

**DEVELOPMENT OF A NATIONAL STOCKTAKING OF INFORMATION
APPLICABLE TO INTEGRATED COASTAL ZONE MANAGEMENT
(DNS-ICZM)**

Methodological Proposal - Spain

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1. INTRODUCTION

1.1 Objective of the proposal

The objective of this document is to develop, schematically, the objectives, scope and main methodological elements in which the project called “development of a national inventory of information applicable to integrated coastal zone management” (DNS-ICZM) will be based on.

This “work document” was prepared by the coordinating team of the Spanish DNS-ICZM project, **as a preliminary** proposal to initiate the debate with the national and regional administrations that will be involved in its development.

1.2 About the ICZM stocktaking

Recently Recommendation 2002/413/CE of the European Parliament and Council of the European Union was adopted ***concerning the implementation of Integrated Coastal Zone Management in Europe***, which establishes principles on which national strategies developed by each Member State must be based, as well as the necessity of each Member State to establish or update an overall stocktaking that allows the determination of the main actors, laws and institutions that influence the administration of their coastal areas, setting dates in which the stocktaking and strategies must be given to the Commission.

In this context, Spain, as a Member State of the European Community and involved in Europe’s dilemma of administrating coastal areas, supports the elaboration of said national stocktaking in order to commence the application of Integrated Coastal Zone Management entrusted by Recommendation 2002/413/CE.

It must be emphasized that although databases created by different administrations exist, the objectives that conditioned their development do not respond to the scale and requirements established in Recommendation 2002/413/CE. Therefore, they present an enormous heterogeneity of formats.

For this reason and with the aim of fulfilling the need set forth in Recommendation 2002/413/CE, the Spanish Ministry of the Environment, in collaboration with the coastal regions, plans to develop and apply a standardized methodology that meets the requirements laid out in this recommendation: 1) To elaborate a national stocktaking to determine the main agents, norms and institutions influencing coastal zone management, and in function of the results of said stocktaking, 2) To develop national strategies applying the principles of integrated coastal zone management.

For the elaboration of the national stocktaking mentioned in Recommendation 2002/413/CE, the Spanish Ministry of the Environment is undertaking, through the General Direction of Coasts, the project called ***“Development of a National Stocktaking of Information Concerning the Integrated Coastal Zone Management” DNS-ICZM***. In order to carry out this project, the Ministry of the Environment counts on the collaboration of a multidisciplinary team made up of researchers from 10 different research centers from various regions along the coast, which will assist the

technical team of the General Direction of Coasts and the regions in the elaboration of the aforementioned stocktaking.

The technical guidance and coordination of said consulting team will be undertaken by researchers from the Water and Environment Sciences Technologies of the University of Cantabria.

1.3 Objective of the DIN-GIZC project

In accordance with the previous chapter, the general objective of the project called “Development of a National Stocktaking of Information Concerning Integrated Coastal Zone Management” DNS-ICZM” is:

- To elaborate a national stocktaking within Spain, which meets the requirements of Recommendation 2002/413/CE.

The specific objectives, the scope of the work as well as the methodology proposed in order to fulfill said objectives, are developed in the different chapters of this proposal for analysis and subsequent debate.

1.4 Structure of this document

This document consists of the following four chapters:

In Chapter 1, *Introduction*, the objective of this document, the antecedents of the DNS-ICZM project and its objectives are outlined.

In Chapter 2, *General Work Outline*, the scope and specific objectives of the DNS-ICZM project are established.

In Chapter 3, *Proposal of the Stocktaking*, a methodological proposal is given for the work to be carried out to fulfill the previously outlined objectives.

In Chapter 4, *Required Information*, the data that will be included in the stocktaking is explained, for the specific case of ALIs (actors, laws and institutions)

2. GENERAL WORK OUTLINE: Specific Objectives

2.1 Introduction

As stated in the previous chapter, the general objective of the DNS-ICZM project is to elaborate a national stocktaking for Spain in order to meet the requirements of Recommendation 2002/413/CE.

The objective of this stocktaking is to determine the main actors, laws and institutions influencing coastal zone management, as pointed out in the Recommendation. In function of the results of said stocktaking, Member States should develop national plans applying the principles of integrated coastal zone management in accordance with Chapter IV.

As a result, a twofold objective must be met:

- To determine the main actors, laws and institutions influencing coastal zone management.
- To be useful for the development of national strategies applying the principles of integrated coastal management.

Note that the latter objective is substantially wider than the former, given that in order for the stocktaking to satisfy the latter objective it must include, in addition to fulfilling the former objective, other aspects related to physical and social-economic environments.

In the following sections, a more specific analysis about the stocktaking specifications is carried out in order to fulfill both objectives.

2.2 Recommendation 2002/413/CE

Recommendation 2002/413/CE came about as a result of a group of previous initiatives, experiences and documents. Among these, the conclusions drawn from 35 projects carried out in the Demonstration Program must be highlighted. Said conclusions manifest that a large part of the ICZM projects and actions failed due to a lack of integration of the actors and institutions in different administration processes (ie. problem detection and solution guidelines, etc.).

For this reason the recommendation emphasizes the fact that each Member State must establish or update a national stocktaking that allows the determination of the main actors, laws and institutions influencing coastal zone management, as well as give information concerning the characteristics that this stocktaking includes:

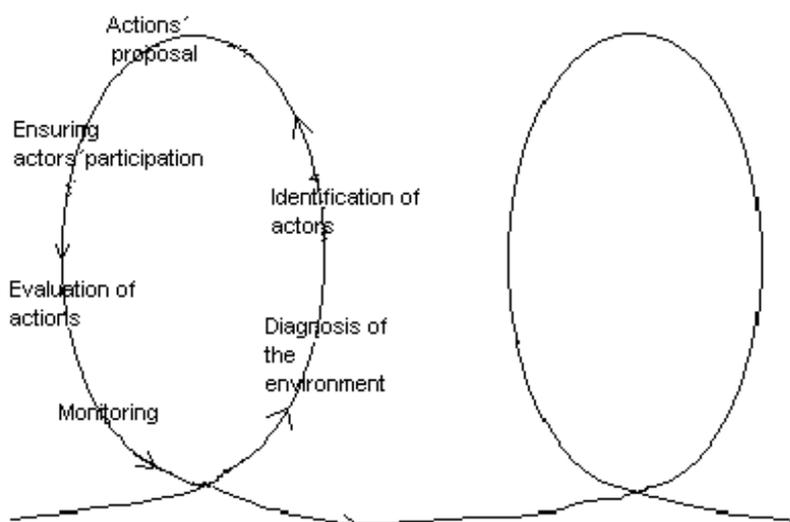
- To consider the following sectors: fisheries and aquaculture, transport, energy, resource management, species and habitat protection, cultural heritage, employment and regional development in both rural and urban areas, tourism and recreation, industry and mining, waste management, agriculture and education.
- To include all administrative levels.

- To analyze the interests, role and concerns of citizens, non-governmental organizations and the business sector.
- To determine relevant organizations and inter-regional cooperation structures and to consign applicable policies and legislative measures.

2.3 General process of a ICZM project

The establishment of national strategies permitting the application of principles for integrated coastal zone management, as required in Chapter IV of the Recommendation, demands basic knowledge of a ICZM project.

By using the scheme proposed by the OECD (see figure below) as a reference, correct coastal zone management requires the best possible knowledge of the littoral that is to be managed and particularly, an understanding of:



- The physical and social-economic environment to be managed
- The concerns of the users
- The possible works to solve known problems
- The evaluation and follow-up measures of said works

2.4 Conclusions

The Demonstration Program projects detected that the majority of the ICZM projects carried out did not correctly involve the actors or institutions involved in items b, c and d of the OCDE list.

The development of the ICZM program requires, in addition to identifying the actors involved, having information concerning the items a) - d).

Consequently, in order to fulfill both requirements, it is proposed that the stocktaking collect all of the sections gathered in the basic scheme of the ICZM for the OCDE. It must include information regarding:

- Physical environment
- Social-economic environment
- Actors, laws and institutions involved in the ICZM

Thus facilitating:

1. The recognition of and diagnosis of problems and potentials of the physical and social-economic environment (from a real standpoint as well as from that perceived by users)
2. The proposal of works to solve the problems perceived by the actors involved.
3. The assurance of the correct participation of the different actors of the GIZC project.
4. The evaluation of the results of the proposed works.

3. PROPOSAL OF THE STOCKTAKING STRUCTURE

3.1 Introduction

Before elaborating upon the stocktaking, we should reflect upon its structure. That is, how the information is going to be classified and organized and more importantly, how it is going to be used. By answering these questions, the overall data to be included in the stocktaking can be determined. Otherwise, it would have no limit.

The structure proposed for the national stocktaking, which is detailed in the following sections, is based on the usual management procedure employed for making a ICZM program and by using various existing Littoral Planning Reports for different regions as a reference.

3.2 Physical and social-economic environments

3.2.1 Management Unit

There are different forms of characterizing the physical environment and its relation to the social-economic environments. From the management point of view, they should be structured in elemental units, hereby referred to as management units.

Management unit: a homogeneous systemic unit with a specific structure and functionality concerning its management.

Management units were initially defined, in accordance with the classification of “structural units”, as established in previous works (from geomorphologic criteria). As a result, the following units were obtained:

1. Mountains
2. Plains
3. Fronts
4. Cliffs
5. Beaches
6. Dunes
7. Estuaries and rias
8. Other transitional waters
9. Coastal waters
10. Oceanic waters
11. Others

Different types have been distinguished within each unit, depending on the use or character that each presents. The general units are arranged as follows:

	Unit	Use
1	Mountain	Natural areas
		Cultivated areas
		Urban areas
2	Plain	Natural areas
		Cultivated areas
		Urban areas
3	Fronts	Urban areas
		Natural areas
		Semi-natural areas
4	Cliffs	High
		Medium
		Low
5	Beaches	Urban
		Semi-natural
		Natural
6	Dunes	Natural
		Semi-natural
7	Estuaries and rias	Salt marshes
		Intertidal plains
		Intertidal farming concessions
		Permanent submerged areas
		Farming concessions
8	Other transitional waters	Pastureland
		Salt mines
		Lagoons
		Lagoon concessions
9	Coastal waters	Natural waters
		Benthic ecosystems
		Aquaculture areas
10	Oceanic waters	Natural waters
		Benthic ecosystems
11	Others	

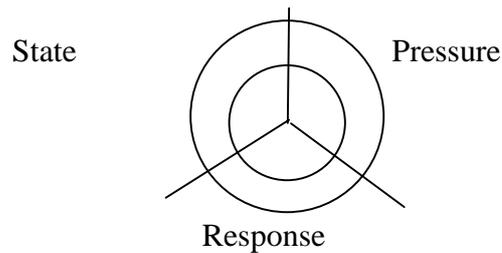
3.2.2 Evaluation System

Once management units are defined, the manager must be able for each of them to:

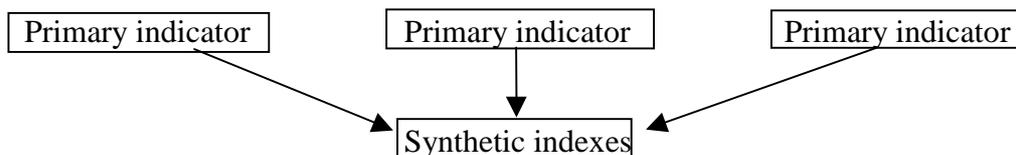
- Detect problems
- Determine potentials and capabilities

A set of indicators must be established from reliable, manageable, statistically valid and easy-to-use data, which indicates the state in which the unit is found.

The present work proposes an AMOEBA-type rating model. Specifically, it proposes rating by means of dividing the diagram into three parts: state, pressure and response indexes.



A series of synthetic indexes, integrating the data supplied by diverse previously-standardized primary indicators (homogeneous scales 0-1), are proposed for each aspect established.



Upon consulting the stocktaking, the evaluation diagram (AMOEBBA) of the management unit will be accessed initially, which only represents synthetic indexes. If a more detailed analysis of the problem or the potential of said management unit is required, the primary indicators composing it could be accessed and therefore, indexes could be analyzed specifically.

Note that in order to determine the potential of a management unit or any problem existing in one, the “optimum” value and the “minimum accepted threshold” (represented in the diagrams by the large and small circumferences, respectively) must be established previously for each indicator.

Consequently, in the elaboration of the indexes making up this work plan, there are two different needs: (1) a series of indicators must be established and (2) the optimum acceptable values applicable to each indicator must be determined.

3.3 Definition of Actions and Identification of Actors

Once the state and potential of each of the management units is known, the administrator must carry out any work that resolves the problems detected or that reach the perceived potential.

In an adequate ICZM plan, these works must also:

- Consider the concerns of the actors
- Incorporate the actors in decision-making

Therefore, an effective manner is required of establishing: a) which works are going to be carried out in the littoral, b) the concerns of the agents and c) the most appropriate way of incorporating them in the decision-making process.

With this in mind, the present work carries out an overlapped plan for actions-actors, establishing different actions that could be carried out in the littoral and identifying all of the actors, sectors and administrations implicated in them. It also points out for each one of these entities which type of actions interest them and to what degree. The concepts of the Coastal-specific Actions and ALI's (Actors, Laws, Institutions) are defined in the following sections.

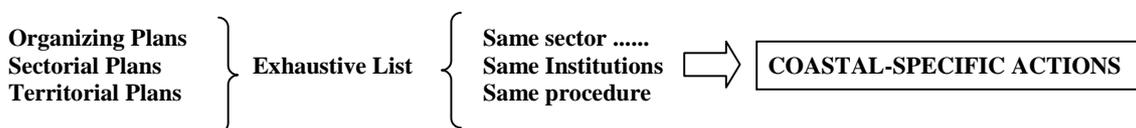
3.3.1 Coastal-specific Actions:

Establishing a relation of the actions that can be developed in the littoral is a complicated matter, due to the great number of possibilities. For this reason, a concept called '*coastal-specific actions*' has been defined.

Coastal-specific actions: any element of human activity that supposes a modification in the littoral's environment.

In order to identify said actions, littoral, territorial and sectorial plans have been reviewed for various Spanish regions and an exhaustive list has been elaborated of all the potential work identified in them. Given the great similarity of the work cataloged in the different documents consulted, the actions found in common and those considered important have been selected, despite not being included in all of the plans consulted.

Once the list is elaborated, the actions are standardized by grouping them according to the administrative procedure required and the competent organisms involved.



This way, a list of actions is obtained that can integrate any work that is carried out in the littoral. Given the singular character of the littoral area, as an area of land-sea interphase, land and sea actions have been differentiated.

Actions on Land:

Exploitation of raw materials	Fish hatchery-Forestry
Extractive Activities	
Industrial Activities	
Infrastructures	Communication & Transportation
	Energy & Telecommunication
	Hydraulic Engineering
	Waste Management
	Services
Urbanism & Housing	
Leisure & Recreation	Intensive use
	Extensive use
Conservation of Natural Resources	
Planning & Legislation	

Actions in the marine environment:

Exploitation of raw materials	Fishing & Agriculture
Extractive Activities	Mining
	Desalination plants
	Dredging
Infrastructures	Harbors
	Submarine pipelines
	Submarine outfalls
	Coastal defence
	Artificial reefs
Conservation of natural resources	
Planning & legislation	

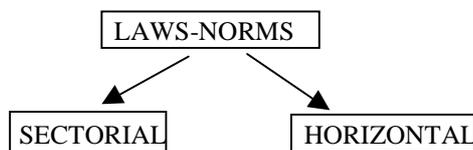
The type actions will have of their own attributes in the stocktaking, such as:

- a) Procedures necessary to carry out the actions
- b) Statistics concerning the quantity of actions carried out in similar units
- c) Proposal for this type of actions
- d) Allegations presented for this type of actions
- e) Resolution of allegations
- f) Relationships with other types of actions (synergy, contiguity, objectives)
- g) Perceived success of previous actions
- h) Problems detected from previous actions

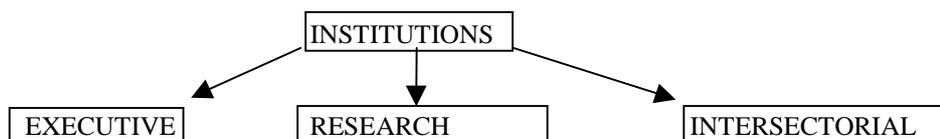
3.3.2 ALI's

ALI's are defined as the group that is comprised of Actors, Laws and Institutions that participate in the management of a littoral. The three elements that compose this group are arranged in a different way, as follows:

Laws are classified into two groups: sectorial and horizontal.



Institutions are classified in three groups: executive, research and intersectorial.

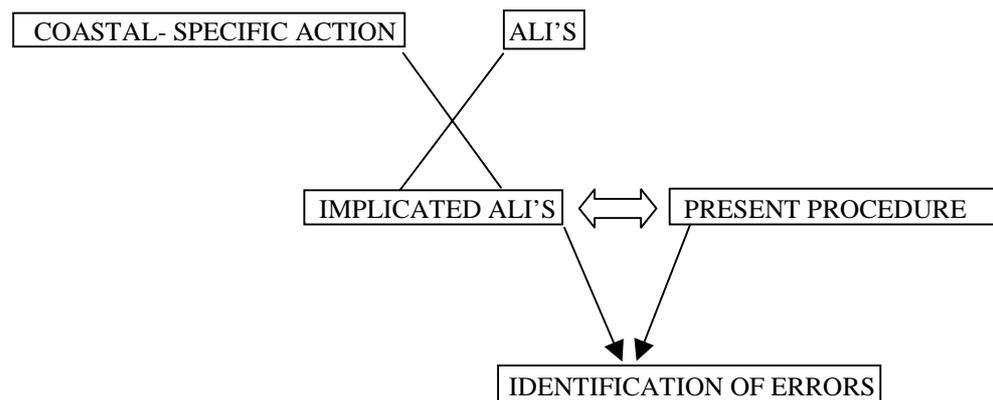


Finally, actors and institutions are classified according to their importance in the decision-making process concerning the littoral:

- Those whose livelihood depends on the littoral
- Those institutions having jurisdiction over the littoral
- Those who use the littoral but their livelihood does not directly depend upon it.
- Those whose actions affect the littoral, although their activity does not depend upon the littoral.

This classification is useful for selecting actors who are going to participate in the GIZC (project) and also for assigning a specific importance and for evaluating the opinions and proposals that different groups may have.

In order to know which actors should be involved in the different tasks a cross-referenced scheme is used for each specific action. So, the comparison of said scheme with existing procedures for this coastal-specific action will determine errors or dearths in it and therefore help correct them.



3.4 Proposal of Actions

Once the environment is characterized, and existing errors are recognized, the next step is to propose the most adequate work to be undertaken. It is necessary to evaluate these actions and to classify them according to their suitability in response to a specific situation.

The stocktaking will facilitate a cross-referenced list of successes/problems after carrying out said actions in management units similar to those of the Spanish littoral.

4. NECESSARY INFORMATION

This chapter explains the information necessary for filling out the proposed sections once the data is formatted and the different sections of the stocktaking are established.

4.1 Physical and Social-Economic Environment:

The information gathered in the physical and social-economic environments is used to formulate the descriptive synthetic index of each unit. A preliminary list of the information proposed for the physical and social-economic indicators will be developed later.

The following social-economic sectors are taken into account:

Sectors indicated in the recommendation
I. FISHING & AQUACULTURE
II. TRANSPORT
III. ENERGY
IV. RESOURCE ADMINISTRATION
V. PROTECTION OF SPECIES & HABITATS
VI. HISTORICAL HERITAGE
VII. EMPLOYMENT & REGIONAL DEVELOPMENT
VIII. TOURISM & RECREATION
IX. INDUSTRY & MINING
X. WASTE MANAGEMENT
XI. AGRICULTURE
XII. EDUCATION
Other types of information proposed later
XIII. PHYSICAL-NATURAL ENVIRONMENT
XIV. TERRESTRIAL-MARINE PUBLIC DOMAIN
XV. HEALTH & ENVIRONMENTAL QUALITY

Table 1: Sectors present in the littoral

An example is given in the last chapter of this document showing the indicators and indexes that will be employed for a specific unit.

4.2 The ALI's Group

The components of the ALI's group is explained below.

4.2.1 Actors

The actors of the littoral are organisms, entities, associations and people that are affected by and are included in littoral management. The following are distinguished among these actors:

- Citizens
- Non-Governmental Organizations, NGO's
- Business Sector

The information gathered from each of these groups will not be the same, given their distinct characters.

Citizens

Of the three types of actors identified, **Citizens** can be classified as anyone who uses the littoral, although they have no authority in decision-making. They should be consulted in order to obtain a reflection of the general population's perceived reality of littoral management.

The following information will be gathered:

- Opinions and concerns regarding the littoral
- Management units of the most concern or interest
- Type actions of the most concern or interest
- Evaluation of the most important activities for the region's development

A profile will be given of the citizens surveyed, by gathering information such as age, professional status, and length of time they have lived in the area, all of which establish tendencies for different social groups.

Non-Governmental Organizations, NGO's

Non-Governmental Organizations (**NGO's**) are considered to be those organizations whose activity directly affects the littoral although they do not owe their livelihood to it. These organizations usually have a great interest in and strong influence on littoral management. Therefore, the information gathered from them is the following:

- Name of Non-Governmental Organization
- Objectives and interests
- Number of members
- Budget
- Relevant actions carried out: projects, allegations, field work
- Management units proposed by the stocktaking in which they are interested
- Type actions proposed by the plan in which they are interested

The register of these organizations must be checked and only those fulfilling one of the previously established criteria for the classification of actors are selected. Ecological associations, developmental agencies and neighborhood groups should be registered.

Business Sector

The **Business Sector** is considered in some cases, to be a group whose livelihood depends directly on the littoral and on other occasions as users or those who cause

affects upon it. The information gathered concerning businesses and professional associations is:

- Name
- Interests
- Budget
- Number of employees
- Environmental management systems
- Environmental policies: schedule, Department of the Environment
- Authorization, funding solicited
- Management units of interest
- Type actions of interest

For the final selection of business actors relevant to the ICZM, the same criteria as the prior group will apply. Only those businesses or organizations whose livelihood depends on the littoral will be consulted, whether they are direct users or their actions directly affect it.

The most relevant associations are fishing, aquaculture, hotels, cattlemen, etc.

All the information concerning the different actors will be taken from a survey given to all of the businesses and NGO's (Non-Governmental Organizations) along the littoral. Another survey will be used with the general public. This survey should be as homogeneous as possible in all of the countries of the European Union, so that it can be used to compare the coastal situation in different countries, as well as the actors' level of concern. The survey will consist fundamentally of yes-no questions, as public opinion is sought only for very specific topics, although there will also be open-ended questions and a space for suggestions.

4.2.2 Laws-norms

The **laws & norms** section summarizes all the legislation active in the different areas of application. As mentioned previously, the basic organization differentiates between horizontal and sectorial legislation.

Within each of these fields, every norm contains the following attributes:

- Text of the norm (PDF)
- Level (with a code for each level, ie. EU, Nation, Reg, Loc)
- Normative range (law, directive)
- Thematic area (once type actions are defined)
- Publication date

4.2.3 Institutions

Institutions are actors present in the littoral that have some jurisdiction over it. The institutions are structured according to type. In this proposal, "institution" is defined as

an administrative unit with differentiated responsibilities and obligations that acts in the littoral (ie. The General Direction of Coasts is distinguished from the Fishing Council).

For each institution, be it legislative, research or intersectorial, the following will be defined:

- **Jurisdiction:** A list will be presented of the responsibilities/ jurisdictions each organism has. Two types of jurisdiction are recognized: the space over which it prevails and the functions or type actions over which it acts.
- **Obligations:** The obligations that the organism has with respect to other higher level organizations or the general public are listed.
- **Sources of financing:** This section covers whether the funding is public or private and to what degree.
- **Cost:** The cost or investment assumed by the entity is given in percentages, and the relative importance of each management unit is indicated.
- **Information Networks:** Information networks for internal and external actions are indicated. Their attributes are functionality and efficiency.
- **Instruments:** In accordance with the classification proposed by the OCDE, the following distinctions are made:
 - **Regulation:** includes administrative and political-legal instruments
 - **Economic:** includes incentives and collecting instruments
 - **Pressure.**

The attributes of the instruments are:

- Existence
- Function
- Efficacy
- Efficiency

This will be evaluated by a follow-up of the instruments' application, which is information that should be gathered during stocktaking. This information is closely related to the follow-up of type actions being carried out, as it deals with detecting errors present in the application of management strategies.