities for passengers. The EC Maritime Strategy for the Adriatic and Ionian Sea and EUSAIR include both maritime transport and maritime tourism among the relevant maritime sectors supporting the blue economy in this region. Cruise tourism (and more in general maritime and coastal tourism) is also one of the focus areas of the wider Blue Growth strategy of the European Commission and the above mentioned macro-regional strategies.

The same uses were analysed through a symmetric matrix in terms of mutual compatibility or incompatibility. Respondents provided a 0-2 score (2 = compatible, 1 = conditionally compatible, 0 = incompatible) for each couple of uses. Couples of uses that got a greater number of 2 were classified as compatible (green cells in Figure 2-14), those with a greater number of 1 were considered conditionally compatible (yellow), and those that scored a greater number of 0 were finally classified as incompatible (orange). In some cases a double categorisation (cells with two coloured) is provided since two scores got the same number of preferences.

The analysis of gathered data shows that compatibility among uses is considered generally difficult, as only the couples “maritime transport – sand extraction” and “marine protected areas – coastal defence and protection” got preference for compatibility. In most of the cases (58%, plus 13% with the double classification yellow and orange) couples of uses are considered conditionally compatible; compatibility depends on how uses occur and are regulated, also in relation to their spatial and temporal distribution. Finally, a significant number of uses’ couples (25%) are considered incompatible by questionnaire respondents.

Compatibility with other uses appears to be particularly critical for the protection of marine areas of high naturalistic importance. In this case conditional compatibility can be pursued with following maritime uses (in order of possible compatibility): coastal defence and protection > tourism and recreation > fishery and maritime transport. Other uses considered to be more incompatible are:

- Aquaculture; probably even due to its spatially static dimension and the need of good environmental quality, this activity is perceived as incompatible with: maritime transportation, oil and gas extraction, sand extraction, fishery and maritime uses (partially). Incompatibility is also perceived with protection of marine areas;
- Oil and gas extraction, due to related relevant pressures to and impacts for the marine environment. Indeed incompatibility is mainly with uses relying on a good environmental quality of the marine system, i.e.: natural protection, aquaculture, tourism and recreation, fishery.



Some of the considered uses are perceived to be mostly compatible with other uses of the Adriatic Sea, although under specific conditions:

- Coastal defence and protection is perceived as conditionally compatible with all other uses. Compatibility strictly depends on coastal defence modalities; for example soft approaches (based on the principle of “Building with nature”) can be effective in ensure coastal protection and at the same time in providing benefits to other uses, such as nature preservation, tourism and recreation and coastal fishery. For other uses, conditional compatibility is mainly ensured by spatial differentiation; coastal protection occurs along the coast while other uses (maritime transport, oil and gas extraction, sand extraction, offshore wind farms, fishery, etc.) mainly characterise the marine space;
- In case of maritime works, military use and maritime transport, conditional compatibility (therefore still depending on use modality and regulation) is considered possible probably due to the temporary nature of those uses;
- Offshore wind farms; this use is considered conditionally compatible with all other uses with the exception of protection of marine areas. Actually, the development of this form of renewable energy production (and similarly of other marine-based renewable sources – still at an experimental phase - such as tides and waves) requires large space and highlights the need of optimisation of synergy with other uses, to make the best use of maritime resources. These synergies/compatibilities are being largely studied and are a challenge already in present day. To this regard, the MERMAID³ project will develop concepts for the next generation of offshore platforms which can be used for multiple purposes, including energy extraction, aquaculture and platform related transport.

³ <http://www.mermaidproject.eu/>; last access 10th February 2014



C.1. What is the importance of the following maritime uses for the Adriatic Sea in relation to the present and the future perspective?

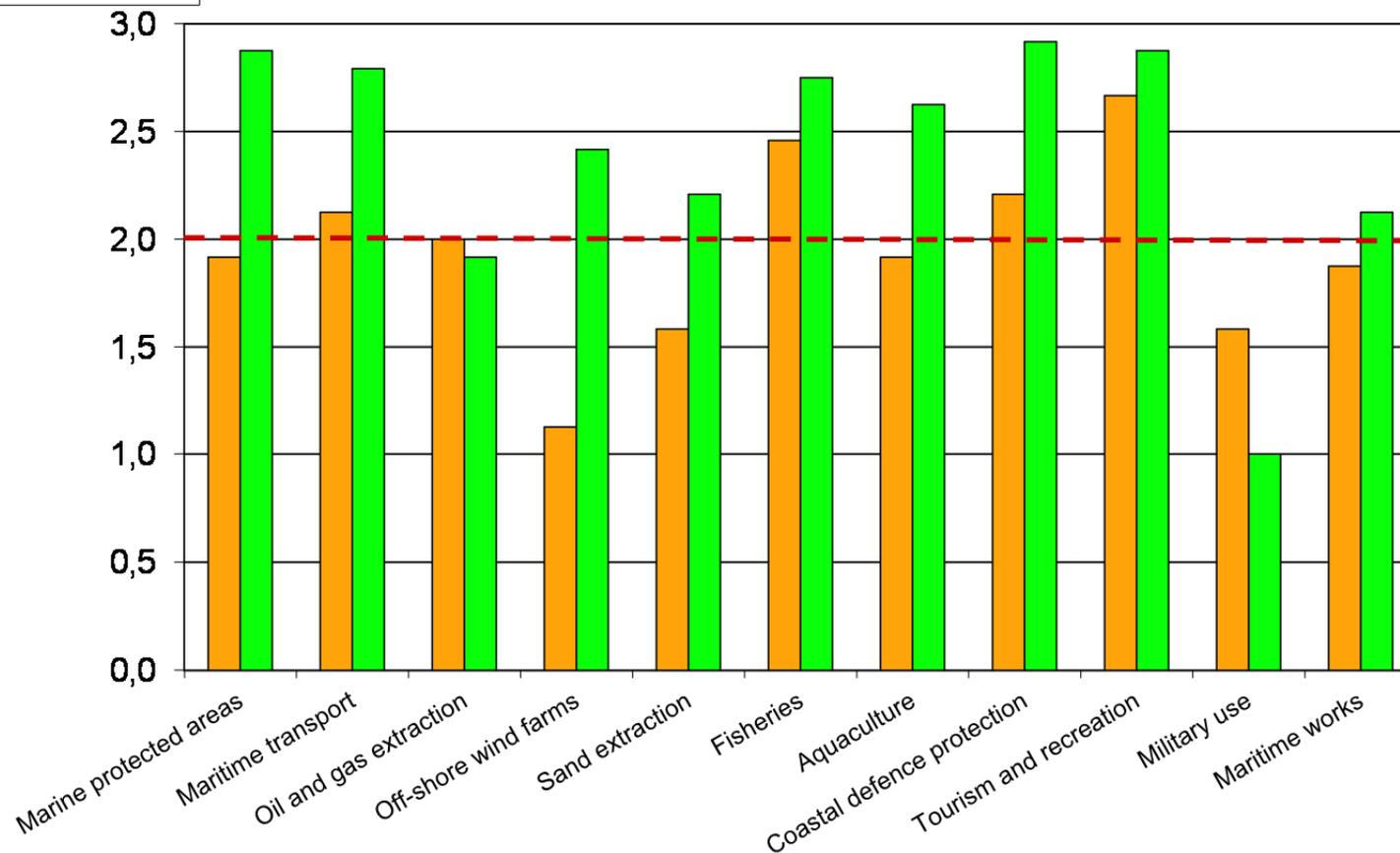


Figure 2-13 Relevance of present and future maritime uses of the Adriatic Sea (question C1; respondents provided a 0-3 score for each use, 0 being not important and 3 being highly important).

	Marine protected areas	Maritime transport	Oil and gas extraction	Offshore wind farms	Sand extraction	Fishery	Aquaculture	Coastal defence and protection	Tourism and recreation	Military use	Maritime works
Marine protected areas	Grey	Yellow	Orange	Orange	Orange	Yellow	Orange	Green	Yellow	Orange	Orange
Maritime transport	Yellow	Grey	Yellow	Yellow	Green	Yellow	Orange	Yellow	Yellow	Yellow	Yellow
Oil and gas extraction	Orange	Yellow	Grey	Yellow	Yellow	Orange	Orange	Yellow	Orange	Yellow	Yellow
Offshore wind farms	Orange	Yellow	Yellow	Grey	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Sand extraction	Orange	Green	Yellow	Yellow	Grey	Orange	Orange	Yellow	Yellow	Yellow	Yellow
Fishery	Yellow	Yellow	Orange	Yellow	Orange	Grey	Orange	Yellow	Yellow	Yellow	Yellow
Aquaculture	Orange	Orange	Orange	Yellow	Orange	Orange	Grey	Yellow	Yellow	Yellow	Yellow
Coastal defence and protection	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Yellow	Yellow	Yellow
Tourism and recreation	Yellow	Yellow	Orange	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Orange	Yellow
Military use	Orange	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Orange	Orange	Grey	Yellow
Maritime works	Orange	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Grey

Figure 2-14 Matrix of compatibility/incompatibility between maritime uses in the Adriatic Sea (question C2; green: compatible uses, yellow: conditionally compatible uses, orange: incompatible uses).

3 Mapping of main Adriatic maritime uses

Mapping is a core activity of the MSP process, supporting various methodological steps, as: analysis of existing conditions of the maritime space, spatial representation of conflicts and compatibility among uses and analysis of future conditions of the maritime space, in particular through spatial scenarios of sea uses. Action 4.3 developed an initial set of maps of current main Adriatic uses. This activity was conducted in strict connection with WP5 aiming to design and develop the Web-based “Adriatic Atlas to support ICZM and MSP” and included the steps described below.

Based on results of previous WP4 actions, the outcome of the questionnaire on MSP implementation in the Adriatic Sea (cfr. chapter 2) and discussion held with Shape partners during official project meeting (as in particular the “International conference on MSP and ICZM” held in Venice in June 2012 and the Pescara project meeting held in April 2013) the following marine and maritime elements were identified as relevant in terms of mapping of current conditions:

- marine administrative zones;
- marine protected areas, including Natura 2000 sites and are forms of protected areas (as for example Biological Protection Zones);
- other ecologically and naturalistically important marine areas; i.e. non-protected marine areas that are however naturalistically or ecologically relevant, for example due to some specific ecosystems or habitats (e.g. sea-grasses or rocky outcrops), ecological functions (spawning ground, nursery areas, feeding sites, etc.), high biodiversity, presence of key species (e.g. sea turtles or Mediterranean monk seal), re-colonisation projects (e.g. artificial reefs);
- underwater archaeological sites;
- wrecks;
- principal routes of maritime transport and regulated navigation areas (maritime traffic separation scheme, safety zones and anchorage areas);
- areas of high risks of sinking, collision and grounding;
- location of principal industrial, commercial, fishery and tourist ports and harbours;
- offshore infrastructure for non-renewable energy production and distribution;
- renewable energy infrastructure (if realised) and areas investigated for possible future uses for renewable energy production;
- underwater pipelines and powerlines;
- coastal defence structures and interventions;
- fishing areas and areas where fishing is not permitted;
- mariculture;
- sand and mineral mining, including areas actually used for mining activities and area under exploration;
- restricted military areas;

- areas used for dumping of waste and remnants of war;
- distribution of main land and marine-based environmental pressures;
- water quality for bathing uses and according to 2000/60/EC (and in the future to 2008/56/EC);
- oceanographic monitoring stations.

Above one represent the ideal list of marine and maritime elements to be considering in the MSP process at the Adriatic Sea. However, operatively mapping capacity is constrained by availability of spatial data at the Adriatic basin scale. Within WP5, Shape partners put their effort together to develop a first shared set of spatial information supporting ICZM and MSP in the Adriatic Sea, which has been merged in the already mentioned Web Adriatic Atlas. Spatial data available (by 10th February 2014) in the Atlas at the basin or sub-basin scale (partial geographic coverage)⁴ were used to elaborate the thematic maps included in Annex 2 of this report, i.e.:

1. Marine administrative zones, showing delimitation of the Adriatic continental shelf according to various international agreements and territorial waters of Italy, Slovenia, Istria, Montenegro and Albania.
2. Natura 2000 protected areas, including land-based and marine Special Protection Areas (SPA) and Sites of Community Importance (SIC).
3. Nationally designed protected areas, classified according to IUCN Protected Areas Categories, i.e.: Ia Strict nature reserve, Ib Wilderness area, II National park, III Natural monument or feature, IV Habitat/species management area, V Protected landscape/seascape, VI Protected area with sustainable use of natural resources, other areas.
4. Biological Protection Zone, where commercial, sport and recreation fishing activities are subject to specific regulation.
5. Artificial reefs, for the protection and restock of fishery resources.
6. Principal wrecks, classified according to the nautical chart categories in: dangerous wrecks, non-dangerous wrecks and distributed remains of wrecks.
7. Main maritime transport networks, representing the routes of the Adriatic Motorways of the Sea and the principal ferry routes.
8. Regulate navigation areas approved by IMO, categorised as: areas to be avoided, traffic lanes, separation zones and precautionary areas.
9. Safety zones, around underwater pipelines and offshore installations and structures where human activities are subject to specific regulation. The map also shows safety areas where regulation includes no-navigation.
10. Anchorage areas, according to nautical charts and main port captaincies ordinances.

⁴ Based on data availability some layers are currently (10th February 2014) characterised by a partial geographic coverage, being limited to only a part of the Adriatic basin that in most of the cases coincides with the western part.



11. Ports and harbours, that for the Italian border are classified in: commercial/industrial ports, passengers ports, not-defined general ports, yacht ports and harbours, canal ports, dockyards, quays-piers-moles, and marina.
12. Offshore platforms for hydrocarbons extraction, including: production platform, support platform, platform not in use, floating storage unit and subsea wellhead.
13. The Adriatic offshore LNG Terminal, located in front of Port Levante about 15 km off the Veneto coastline. The map shows the terminal location, the related safety zone and area to be avoided and the pipeline connecting the terminal to the Italian network of gas distribution.
14. Main Italian pipelines and powerlines.
15. Fishing regulated areas according to Council Regulation 1976/2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea. The map in particular identifies: (i) areas where fishing with trawl nets, dredges, purse seines, boat seines, shore seines or similar nets are prohibited due to the presence of 2000 sites, (ii) areas with depth beyond 1000 m where the use of towed dredges and trawl nets fisheries is prohibited.
16. Mariculture sites, classified according to the farmed species.
17. Mineral titles; classified in: prospection instance, exploration instance, exploration permit, gran instance, and mining lease.
18. Restricted military coastal and marine areas, including danger zones and military practice areas.
19. Fouls areas – remnants of war, identifying: (i) areas where remnants of war is known or likely to be present, (ii) point location of remnants of war.
20. Underwater dumping and disposal sites.
21. Bathing water monitoring stations, classified according to Directive 76/179/EC, in: compliant with the mandatory and guide values, compliant with the mandatory value, not compliant with the mandatory values, insufficiently samples and information not available.
22. Classification of coastal segments (for the Italian coastline) in relation to bathing water regulation;
23. Monitoring stations of quality of coastal and marine waters;
24. Oceanographic monitoring stations, belonging to the: ARPA Emilia-Romagna, ARPA Veneto, Croatian Hydrographic Institute and Italian networks.

Maps included in Annex 2 reflect the current (by 10th February 2014) level of data availability and coverage of the “Adriatic Atlas to support ICZM and MSP”. The Atlas is a dynamic tool that will be hopefully and likely improved in the future, both in terms of data items (i.e. related to other marine activities and uses or ecological, environmental and oceanographic characteristics) and spatial coverage (i.e. extension of data to areas not covered at the moment). Updated data are therefore those included in the web Atlas, that should be also consulted for any metadata (including data sources) on spatial layers represented in the maps included in Annex 2 of this report.



REGIONE DEL VENETO

The Adriatic Atlas already contains other data that can be useful to support the implementation of MSP, including its integration with ICZM. A number of coastal and marine spatial layers are visible only at the regional scale, either because the related items assume relevance only at this scale or due to data availability; some example are shown from Figure 3-1 to Figure 3-7. This information can be useful in supporting MSP downscaling: zooming to the regional scale allow to properly consider differences within the Adriatic basin and detail the analysis and the identification of MSP responses in most critical Adriatic areas, where concentration of conflicts among uses is higher.

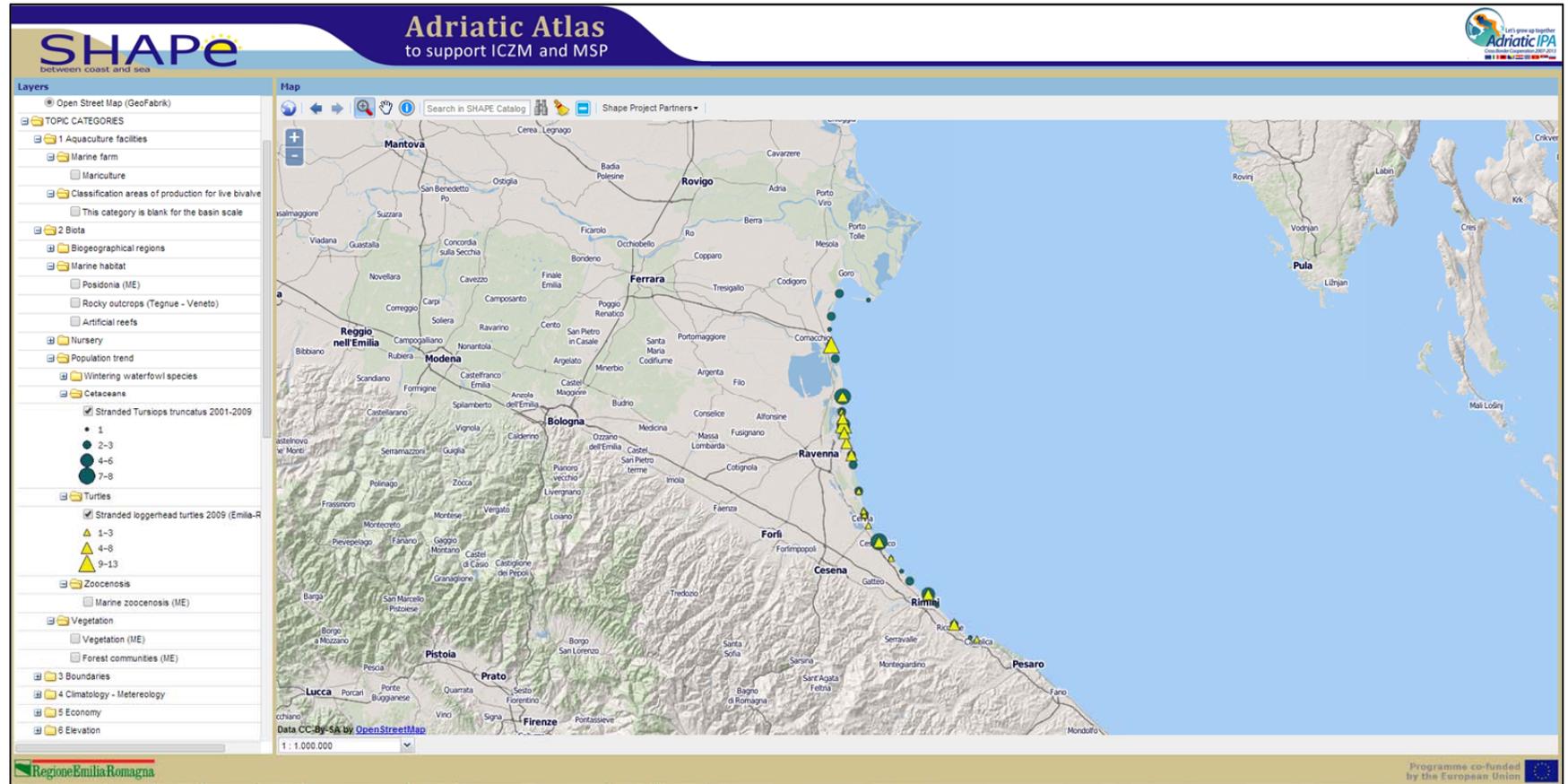


Figure 3-1 Strandings of loggerhead sea turtles in 2009 and common bottlenose dolphin in 2001-2009 along the Emilia-Romagna (Italy) coast.

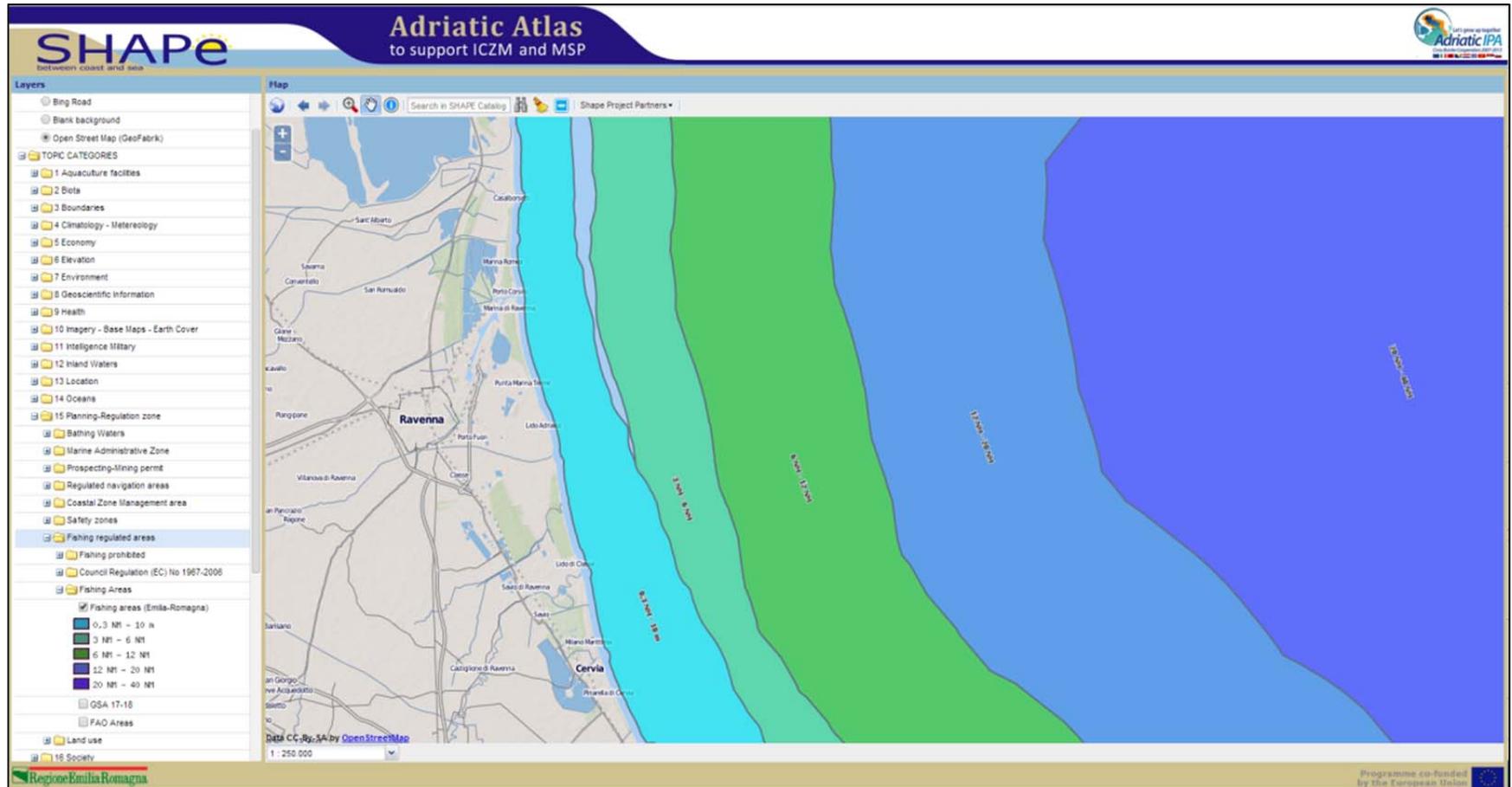


Figure 3-2 Fishing areas in Emilia-Romagna (Italy).

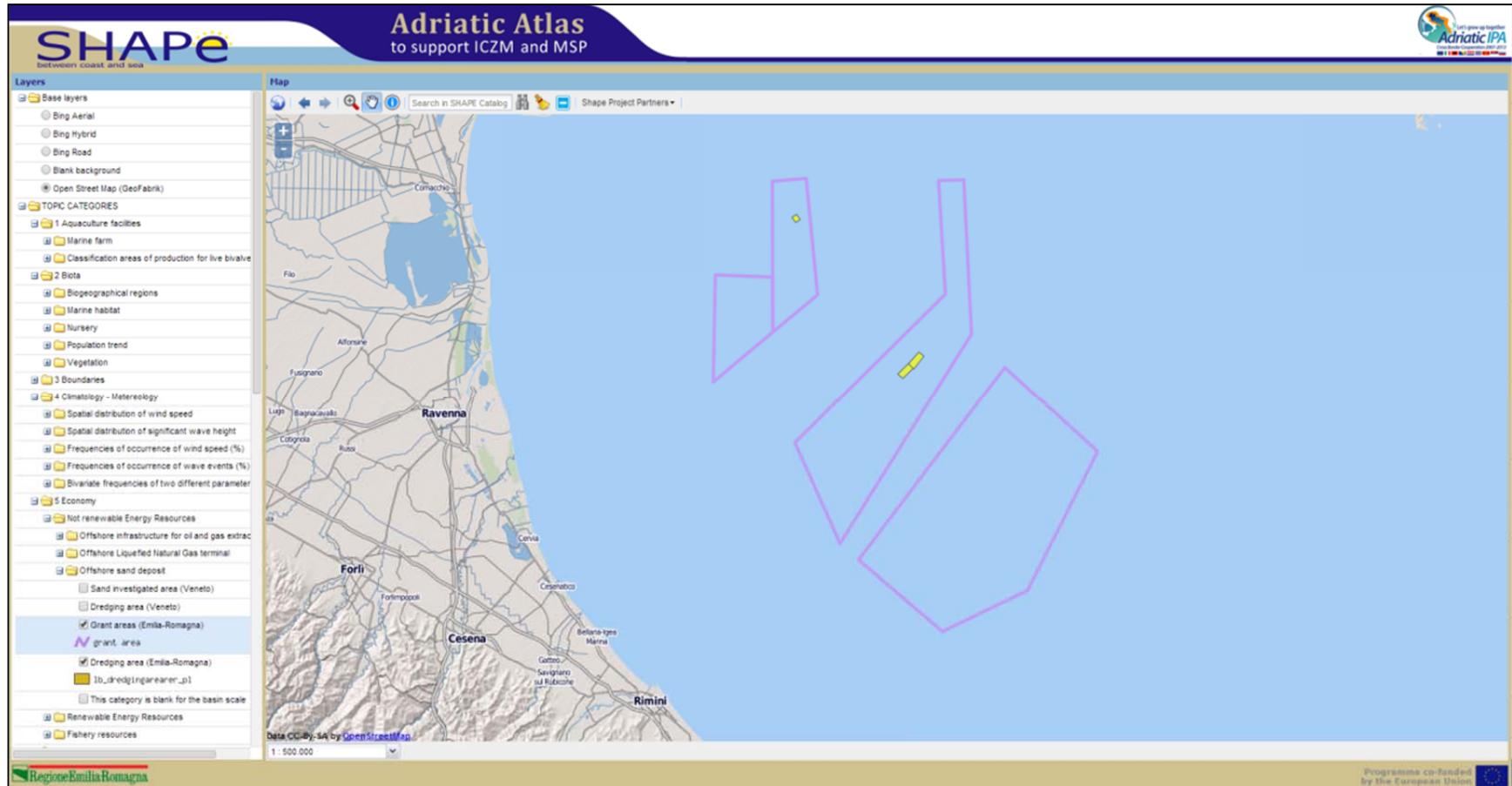


Figure 3-3 Offshore sand deposits – grant and dredging areas in Emilia-Romagna (Italy).

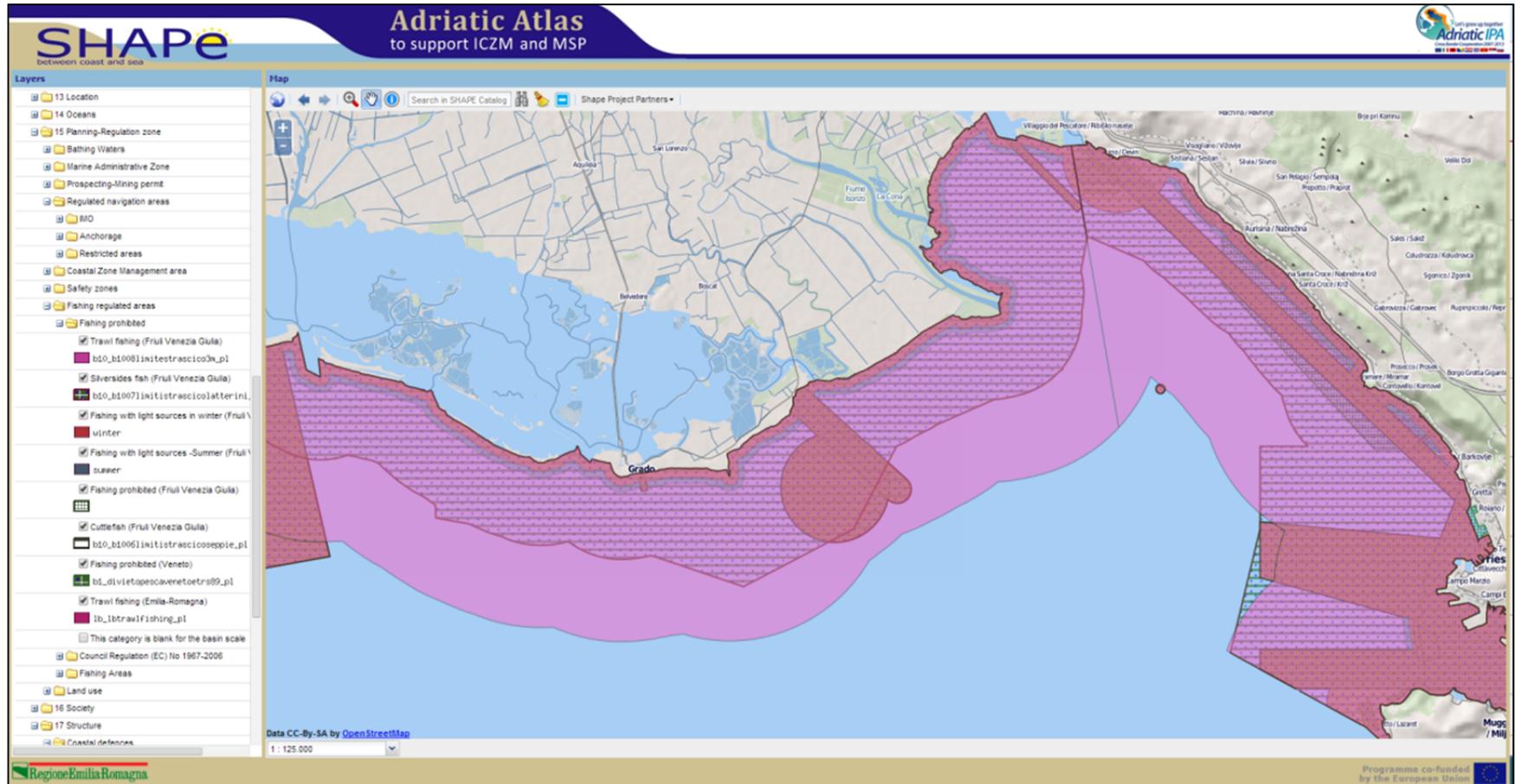


Figure 3-4 Fishing regulation in Friuli Venezia Giulia (Italy).

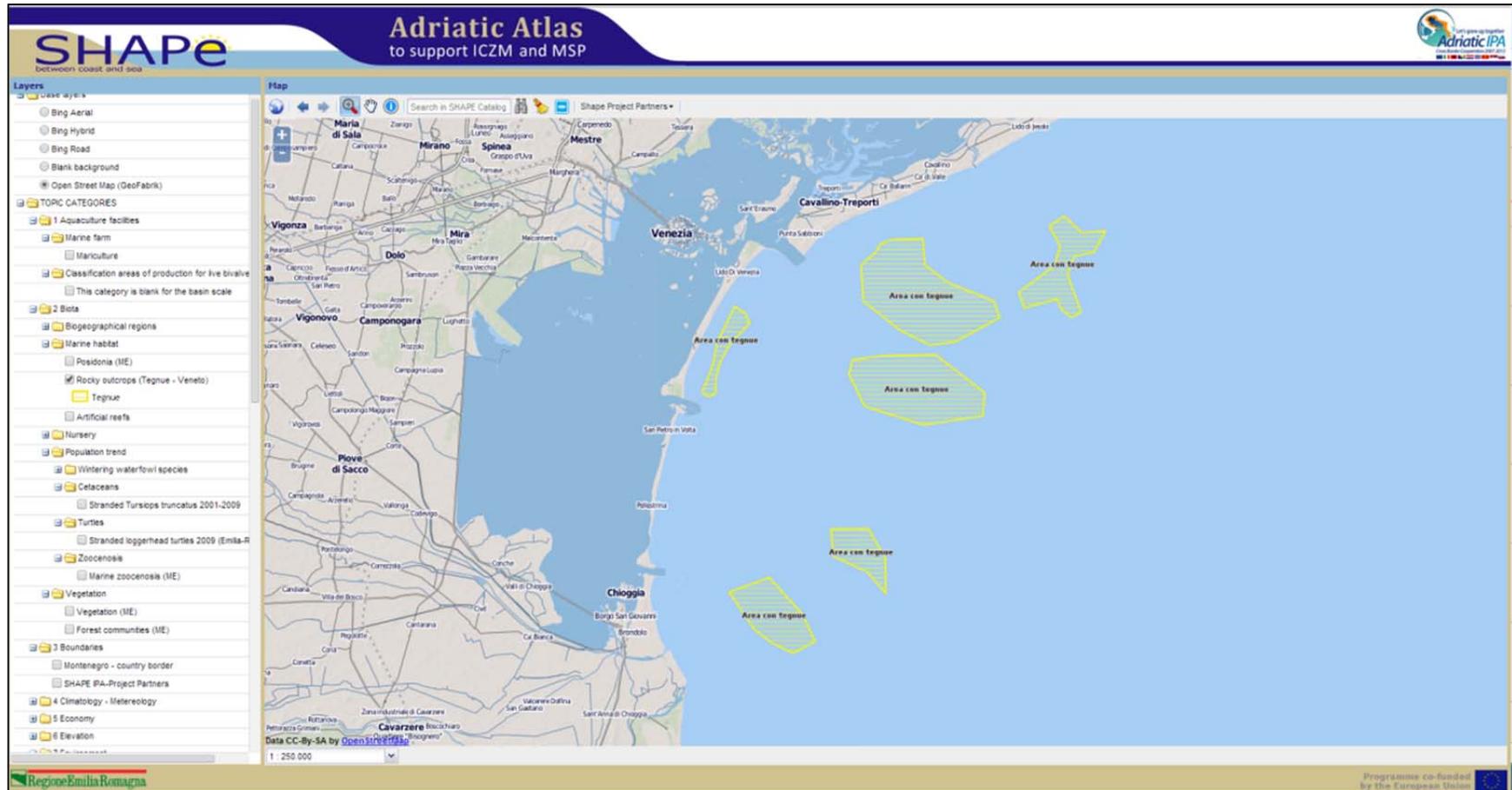


Figure 3-5 Areas with high density of known rocky outcrops (locally known as tegnuè) in Veneto (Italy).



Figure 3-6 Coastal geology in Montenegro.

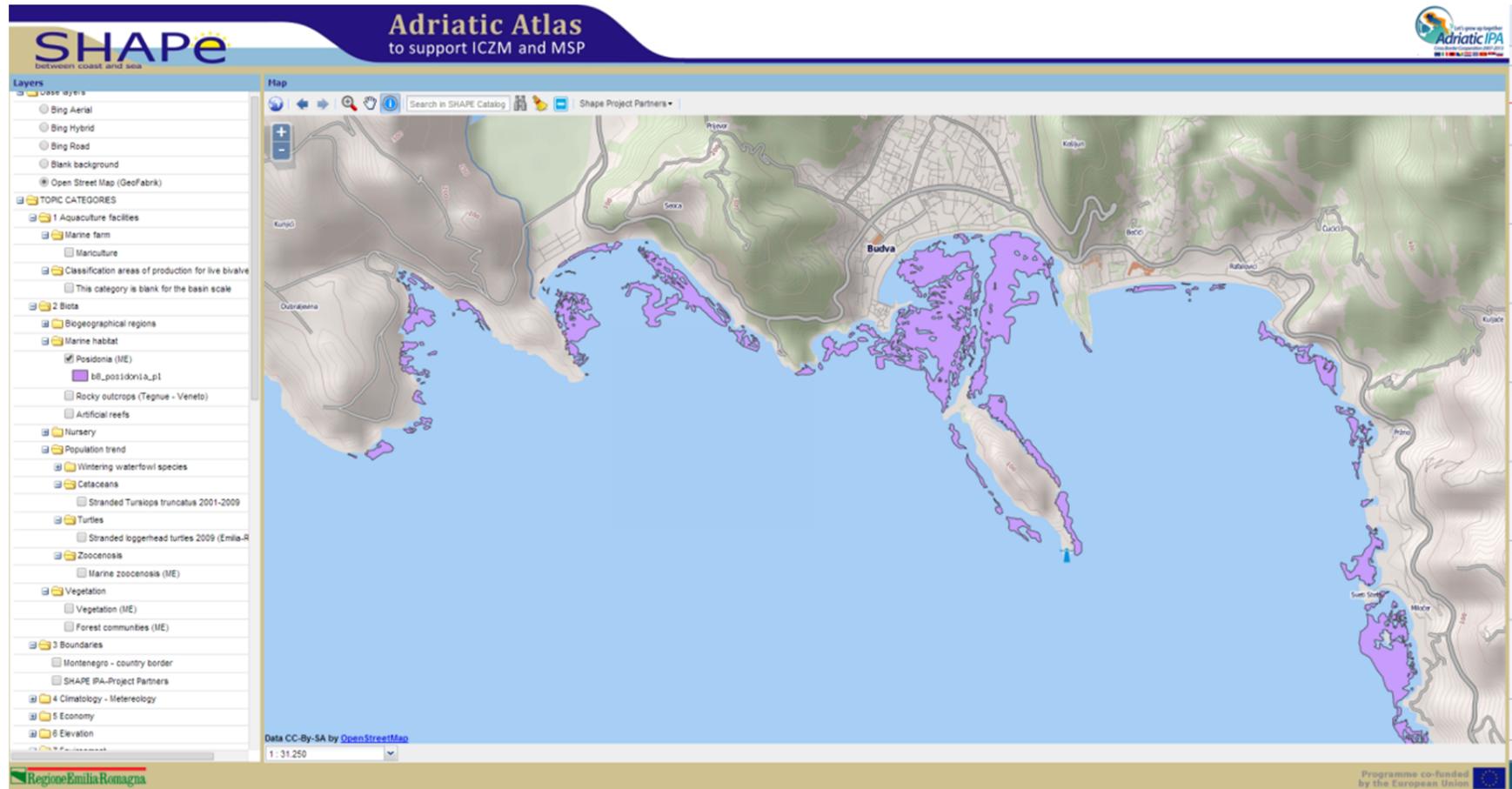


Figure 3-7 *Posidonia oceanica* distribution in Montenegro.

4 Elements for a future shared vision

The definition of a common vision for the future of the Adriatic Sea is an essential step of the implementation of the MSP process (see the “Methodological handbook on Maritime Spatial Planning in the Adriatic Sea” developed within Shape Action 4.5; Ramieri et al., 2014). As highlighted in the BaltSeaPlan Vision 2030 (Gee et al., 2011), a common and shared vision can:

- make clear why forward-looking thinking (and long-term perspective) is essential;
- provide an holistic cross-sectoral view on issues that are often regarded separately;
- help to communicate benefits of the MSP process;
- facilitate the stakeholder dialogue;
- help to achieve transnationality in MSP and cooperation among Adriatic countries on marine and maritime issues.

Given its central and guiding role in the whole MSP process, the elaboration of a common and shared vision at the Adriatic scale needs a full stakeholder involvement and enough time for drafting, discussion and finalisation. It is therefore a key step of the initial phase of MSP. Initial input for the shared vision can be derived from existing policy documents; in the case of the future evolution of the Adriatic Sea the following documents and initiatives can be in particular considered (cfr. par. 4.1):

- the EC Communication “Blue Growth, opportunities for marine and maritime sustainable growth” (EC COM(2012) 494);
- the Bologna Charter 2012; the 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;
- the EC Maritime Strategy for the Adriatic and Ionian Seas (EC COM(2012) 713);
- the on-going initiative elaborating the EU Strategy for the Adriatic and Ionian Region - EUSAIR.

The initial input to a common vision for the future of the Adriatic Sea that are illustrated further below in this chapter (cfr. par. 4.2) were discussed and agreed with Shape partners, in particular during the Lignano (Italy) Shape meeting held in October 2013. These are intended to stimulate the future discussion and hopeful implementation on MSP in this macro-region.

4.1 Background policy documents

The current paragraph summarises main elements of the policy documents that have been considered to draft the initial input to a common and shared vision for the Adriatic Sea.

4.1.1 Blue Growth, opportunities for marine and maritime sustainable growth

Blue Growth (EC COM(2012) 494) is the long term strategy to support sustainable growth in the marine and maritime sectors as a whole. It recognises that seas and oceans are drivers for the European economy with great potential for innovation and growth. It is the IMP's contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth (EC COM(2010) 2020). Member States are already making investments to unlock the potential of blue economy. EU policies aim to reinforce Member States' and marine regions' efforts, providing common initiatives, as for example: support to MSP and its integration with ICZM, Marine Knowledge 2020 (EC COM(2012) 473), MSFD implementation, European maritime transport space without barriers (EC COM(2009) 10), the Horizon 2020 programme including marine and maritime research and innovation, sea basin and macro-regional strategies as those related to the Adriatic and Ionian Region (cfr. par. 4.1.3 and 4.1.4).

The Blue Growth communication identifies five focus areas that could deliver sustainable growth and in jobs related to marine and maritime economy:

- Blue energy, focusing in particular on offshore wind power generation that has expanded rapidly in Europe in recent years and is expected to further increase consistently. This focus area stresses also the importance to further reinforce research, innovation and commercialisation of other offshore renewable energy technologies (in particular in integration with offshore wind energy production) that are still at an early stage of development, such as: tidal barrages, wave power devices, underwater turbines driven by currents and devices for ocean thermal energy conversion. Synergy should be also explored with non-renewable energy production, e.g. in terms of safety and security.
- Aquaculture, which has the potential to grow in Europe by providing higher-quality and diversified products. Sustainable forms of aquaculture can contribute to diversify coastal community's economy and reduce fishing pressure on natural stocks. According to EC COM(2012) 494 main challenges to growth in EU are: lack of available maritime space, administrative constraints and competition on a global market. Impacts on marine environment and conflicts with other maritime uses must also be taken in consideration.
- Maritime, coastal and cruise tourism; the great variety of Europe's tourism implies that most growth generating activities should be taken at the local and regional level. Cooperation at the sub-basin scale can however provide common basis and contribute to the development of high-value tourism areas. Possible initiatives include: reduction of social and environmental impacts of tourism (including carbon footprint), seasonal diversification, infrastructure improvement, higher education course, common marketing, etc.
- Marine mineral resources, dealing with the exploitation and mining of mineral other than sands and gravel from the seabed, that have actually already started (although mainly in shallow water). The Blue Growth suggests also to assess the economic feasibility and environmental sustainability of the extraction of dissolved minerals (as lithium and bo-

ron) from seawater. The possible expansion of the sector will become a driver for the growth of specialised shipping and underwater handling sectors.

- Blue biotechnology, aiming to exploit the capacity of marine organisms (not only including fish and shellfish) to provide inputs to various sectors of the blue economy, as food and feed production and chemical industry (e.g. products for the health, cosmetic and bio-materials). The development of this sector requires a combination of basic and applied research aiming to innovation.

4.1.2 Bologna Charter 2012

The Bologna Charter 2012 is a strategic document signed on 21st March 2013 by a number of Mediterranean coastal regions⁵ and adopted by the Inter-Mediterranean Commission of the CRPM, General Assembly on 27 June 2013 in Barcelona. The Charter promotes a common framework for actions aimed at the protection and the sustainable development of the Mediterranean coastal areas. The Charter recognises that the Mediterranean coastal public administrations play a vital role in the concrete implementation of framework policies dealing with IMP, ICZM, MSP, climate change adaptation, flood risk assessment and management, marine environmental preservation. This is because public administrations are together able to enforce a common framework for strategic actions – which also aims to promote the Blue Growth – supported by Member States and European institutions.

The Charter identifies a number of initiatives to be encompassed on a macro-project at the Mediterranean scale to be defined and developed in the period 2014-2020 and aimed at approaching: adaptation to climate change, protection and integrated management of coastal areas and maritime space, with direct implications for the macro-regional strategies under definition (e.g. Adriatic-Ionian and Mediterranean ones). The Adriatic Sea could play the role of test-bed for these initiatives and for their integration with related climate change actions focusing on the marine and maritime sectors. Initiatives identified by Bologna Charter include:

- building a network of existing coastal observatories and promoting the establishment of specific structures, if needed, at the local and regional level for coastal monitoring, the management of coastal zone risks, erosion phenomena and defence interventions;
- surveying erosion status and flood hazard along the Mediterranean coasts;
- promoting the sustainable use of the strategic resources like the coastal territory to face the “littoralization” process and respond to the need of integrated planning along with the UNEP-MAP ICZM Protocol;
- individuating, characterising and promoting the sustainable use of the strategic resources like the coastal and submarine stocks of sediments to face the coastal erosion also induced by climate change;
- fostering integrated territorial planning, along with principles of ICZM and MSP;
- designing and executing structural works along Mediterranean coasts consistently with ICZM requirements, for the concrete implementation of climate change adaptation;
- fostering project-clustering initiatives, focusing on climate change adaptation.

⁵ Updated adhesions are available at <http://bolognacharter.facecoast.eu/>; last access 10th February 2014.



The COASTGAP “Coastal Governance and Adaptation Policies in the Mediterranean” project⁶, started in July 2013 and to be completed by December 2014, has among its objectives the formulation of a Joint Action Plan aimed at boosting in the period 2014-2020 the Macro-Project outlined in the Bologna Charter.

4.1.3 EC Maritime Strategy for the Adriatic and Ionian Seas

In November 2012, the European Commission issued a communication providing a framework to move towards a coherent maritime strategy and corresponding Action Plan in the Adriatic and Ionian area by 2013 (COM(2012)713). The framework aims to adapt the Integrated Maritime Policy to the needs and the potential of the natural resources and socio-economic activities of the Adriatic and Ionian marine and coastal areas. The proposed strategy is developed on 4 pillars.

“Pillar 1 – Maximising the potential of blue economy” focuses on economic growth from the sea (i.e. Blue Growth) and stress the importance that countries put in place conditions for innovation and competitiveness. Examples of priority areas are:

- enhancement of administration cooperation to simplify and harmonise formalities for shipping;
- creation of maritime clusters and research networks;
- increase of the mobility of the workforce;
- development of MSP and ICZM at both at national and cross-border level.

The same Pillar identifies the following relevant marine and maritime sectors for the Adriatic and Ionian Seas: (i) maritime transport, (ii) coastal and maritime tourism, (iii) aquaculture. For each of the above sector, the Maritime Strategy identifies examples of potential priority areas, e.g.: (i) for maritime transport: optimising interfaces, procedures and infrastructure to facilitate trade with southern, central and eastern Europe; (ii) for coastal and maritime tourism: promoting the sustainable development of cruise tourism or enhancing the value and appreciation of cultural heritage; (iii) for aquaculture: in line with MSP principles working on tools to properly site aquaculture.

“Pillar 2 – Healthier marine environment” deals with the protection of the Adriatic and Ionian coastal and marine environment, in particular within the regulatory framework of MSFD, Barcelona Convention and its Protocols, and the Joint Commission for the Protection of the Adriatic Sea and its Coastal Areas. Examples of priority areas to be developed include:

- ensuring good environmental and ecological status of the marine and coastal environment by 2020 in line with the relevant EU acquis (MSFD in particular);
- preserving biodiversity, ecosystems and their service, in particular by implementing the Natura 2000 network;
- reducing marine litter;
- continuing improving sub-regional cooperation and monitoring the existing mechanism dealing with the protection of the marine and coastal environment.

⁶ <http://coastgap.facecoast.eu/>; last access 10 February 2014.



“Pillar 3 – A safer and more secure maritime space” aims to support synergetic regional responses to human and environmental health, safety and security challenges of maritime transport, considering the harmonised implementation of the existing EU and international regulations and the exploitation of new technologies. Examples of priority areas to be developed include:

- improving the culture of compliance in the sector;
- enhancing cooperation between national or regional maritime authorities with the EU and establishing mechanism to enable maritime traffic information exchange;
- supporting the development of decision support systems, accident response capacity and contingency plans;
- ensuring adequate sources of information for safe and secure navigation.

Finally, “Pillar 4 – Sustainable and responsible fishing activities” aims to enhance efforts towards sustainable and responsible fisheries, through the implementation of the principles of Common Fishery Policy (CFP), improved cooperation (on commercial, marketing, service-related and scientific issues) and strengthened culture of compliance. Examples of priority areas to be developed include:

- achieving the sustainable management of fisheries, including the development of multi-annual plans;
- strengthening stakeholder’s involvement in fisheries management to improve profitability and sustainability of the activity;
- improving the culture of compliance and control also through information exchange;
- developing scientific cooperation on fishery management issues.

4.1.4 EU Strategy for the Adriatic and Ionian Region – EUSAIR

A big boost to coordinated actions, also on MSP and ICZM issues, will derive from the adoption and implementation of the EU Strategy for the Adriatic and Ionian Region - EUSAIR and the related Action Plan under development. A macro-regional strategy is an integrated framework to address common issues of countries located in the same geographic area, which thereby benefits from strengthened cooperation. This includes challenges and opportunities that can be more efficiently and effectively tackled in a regional cooperation perspective.

EUSAIR covers eight countries: four EU Member States (Croatia, Greece, Italy and Slovenia) and four non-EU countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia). The new strategy will build on the experience gained in existing macro-regional strategies (Baltic Sea and Danube) and will integrate the Maritime Strategy for the Adriatic and Ionian Seas, adopted by the Commission on 30 November 2012 (EC COM(2012) 713) (cfr. par. 4.1.3). The main objective of EUSAIR is to promote economic and social prosperity and growth in the region by improving its attractiveness, competitiveness and connectivity, while at the same time preserving the environment and ensuring healthy and balanced marine and coastal ecosystems. The Strategy is also expected to play an important role in promoting the EU integration of the candidate and potential candidate countries in the region.

The development of EUSAIR and the related Action Plan has included a wide stakeholder’s consultation. This was conducted between September and December 2013. Two countries, a



Member State and a non-EU country, were responsible for coordinating the consultation for each of the 4 pillars of the Strategy: Greece and Montenegro on marine and maritime growth, Italy and Serbia on transport and energy, Slovenia and Bosnia and Herzegovina on environment and Croatia and Albania on tourism. A stakeholder seminar on “Boosting Blue Growth in the Adriatic and Ionian Region: towards an Action Plan for the EUSAIR” was held in Brussels on 14th November 2013. Moreover from October 2013 to January 2014 an on-line public consultation on the strategy was launched by the European Commission. Finally, the results of the extensive consultation with stakeholders were presented and discussed at the stakeholder conference on EUSAIR held in Athens on 6-7 February 2014.

Based on the consultation outcome, and analysis of technical data and impact assessment, the Strategy will be developed in the form of a draft Communication accompanied by an Action Plan, with a view to adoption by the European Commission during the first semester of 2014. The Communication and the Action Plan will be submitted to the Council of the European Union for endorsement in the second half of the year.

In line with the EC recommendations of the evaluation of the macro-regional approach (adopted in June 2013) and the results of the above described stakeholders’ consultation, EUSAIR will focus on a limited number of issues of common interest where the added value of cooperation is clear, in particular in relation to four pillars:

- Pillar 1 “Driving innovative maritime and marine growth”, aiming to promote sustainable economic growth, jobs and business opportunities in the region from blue economy sectors. Main sectors identified at the moment include: fishery, aquaculture, seafood processing, blue biotechnology, marine equipment, shipping, boating and other maritime services.
- Pillar 2 “Connecting the region”, aiming to improve transport and energy connections within the Adriatic and Ionian Region. Better connections are a compelling need for the macro-region and a pre-condition for its economic and social development. This pillar focuses on three strategic topics: maritime transports, intermodal hinterland and energy networks.
- Pillar 3 “Preserving, protecting and improving the quality of the environment”; focusing on environmental issues where macro-regional cooperation can have a high added-value compared with individual actions taken by countries, i.e.: (i) protection of the marine environment, including preservation of marine biodiversity and habitats and improvement of environmental quality; (ii) sound management of transnational terrestrial habitats and biodiversity. Climate change adaptation, ICZM and MSP are horizontal activities of pillar 3, with strong connections with all other EUSAIR pillars.
- Pillar 4 “Increasing regional attractiveness”; aiming to increase tourism attractiveness of the region by: supporting sustainable coastal and maritime tourism and diversified offers, improving the quality of tourist services, preserving and promoting cultural heritage, promoting common regional branding and reducing the seasonality of tourist demand.



Moreover, “Research, innovation and SME” and “Capacity building” have been identified as two cross-cutting aspects involving every pillar⁷.

4.2 Initial inputs for a common and shared Adriatic vision

Considering documents illustrated in the previous paragraph, and the overarching Europe 2020 strategy (EC COM(2010) 2020), the timeframe for the initial inputs to the vision of the future evolution of the Adriatic Sea can be identified in the year 2020. The common vision needs to be based on the integration of the four pillars or four dimensions of sustainability: environment, economy, society and governance; climate change adaptation and improved research are configured as cross-cutting elements of the whole vision.

Environmental vision

According to the environmental vision, the Adriatic Sea is a healthy and resilient marine ecosystem satisfying requirements and goals set by the MSFD, the UNEP-MAP Barcelona Convention and its protocols, as well as the objectives of the Joint Commission for the Protection of the Adriatic Sea and its Coastal Areas. The environmental vision also foresees an adequate protection of the Adriatic marine and coastal areas with high natural and ecological value and the preservation of Adriatic biodiversity. This is in particular reached through the improvement of the ecological network of marine protected areas, according to Natura 2000 and Barcelona Convention objectives. A healthy and resilient marine environment can provide ecosystem services for the human wellbeing, thus supporting the sustainable economic development based on the Green and Blue economy. The implementation of the environmental vision goals requires a joint effort towards an integrated environmental monitoring system at the Adriatic Sea scale, taking into account also marine areas that do not fall under national jurisdiction.

Economic vision

Potentials of the Adriatic marine and coastal areas for jobs and sustainable economic growth are identified, explored and capitalised. The Adriatic Sea generates high quality employment, in particular based on innovative Green and Blue forms of economy. The role of ecosystem services in supporting economic development is properly recognised and economically valorised. The economic development occurs without compromising the environmental quality of the Adriatic ecosystem and habitats and respecting the principle of equity across the basin. The following marine and maritime sectors are considered highly relevant for the future Blue Growth of the Adriatic Sea: shipping (including commercial, industrial and passenger maritime transportation), port activities, coastal and marine tourism (including cruising and boating), aquaculture and fishery. Other significant sectors related to the previous ones are: seafood processing, marine equipment and maritime services (e.g. to shipping and boating). Innovative Blue economic sectors are investigated and assessed in terms of feasibility and sustainability and possibly developed; these include: energy production from renewable sources (including innovative modalities as current and wave-power devices) and blue biotechnology, i.e. the production of metabolites and primary compounds from Adriatic biologic resources as inputs for food, feed and chemical industries.

⁷ More information on EUSAIR are available at the following web-site (last access 10th February 2014): http://ec.europa.eu/regional_policy/cooperate/adriat_ionian/index_en.cfm and http://www.interact-eu.net/macro_regional_strategies/macro_regional_strategies/283/14370



Social vision

The Adriatic Sea is an attractive and safe place to live and work; education and job opportunities are granted to all Adriatic people. The Adriatic culture and traditions are acknowledged and strengthened, and represent one of the basis for innovation and economic development. Improved connection reinforces the culture of cooperation across the basin. Stronger cooperation is implemented to address relevant social issues in a pan-Adriatic perspective, as for example in the case of irregular migration and peace keeping. Sustainable and safe land and seaborne connections (including intermodality) are fundamental to strengthen social and commercial links across and outside the Adriatic region.

Government vision

The management of the Adriatic Sea is based on an integrated, ecosystem-based and adaptive approach. Adriatic countries elaborate and implement national Maritime Spatial Plans, integrated with ICZM Strategies. The reinforced culture of cooperation enables the common management of the Adriatic Sea also beyond national jurisdiction; the marine space and resources are shared fairly in a way that benefits and disadvantages are evenly distributed among countries. Governance of MSP elements at the Adriatic Sea scale is ensured either through an existing structure or a new cooperative initiative specifically launched for this scope.

Cross-cutting elements of the vision

Climate change adaptation in the coastal and marine sectors is strongly reinforced, requiring and generating actions (mainstreaming) in the environmental, economic, social and governance sectors. This implies that the Adriatic basin is more prepared to cope with climate change impacts and related risks for people and socio-economic activities. Particular attention is given to climate change adaptation in the marine and fisheries sectors, given the fact that at the moment this is poorly investigated. Adriatic countries cooperate on climate change mitigation as well, committing to reduce the emission of greenhouse gases derived from marine-based human activities. Improved research represents another key crosscutting element of the Adriatic vision. The cooperative attitude can facilitate the creation of maritime clusters and research networks that aim to spur innovation. Research and innovation support the Blue Growth based on sustainability principles and the preservation of Adriatic habitats and biodiversity.

5 Conclusions

Action 4.3 developed three principal activities aiming to provide input for the identification of opportunities and challenges and for MSP implementation in the Adriatic Sea, i.e.:

- Questionnaire on MSP implementation in the Adriatic Sea. The questionnaire was mostly formed by structured questions with pre-defined answers, while open questions were limited in number to facilitate questionnaire compilation. Questionnaire demands were structured in three main sections: A – Identification of respondents, B – MSP implementation in the Adriatic, and C – Uses compatibility in the Adriatic Sea.
- Mapping of main Adriatic maritime uses, based on spatial data available in the Web-based “Adriatic Atlas to support ICZM and MSP” developed by Shape partners within WP5. Mapping is a core activity of the MSP process, supporting various methodological steps. Mapping can be therefore useful in the understanding of problems and opportunities related to the concrete implementation of MSP considering present uses and their future evolution.
- Initial input to the development of a common and shared vision for the future of the Adriatic Sea, based on existing policy documents and discussion among Shape partners. Given the intrinsic dynamic nature of the MSP process, the full understanding of challenges and opportunities requires the definition of a common and shared vision of the future evolution of the Adriatic Sea, to be used to orientate the whole planning exercise. Due to its central and guiding role in the whole MSP process, the elaboration of the vision at the Adriatic scale needs a full stakeholder involvement and enough time for drafting, discussion and finalisation. Elements developed under Action 4.3 can be used to stimulate and orientate the elaboration of the vision.

The analysis of opportunities and challenges also considered the outcome of parallel actions developed under WP4, as in particular:

- Action 4.1 dealing with the assessment of the existing legal, policy and planning framework and instruments related to MSP implementation in the Adriatic Sea, as well as already developed studies and projects on MSP-related issues.
- Action 4.4 focusing on pilot projects on MSP-issues, that enabled to highlight possible future uses of the projects’ outcome and opportunities and criticalities related to the evolution of pilot project contents in an MSP perspective.

Based on the information provided by the above mentioned activities opportunities (or success factors) and challenges (or key problems) for the future concrete implementation of MSP in the Adriatic Sea in a cross-border perspective were identified and summarised as in Table 5-1.

Table 5-1 Main opportunities and challenges for MSP implementation in the Adriatic Sea.

OPPORTUNITIES	CHALLENGES
Policy and legal context	
<p>EUSAIR - EU Strategy for the Adriatic and Ionian Region and the related Action Plan, currently under development. The Strategy identifies ICZM and MSP as horizontal activities, in particular in relation to Pillars 1 "Driving innovative maritime and marine growth" and 3 "Preserving, protecting and improving the quality of the environment".</p> <p>Inspiration provided by other cross-border MSP-related initiatives, including: BaltSeaPlan, Plan Bothnia, MASPNOSE, TPEA.</p> <p>Instruments for pre-accession assistance and capacity building towards non-EU countries of the Adriatic basin.</p>	<p>Long-term and clear commitment (together with vision and goals) of all Adriatic countries and regions to implement MSP, within EUSAIR and based on specific agreements.</p> <p>Availability of adequate financial and technical resources supporting MSP implementation at the macro-regional level.</p> <p>Improved implementation - through cooperation - of UNCLOS in the Adriatic, to solve existing undefined situation and provide the legal framework for MSP.</p>
MSP and ICZM integration	
<p>EC proposal for a Directive establishing a framework for MSP and ICZM.</p> <p>Links with the protocol on ICZM in the Mediterranean</p>	<p>Integration of terrestrial and maritime planning, towards a coherent ICZM-MSP approach, that will require specific skills and competence, greater vertical and horizontal coordination and joint effort of coastal and marine stakeholders</p>
Cross-border cooperation and stakeholder involvement	
<p>Culture of cooperation and on-going cross-border initiatives (e.g. Joint Commission for the protection of the Adriatic, the Adriatic - Ionian Initiative, the Adriatic Euro region) and projects that can facilitate the dissemination of MSP concepts at the basin scale.</p> <p>Shape project partnership (involving all Adriatic countries) and Shape results.</p> <p>The on-going DG MARE ADRIPLAN⁸ project focusing on MSP implementation in the Adriatic and Ionian Region.</p>	<p>Increased cross-border cooperation on MSP, also to ensure the sustainable management of the "open sea" space and resources.</p> <p>Increased stakeholder involvement through an open, transparent and inclusive process, thus ensuring the participation of all (coastal and marine) actors and Adriatic countries and regions.</p> <p>Effective links between national MSP initiatives and the MSP process at the Adriatic scale.</p>
Marine knowledge supporting MSP	
<p>Availability of a good level of marine knowledge on areas near the coast.</p> <p>The Italian Ritmare⁹ Flagship project on marine research including a sub-project on MSP.</p> <p>Good attitude in data and information sharing, as even demonstrated by the "Adriatic Atlas to support ICZM and MSP" developed by Shape.</p>	<p>Data acquisition on off-shore areas to cover existing gaps.</p> <p>Commitment to further develop/improve and maintain alive existing data sharing platforms and initiatives, including in particular the Adriatic Atlas to support ICZM and MSP" developed by Shape.</p> <p>Improved standardisation in data sharing and free access to data needed for MSP.</p> <p>Elaboration of data according to real policy and decision making needs (from data to knowledge).</p>

⁸ <http://www.ismar.cnr.it/progetti/progetti-internazionali/progetto-001/progetto-adriplan>; last access 10th February 2014.



OPPORTUNITIES	CHALLENGES
Horizontal and vertical coordination	
<p>Good development of sectoral laws, plans and tools related to the management of the marine space and maritime activities in great part of the Adriatic countries and regions, with differences also depending on the EU membership.</p> <p>MSP seeds have been planted and are starting to sprout in the Adriatic, e.g.: the Croatian Coastal and Marine Strategy under development, the Slovenia Resolution on the National Maritime Development Programme (OG RS, No. 87/2010) taking into account IMP principles and goals, the Strategic Plan for Marine and Coastal Protected Areas under development in Albania, the Spatial Plan for the Coastal Zone of Montenegro including territorial waters and the connected CAMP project</p>	<p>Horizontal and vertical coordination among sectors and administrations acting at different levels (from local to national); i.e. going beyond fragmentation and sector approaches.</p>
MSP and MSFD links	
<p>Implementation of MSFD, in particular if connections with MSP will be explored, including adoption of a common ecosystem-based approach.</p>	<p>Application of MSFD in a cross-border perspective to approach environmental problems at the Adriatic scale, including specific characteristics of the “open sea” areas</p> <p>Capitalisation of synergies between MSP and other EU marine-related policies and directives (e.g. MSFD, WFD, Natura 2000, Blue Growth, climate change adaptation, etc.).</p>

⁹ <http://www.ritmare.it/>; last access 10th February 2014.



6 References

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REGIONE DEL VENETO

Annex 1 – Questionnaire on MSP implementation in the Adriatic Sea



REGIONE DEL VENETO

Annex 2 – Maps of marine and coastal uses