MAIA

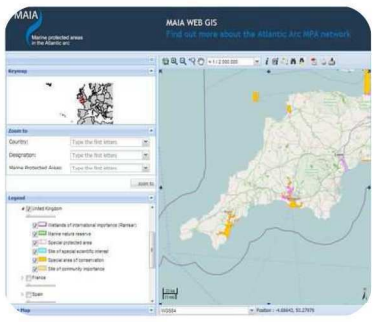
Marine protected areas
in the Atlantic arc

Atlantic Arc MPA network database

Development, state of play and outlook

Agence des aires marines protégées

November 2012



Guidelines

Agence des
aires marines protégées

Atlantic Arc MPA network database:

Development, state of play and outlook

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Contents

Summary

In a context of acceleration of Marine Protected Areas (MPA) creation, at international and European levels, the need of exchanges, sharing and dialogue between the authorities, the managers and the other stakeholders seems indispensable. The MAIA project, in answer to this dynamics, aims at sharing and better understanding the Marine Protected Areas protected in the Atlantic arc, from their designation to their management.

The geographical database was this way built within a géoportail, as an exchanges platform which enables dissemination of information and available in the four languages of the project. This report resumes the main stages of the development, the features and the state of progress of the database.

In an approach of very strong cooperation, a collaborative space was created to allow the participation of all the actors dedicate in the project. The editorial pages are available for consultation by any type of browsers.

The information collected for every MPA (standard attributes) is standardized, meet the requirements of the European database (CCDA) and world database (WDPA) and is thus common and homogeneous within the partnership. Every MPA is registered in the database thanks to its WDPA identifier, its primary key of the system. This unique identifier will allow, in the short term, the database MAIA to benefit from official flows of data.

An MPA be consulted via two interfaces:

- the tool of cartographic dynamics which presents the perimeter of the MPA, as well as its name and its designation. The user can export the GIS data, or the standard data and the management attributes of the AMP that are registered in the database;
- the MPA's datasheet which presents the standard attributes, the management attributes and any document associated to this site, the access to the cartographic tool and the link towards other MPAs' datasheets which intersect it. A maximum of 3 pictures can also describe the MPA. The MPA managers are in charge of the information presented for "their" MPA.

The management attributes concern in particular the governance, the human and financiers means assigned to the site, the uses and activities in the AMP, the specific regulations for the AMP, the stakeholders, the species and habitats.

The database also includes a contact list of the users, among which the MPA managers connected to one or more MPAs they are responsible for. This contact list facilitates the dissemination of the information via predefined lists.

An on-line library lists the statutory texts, the Management Plans of the MPAs, the field studies implemented during the MAIA project.

MAIA has become is a major source of reference information relative to the Atlantic arc MPAs. Eventually, the complete filling of the database will allow the realization of a first status report of the Atlantic arc MPA network.

List of Acronyms

APM: Assistant Project Manager
CBD: Convention on Biodiversity
CDDA: Common Database on Designated Areas
ETC: European Topic Center
ETL: Extract-Transform-Download
FME: Feature Manipulation Engine
GIS: Geographic Information System
IUCN: International Union for the Conservation of Nature
MAIA: Atlantic Arc Marine Protected Area Network
MedPan: Network of MPA managers in the Mediterranean
MNHN: French National Natural History Museum
MPA: Marine Protected Area
MS FD: Marine Strategy Framework Directive
OGC: Open Geospatial Consortium
OSPAR: Convention for the protection of the marine environment in the North-East Atlantic
PANACHE: Protected Area Network Across the Channel Ecosystem
RSS: Really Simple Syndication
SAC: Special Area of Conservation
SPA: Special Protection Area
UNEP: United Nations Environment Program
WCMC: World Conservation Monitoring Center
WDPA: World Database on Protected Areas
WDPA_PID: WDPA identifier of the protected area parent site
WDPAID: Unique WDPA identifier of the protected area
WFS: Web Feature Service
WMS: Web Map Service

Definitions

1) Marine Protected Area

The IUCN - International Union for the Conservation of Nature – defines a marine protected area as: “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to **achieve the long-term conservation of nature** with associated ecosystem services and cultural values.”

This objective may be combined with a local aim for socio-economic development or with sustainable resource management. Various types of bodies (local or national) with different statuses and types of governance may be in charge of management.

A marine protected area also involves the **implementation of management measures** to achieve protection: charter of good conduct, regulations, supervision, scientific monitoring, mediation, information to the public, etc.

2) Designation

The categories of protected areas (marine or land) are defined by national legislation relative to nature conservation (laws, by-laws/decrees, codes, statutes, etc.). The type of legislation varies depending on the country.
A category (or designation) **is defined legally, officially** and recognized as such at a national level.

NB: The term designation is also used in English. In this document, the words “designation” and “category” are equivalent.

All the categories officially regarded as MPAs form the legislative corpus governing the legal implementation of MPA networks.

3) Perimeter and sub-perimeter of a protected area

The main perimeter of a protected area corresponds to the geographical representation of its boundaries. This is generally the largest perimeter of the protected area and sometimes contains sub-perimeters.
Sub-perimeters are classified areas, described and mapped in the official document designating the marine protected area (source: WDPA standards). They have:

- specific regulations (different to the main perimeter);
- and possibly specific management objectives.

Sub-perimeters often correspond to areas where protection is reinforced.
A marine protected area may have one or several sub-perimeters.

4) World Database on Protected Areas (WDPA)

Since 1981, through its protected areas programme, the UNEP-WCMC (WCMC -World Conservation Monitoring Center- a body of the UNEP (United Nations Environment Program) specializing in biodiversity assessment) has collected information relating to protected areas to make it available to the international community using the word database on protected areas.
The development and implementation of the World Database on Protected Areas (WDPA) is a joint program and is produced by the UNEP-WCMC and the International Commission of the IUCN on protected areas, working in collaboration with governments and NGOs. As such, it lists land and marine protected areas (development of the WDPA). Each perimeter, including MPAs, is indexed and described by a dozen or so

standard attributes (official name, status, etc.) and located (polygon). This world database on protected areas (WDPA) is the most comprehensive set of geographical data on marine and land protected areas in the world. The “protected areas” program of the WCMC provides a tool for consulting map data of protected areas on-line: http://protectedplanet.net/

5) INSPIRE Directive

The European directive 2007/2/EC of 14 March 2007, called INSPIRE, aims to develop an infrastructure for spatial information in the European community to promote environmental protection. By “infrastructure for spatial information”, the Directive means a set of information services available on-line, spread over the Web sites of the various stakeholders, and used to disseminate and share spatial data.
(Source: MEDDTL)

I. Context

A. Marine Protected Areas

The International Union for the Conservation of Nature (IUCN) defines a marine protected area as "A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values."

The concept of marine protected area (MPA) first appeared in 1982 within the framework of the United Nations Convention on the Law of the Sea. It was then refined and reinforced by the Convention on Biological Diversity (CBD) in 2000, then by the World Summit on Sustainable Development in 2002.

Today, the concept of marine protected area is a tool that is integrated into debates, reflection and guidelines for marine environment conservation, at each decision level (regional, national and global).

The process of creating marine protected areas has gained speed in recent years with the implementation of national strategies to respond to commitments made within the framework of international conventions and European directives and regulations (European Strategy for the Atlantic Ocean, Marine Strategy Framework Directive - MSFD; Common Fisheries Policy; 'Birds' and 'Habitats' Directives, etc.).

The acronym "MPA" encompasses a wide range of tools, approaches and goals that need to be better understood.

The MAIA partners (Marine Protected Areas in the Atlantic Arc) aim to promote and share this wealth and these differences to foster mutual understanding and the development of a recognized, effective, sustainable and well-managed network of marine protected areas in the Atlantic arc.

B. Significant regulatory diversity

MPAs encompass numerous types of regulatory zoning applied to the marine environment, stemming from national or supra-national decisions transposed into domestic laws. This creates considerable regulatory disparity and a variety of sizes ranging from a hectare to several thousand square kilometres.

As an example, in the context of MAIA and the network's four current partner countries, more than fifty protection categories (designations) are considered to be MPAs when they include a marine part. Some examples include (non-exhaustive list for each country):

- Domaine public maritime du Conservatoire du littoral (Marine State Property), arrêté de protection de biotope (biotope protection by-law), parc naturel marin (marine nature park), parc national (national park), in France;
- Marine Conservation Zones, Sites of Special Scientific Interest, in the UK;
- Áreas marinas protegidas (marine protected areas), parque nacional (national park), in Spain;
- Parque natural (nature park), reserva natural (nature reserve), in Portugal.

In addition to these 'national' categories, there are many supra-national designations (at European level: special protection area and special area of conservation – forming the Natura 2000 network; or international: marine protected area (OSPAR)).

These types of areas have different and complementary objectives and regulatory frameworks.

These different areas sometimes overlap geographically, either partially or completely.

C. Need for communication, dissemination and standardisation

Out of concern for the consistency and effectiveness of their action, managing organisations and users should ideally be aware of the characteristics (legal, regulatory, geophysical, executive, etc.) of MPAs neighbouring their biogeographical area of activity. Similarly, it may be useful for a managing organisation to be able to compare the specific features of its MPA with other similar MPAs (designation, surface area, management scheme, species and habitats, etc.).

Information-sharing between MPA managers is therefore a major requirement to fuel reflection, adjust action and assess results.

At the same time, under the guidance of the 1998 Aarhus Convention, the dissemination of public data to citizens must be encouraged. The 2007 European Directive INSPIRE requires public entities to publish some of their environmental data and to foster the dissemination thereof.
In the light of these needs for communication and these new European regulatory frameworks, there is a need to define a common language between stakeholders. The information shared must therefore be standardised, for example by using common data structures or shared indicators.
In this situation, there is a vital need to introduce frameworks for sharing, communication and dialogue for MPA managers, users and supervisory authorities.
The creation of coherent, representative networks has thus become a necessity.

D. MAIA database creation process

The creation of a database of marine protected areas in the Atlantic Arc was planned in the MAIA Interreg project document. However, the format, level of detail and degree of integration into the institutional framework were not defined. To begin with, the partners worked to define and dimension the project tool to respond both to their own needs and the goals of the project. In a second stage, the database structure and content were jointly developed and approved with all the project partners.

The technical development, managed by the French *Agence des aires marines protégées*, was done in two stages:

(1) The selection of a service provider as Assistant Project Manager (APM), to benefit from support and technical advice on the management of the project.

(2) The selection of a service provider to handle the technical development of the portal.

Implementation of the geoportal (via two public contracts – assistant project manager and development) took 18 months, ten of which were spent on the technical development.

Table I: MAIA geoportal implementation schedule

July 2010	Approval of the geoportal project, managed by the *Agence des aires marines protégées*
September 2010	Start of the Assistant Project Manager's contract
November 2010	Publication of the MAIA geoportal creation contract
February 2011	Start of the contract with the selected service provider
July 2011	First delivery of the MAIA geoportal
14 December 2011	Opening of the MAIA portal to the public: www.maia-network.org

II. The MAIA web portal – a solution in line with the MAIA project goals

The primary aim of the MAIA project is to build a network for communication and sharing between all stakeholders involved in the designation and management of marine protected areas in the Atlantic arc.

To achieve this aim, the partners developed and set up frameworks and tools for communication between all project players and partners. A web portal was thus developed as a veritable platform for communication and information-sharing.

The MAIA portal is available in the four Atlantic arc languages (English, Spanish, French and Portuguese) and consists of three functional modules:

(1) Editorial pages containing text, images and various 'conventional' features such as a 'newsletter', news reports, etc. Search functions and the consultation of MPA datasheets are also available.

(2) Collaborative functions for use by identified stakeholders only:

- → A document database integrating document validation procedures;
- → A shared diary;
- → A directory.

(3) A dynamic map tool (web GIS[1])

All these components are integrated into the same environment and draw information from a common database.

This environment can be accessed both by project stakeholders and the general public.

[1] GIS stands for Geographic Information System

The functional level proposed depends on the user type:

- For the 'general public', the portal enables visitors to consult attribute or map data. Data is available for download.
- Identified partners are able to update certain information and to upload documents, etc.

The entire portal is managed by administrators via specific functions (back-office).

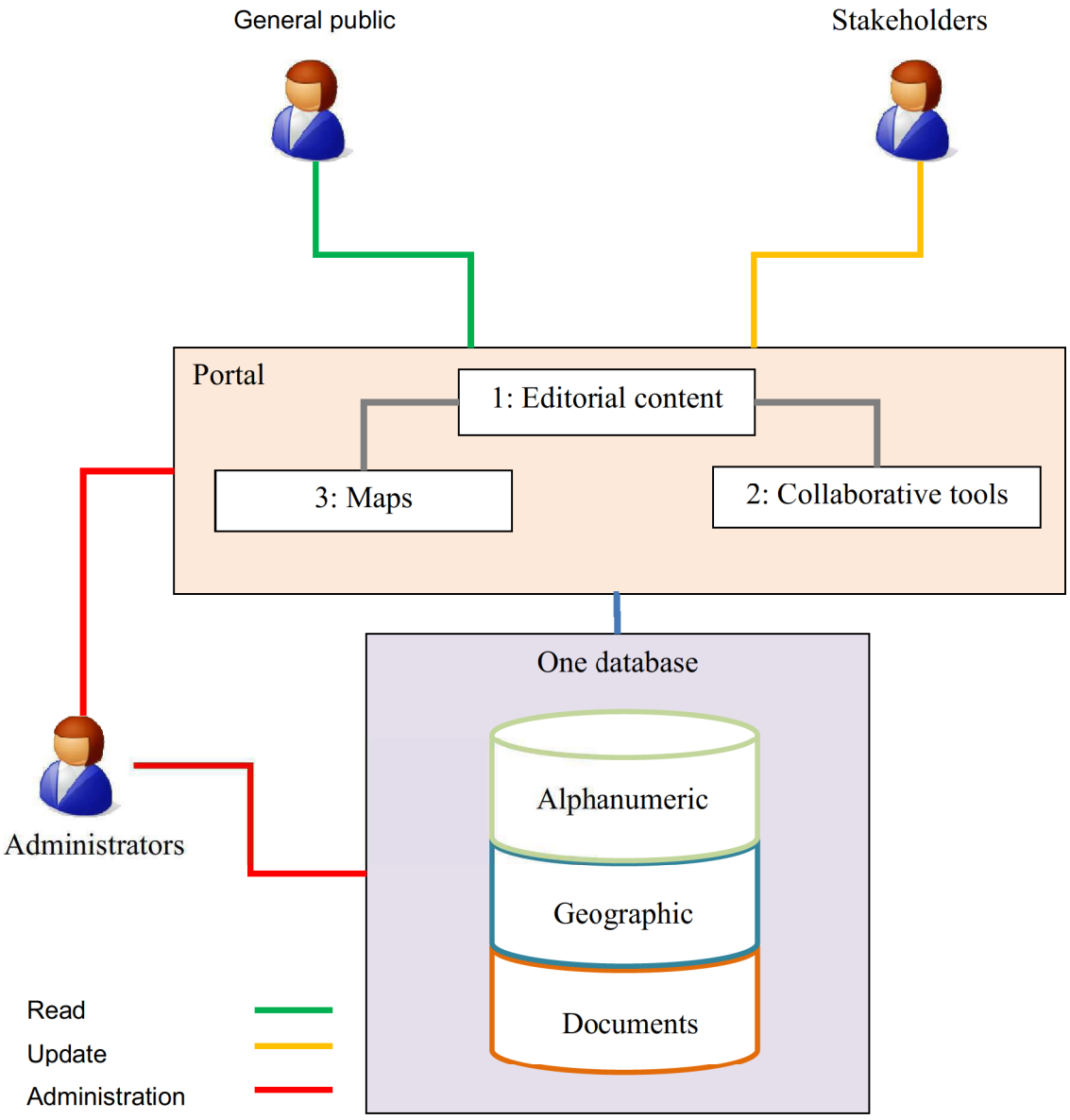


Figure 1: Diagram of the MAIA geoportal organisation

A. Editorial content

The editorial pages form the front-end of the portal. They format the site and provide access to all the information available. The now 'conventional' functions of all web sites are available from them:

- Editorial functions;
- Search and consultation of MPA datasheets;
- Newsletter;
- RSS feeds.

B. Collaborative space

The name 'Collaborative Tools' covers the following functions and tools:

- A shared **diary** to position events.
- A **To Do List** allowing the partners to monitor the various tasks (delivery of reports, validation, etc.) or to find out the progress status.
- A **directory** listing all the users of the project (name, email, address, title, etc.) used as a source for distribution lists.
- A **'Subscription'** function enabling users to be automatically informed of any event taking place on the platform (addition of a document, date of meeting, etc.). Registration for these services may be decided by the administrator or by the user.
- A **'Notification'** function enabling users to notify one or more third parties of any particular event (update, document filing, etc.).
- **Update tools** for updating descriptive alphanumeric data about MPAs.
- A **Document database and media library**. This is a structured space in which documents can be deposited. A document is a file or a group of files with a descriptive datasheet (document record). This record is used to describe the document content. The document record is structured (date uploaded, order number, theme, source, etc.). Documents uploaded may be reports, technical guides, minutes of meetings, etc. Search functions based on the information contained in the document record or directly on the content of the files facilitate use of this database.

C. A map tool

The map tool can be used to locate existing or planned MPAs in the Atlantic arc:

- Existing MPAs are represented by their official perimeter(s) (polygon format).
- Planned MPAs are simply located by a dot.

The functions available to users focus on data consultation and distribution:

- Browse functions (zoom, moves);
- Identification functions;
- Attribute and spatial selection/search functions;
- Data export (spreadsheet or vector);
- Map productions (A4, A3);
- Etc.

The map window particularly offers a dual system of scales: in kilometres and in nautical miles.

D. Multiple entry points

As stated above, the geoportal has been designed in an integrated manner. It offers various ways of consulting a given source of information. Therefore, an MPA datasheet may be called up from the search tool provided on the home page or from the map tool. Similarly, it is possible to switch from an MPA datasheet to the map tool in a single click.

The same is true for documents in the document database. Subject to user rights, they can be accessed from various entry points: home pages, MPA datasheets, etc.

III. Interoperability and a network approach

One of the expected aims of the MAIA project involves the development of common indicators about marine protected areas in the Atlantic arc. The idea was therefore to be able to identify an MPA unambiguously and irrespective of the language and the country.

It was therefore necessary to have a single identifier due to the need of being able to trace information during analysis operations. This led to the creation of a **common data model** and a **unique identification system**. The reliability of a database particularly lies on a **limitation of duplications**.

A. A shared data standard: the WDPA standard for protected areas

Since 1981, through its protected areas program, the UNEP-WCMC[2] has gathered and compiled a significant amount of digital data about land and marine protected areas worldwide to make it available to the international community. The geographic database developed to gather this information (World Database on Protected Areas – WDPA) is the most complete in the world.

Each perimeter of protected area (including MPAs) is indexed in it and described by a dozen attributes (official name, designation, status, etc.) and geo-located (geospatial polygon). These attributes form a '**standard**' (Data Standards for the World Database on Protected Areas[3]).

Using this WDPA standard (*via* a single WDPAID identifier) avoids duplications (the WDAPID being the primary or entry key to the database) and standardizes information (by using standard fields).

[2] The WCMC (World Conservation Monitoring Center) is the entity of the UNEP (United Nations Environment Program) specializing in biodiversity assessment.

[3] UNEP-WCMC, 2010, Data Standards for the World Database on Protected Areas, UNEP-WCMC.

Furthermore, implementation of the INSPIRE Directive at European level also makes provision, in the long term, for the introduction of INSPIRE identifiers for protected areas. As soon as they are in place and available, correspondences between WDPA and INSPIRE identifiers will be created, to keep the work done upstream by all the national focal points. As the MAIA network only encompasses European countries, it will easily switch from the WDPA identification system to the INSPIRE identifiers as soon as it becomes possible.

Therefore, within the framework of MAIA, each MPA is described according to the existing WDPA standard (standard data), completed by information specific to the MAIA network relating to the management of sites (MAIA data).
These two families of data do not have the same characteristics:
– Standard data is relatively stable over time. It is updated by the relevant national authorities. In France, the responsible organisation is the National Natural History Museum (MNHN);
– The 'MAIA' data only concerns the management characteristics and will be regularly updated by the MPA managers.

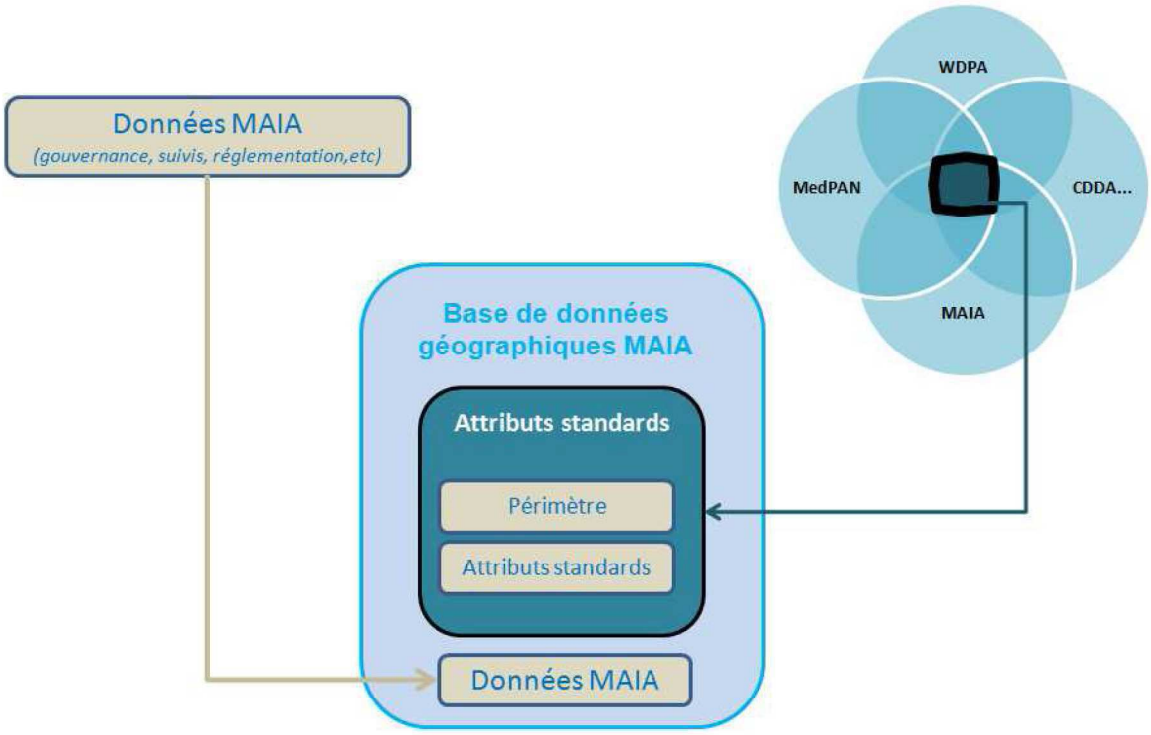


Figure 2: Diagram of the MAIA database

To facilitate the task of collecting data from the partners in accordance with standards and the already existing WDPA dataset, a 'GIS' data model (*i.e.* combining attribute data and spatial representation) has been defined. It is described in a technical guide drafted in four languages and made available to the partners (cf. Appendix 1).

B. Use of unique identifiers

Within national policies for the conservation of marine biodiversity, the creation of marine protected areas takes various forms depending on the country. The Atlantic arc MPA geographic database aims to give the best possible representation of this variety of approaches and tools.

1) Understanding the complementarity of designations

In a given geographic area, several complementary protected areas may have been created over time. Each one has a specific conservation objective depending on its designation.

To optimally represent this complex reality, each MPA has a unique identifier (WDPA ID) and can be viewed on the site via a datasheet and via the map tool.

To have a complete and accurate view of protection in a given area, it is necessary to consult the other MPAs intersecting the first area, as their "designations" and effects are complementary (management scheme, regulations, available resources, etc.).

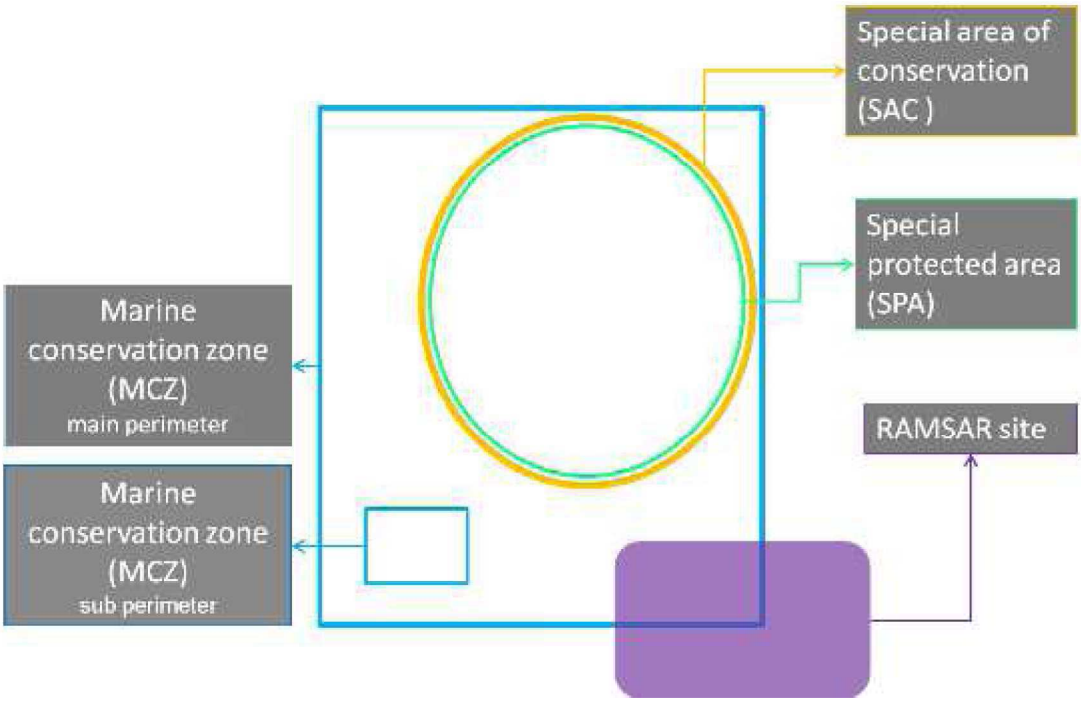


Figure 3: Diagram showing possible intersections between designations (the designations used here as an example are French 'national' designations i.e. "*réserve naturelle nationale*" (national nature reserve) – or 'international' designations, i.e. Ramsar, SAC, SPA)

2) Understanding the complementarity of the various perimeters

Sub-perimeters may be defined actually within a marine protected area. Sub-perimeters are classified areas that are described and mapped in the official document designating the marine protected area (source: WDPA standards[3]). They have:

- Specific regulations (different from the main perimeter);
- And possibly specific management objectives.

Sub-perimeters often correspond to areas where protection is reinforced.

A marine protected area may have one or more sub-perimeters. The WDPA identifier standard enables these sub-perimeters to be correctly managed and represented. When it meets the definition of the standard, each sub-perimeter has a single, specific identifier (the WDPAID) and a parent identifier (WDPA_PID) which is that of the main perimeter it is linked to. A main perimeter is always described by an identifier and a parent identifier that are identical. The MAIA database is one of the first to use the parent identifiers developed by the WDPA.

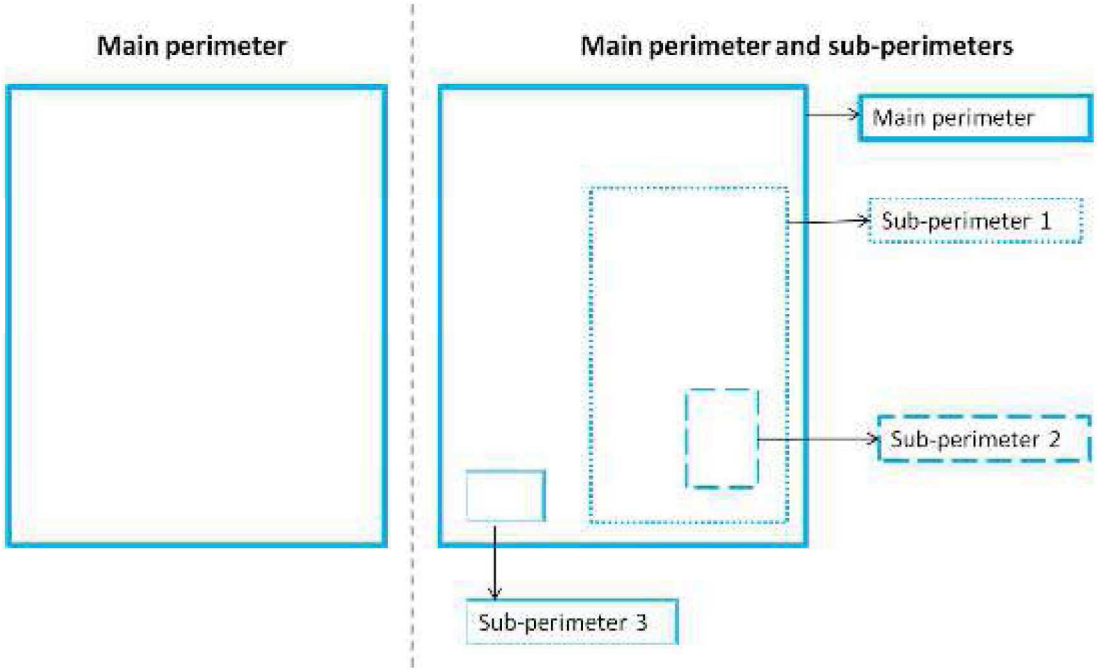


Figure 4: Diagram representing a main perimeter and its sub-perimeters

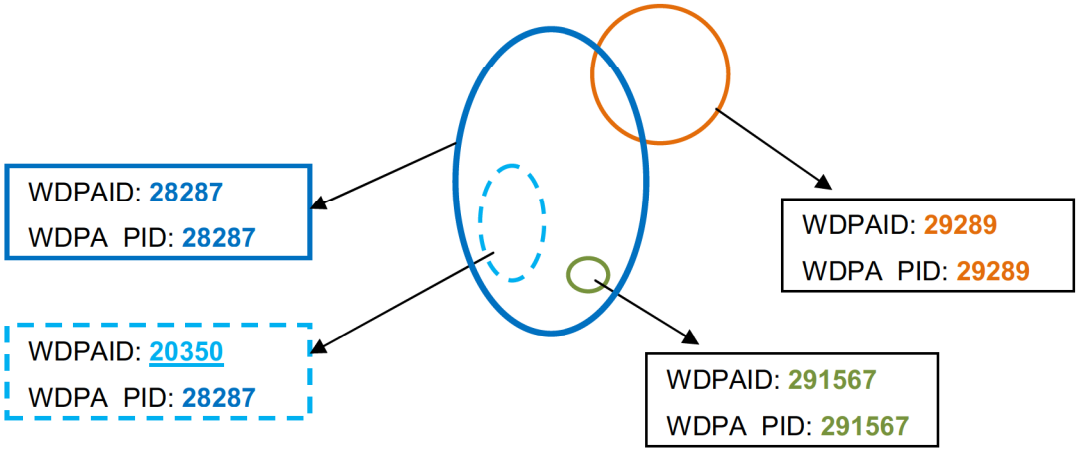


Figure 5: System of WDPA identifiers for three MPAs including one with a sub-perimeter / Geographic view

Table II: Extract from an attribute table filled in according to the characteristics shown in Figure 5 (these MPAs are fictitious)

WDPAID	28287	20350	29289	291567
WDPA_PID	28287	28287	29289	291567
NAME	Sillon de Talbert	Sillon de Talbert	Baie de Saint-Brieuc-Est	Tregor-Goëlo
COUNTRY	FRA	FRA	FRA	FRA
DESIGNATION	Réserve naturelle nationale	Réserve naturelle nationale	Site of community importance	Marine Protected Area (OSPAR)
STATUS	National	National	International	International
STATUS YEAR	1998	2000	2004	2006

C. Compliance with official protected area data flows

The MAIA network complies with the official data flows. In Europe, the national focal points are in charge of sending data about 'national' protected areas to the CDDA (Common Database on Designated Areas), which is the European level for this data collection. This entity is part of the ETC (European Topic Center) and is responsible for transferring this information to the global level: the World Conservation Monitoring Center in charge of managing the World Database on Protected Areas (WCMC – WDPA).

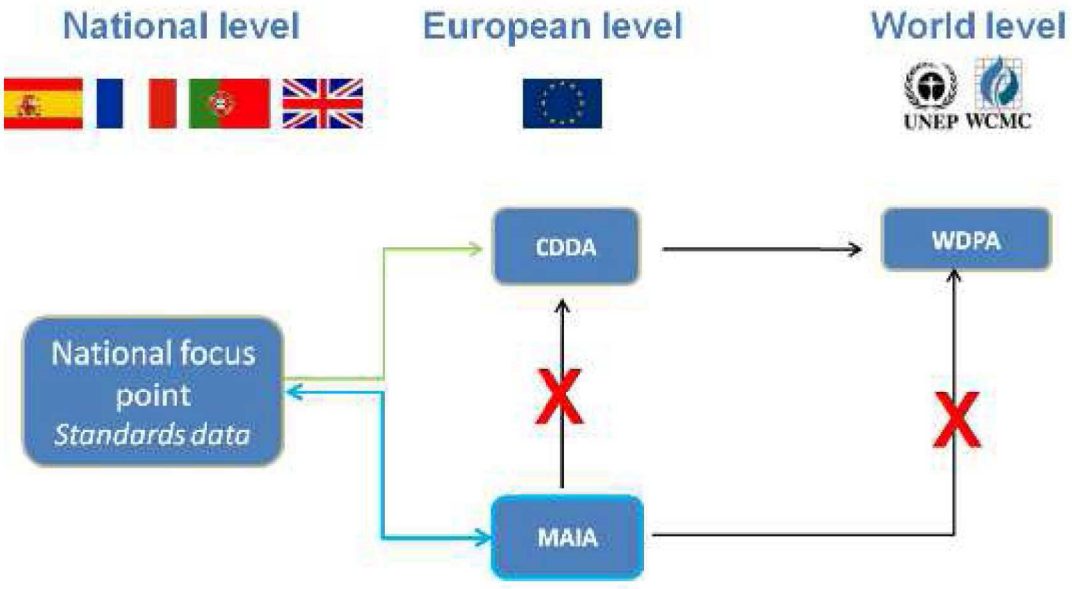


Figure 6: Diagram of official flows of standard data

The MAIA network encourages its partners to work closely with their national focal point so that the European database (Common Database on Designated Areas – CDDA) and the world database (World Conservation Monitoring Center / World Database on Protected Areas WCMC – WDPA) are updated as far as possible by the official bodies.

D. WDPA identifier allocation process

For 'national' protected areas which do not yet have a WDPA identifier, the partners have been advised to contact their national focal point which alone has authority to allocate a WDPA identifier.
Sets of identifiers are allocated to each country by the CDDA. Each focal point is then responsible for allocating them to newly created protected areas or those which do not yet have their WDPA identifier.

Table III: National focal points contacted for the collection of information for the MAIA database

Spain	Elena Borregon	eborregon@mma.es	Tel: +34 91 749 3619)
Portugal	Ines Trigo	trigoi@icnb.pt	Tel: +351 213 507 900
UK	James Williams	james.williams@jncc.gov.uk	Tel: +44 (0)1733 866 868
France	Guillaume Grech	grech@mnhn.fr	Tel : +33 (0)1 40 79 35 79
CDDA	Brian Mac Sharry	mac-sharry@mnhn.fr	Tel : +33 (0)1 40 79 35 63
WDPA	Amy Milan	Amy.Milam@unep-wcmc.org	Tel: +44 (0)1 223 814 735

We would like to take this opportunity to thank the national focal points, the CDDA and the WDPA for their support.

For 'international'-type protected areas, the national focal point responsible for the convention or treaty must apply to the secretariat of the convention (or treaty) for the creation of the identifier and the latter directly makes the request to the UNEP-WCMC.
For example, for a marine protected area designated under the RAMSAR convention, the channel would be as outlined below:

RAMSAR national focal point → RAMSAR secretariat → UNEP-WCMC (WDPA)

IV. MAIA database data integration process

E. First step: standard data integration

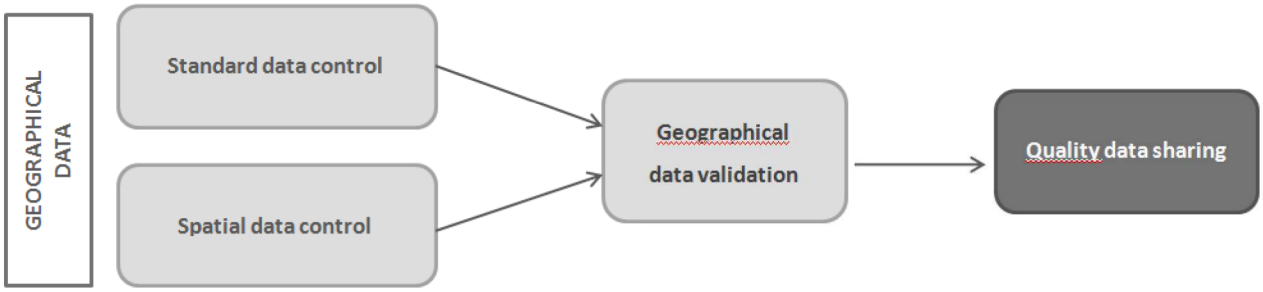
As indicated above, the national focal points responsible for distributing information about protected areas were contacted by the MAIA partners to provide standard information, as this is the only way to collect reliable and official information.

Standard information comprises a geographical component (official perimeter of the protected area) and standard attributes (in accordance with the WDPA standard) including the WDPA identifier. Such information was requested from the various partners as GIS-formatted data, in ESRI's S*hapefile* (*.shp) data exchange format.

Our contacts were provided with a *Shapefile* model together with its data dictionary (definition of all WDPA standard attributes) in the four languages (cf. Appendix 1).

3) Standard data quality control

Upon receiving the GIS data, a quality control was carried out: each *Shapefile* (attribute table and geometry) is thoroughly examined (structure, data input, match between typology, topology, etc.) to make sure that the data complies with the WDPA standard and in anticipation of its future analysis.



⇨ Attribute data check

The attribute table provided by the partners must comply with the WDPA format. The standards of the various fields in the table were checked to make sure that the data dictionary was complied with. Several vital elements for proper integration were checked:

(1) Check of the WDPAID identifier

The WDPAID is the primary key of the MAIA database. It must therefore be unique, and there must be no duplication.

(2) Check of the link between perimeters

The WDPA_PID field must be completed. It is the same as the WDPAID if it is a main perimeter (cf. Figure 5*)*

(3) Check that there is no blank record

All fields must be fully completed, otherwise the missing information must be found to complete the table.

(4) Check of record consistency

Repetitive attributes (i.e. included several times in a same table to characterize several records) must be identical from one record to the next (example: 'designation' field). This ensures the accuracy of queries made.

⇨ **Spatial data check**

For this spatial check, the tools integrated into the ESRI ® ArcGIS 10.0 software (ArcEditor licence) were used. Geometry may be checked in various ways:

- using the "Geometry check" and "Geometry repair" tools of the ArcToolbox;
- using the ETL spatial tool (Extract-Transform-Download) of the FME (Feature Manipulation Engine) software package.

This latter solution was selected. As we do not own the data provided to the MAIA project by the partners, it was difficult and dangerous to automatically correct the GIS data.
We therefore chose to send the information required for the correction (error location and type) to the data owner for the owner to change the data accordingly.

The geographical elements checked are:

(1) Data in a WGS84 non-projected coordinate system

(2) Entity geometrical errors (objects taken one by one)

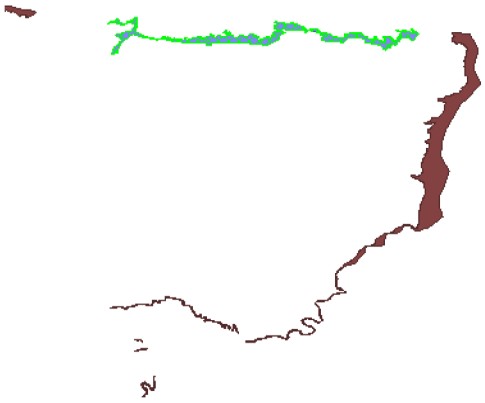
Geometrical errors on non-visible objects (polygon closing error, auto-intersection error, etc.) can be detected and corrected.

(3) Topology check and correction (relationships between objects)

Overlapping two polygons in the same layer can cause symbology errors (e.g.: one polygon disappears behind another). Similarly, queries on topologically incorrect data can lead to erroneous results (surface area inconsistencies for example).

Table IV: Example of a geometrical error detected by the ETL spatial tool

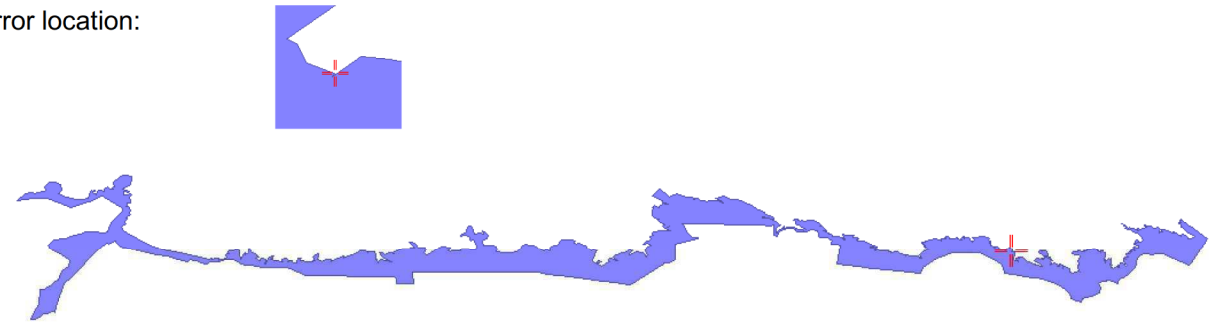
Type of error: auto-intersection



Feature: 1 of 1
Feature Type: Pb_géométrie
Coord Sys: LL-WGS84

Attribute Name	Attribute Value
validateFailCoordX	-7.07865901141497
validateFailCoordY	43.555188080241
validateFailReason	6
validateFailReasonString	Ring Self Intersection
COUNTRY	ESP
DESIG	Lugar de importancia comunitaria
DESIG_ENG	Site of community importance
DESIG_TYPE	International
fme_basename	MAIA_ESP_MPA_20120705_pol_wgs84
fme_dataset	Z:_DONNEES_EN_COURS\modion\MAIA\Liv
fme_feature_type	MAIA_ESP_MPA_20120705_pol_wgs84
fme_geometry	fme_aggregate
fme_type	fme_area
IUCN_CAT	Not applicable
MARINE	1
multi_reader_full_id	0
multi_reader_id	0
multi_reader_keyword	SHAPE_1
multi_reader_type	SHAPE
NAME	AS CATEDRAIS
ORIG_NAME	As Catedrais
REP_AREA	2.97
REP_M_AREA	1.02
SHAPE_GEOMETRY	shape_polygon
STATUS	Designated
STATUS_YR	2004
WDPA_PID	555523048
WDPAID	555523048

Error location:



4) Integration of standard data into the MAIA database

Once the GIS data is validated, it can be integrated into the MAIA database.

The data is loaded by importing a compressed Zip file via the website administration back-office. If the GIS data complies with the WDPA standard and its topology is correct, integration into the MAIA database is done directly and automatically.

Any import operation on a file with an inconsistent structure is rejected. The log records the details of the failure.

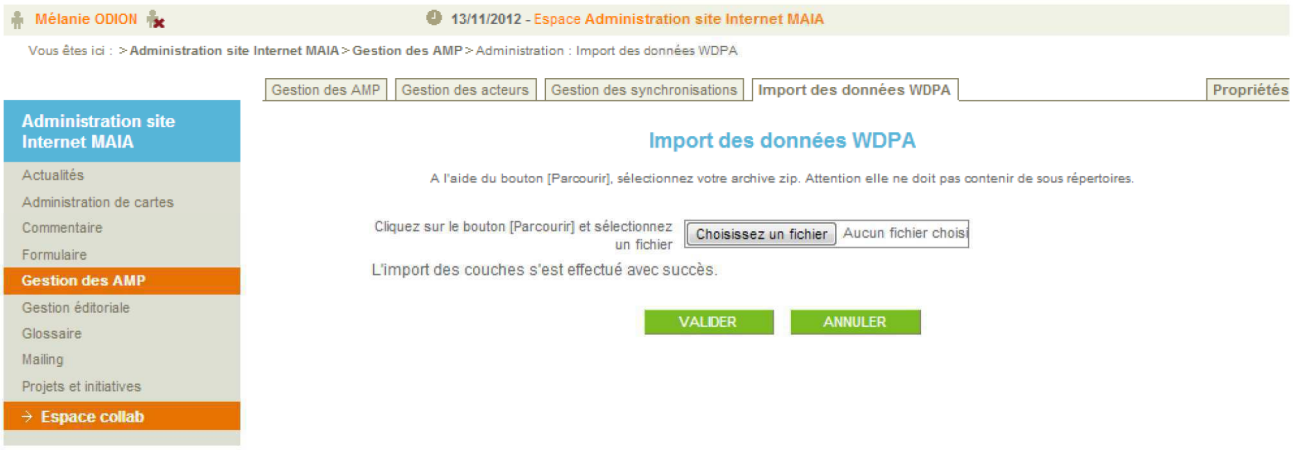


Figure 7: Successful import of standard data (back-office view of the website)

Automatic structure checks are done on the following elements:

- data must be in a WGS84 non-projected coordinate system;
- the coordinate range of the layer is within the maximum MAIA footprint;
- the structure of the tables (field names and type) must comply with the WDPA model;
- the geometries must be valid;
- the WDPAID identifiers are unique in a given file.

For each loaded data entry, two modes are available:

- creation (the WDPAID key does not exist in the WDPA table): a line is then added to the WDPA table;
- modification (the WDPAID key already exists in the WDPA table): the line is fully updated in the database.

There may be two types of layer (polygon or dot) depending on the progress of the marine protected area projects. Following the import, the list of imported marine areas can be viewed using the “MPA Management” tab.

5) Marine Protected Areas Management

The “MPA Management” tab contains the list of MPAs integrated into the application. A search engine can be used to filter through this list according to the status of the MPA sheets:

- draft: the sheet is being drafted;
- pending posting: a contributor has asked for the MPA sheet to be posted;
- posted: the sheet has been posted by the administrator.

A second filter can be used to restrict the MPAs displayed according to their designation or name.
The text field can be used to enter the first letters of the name or designation.

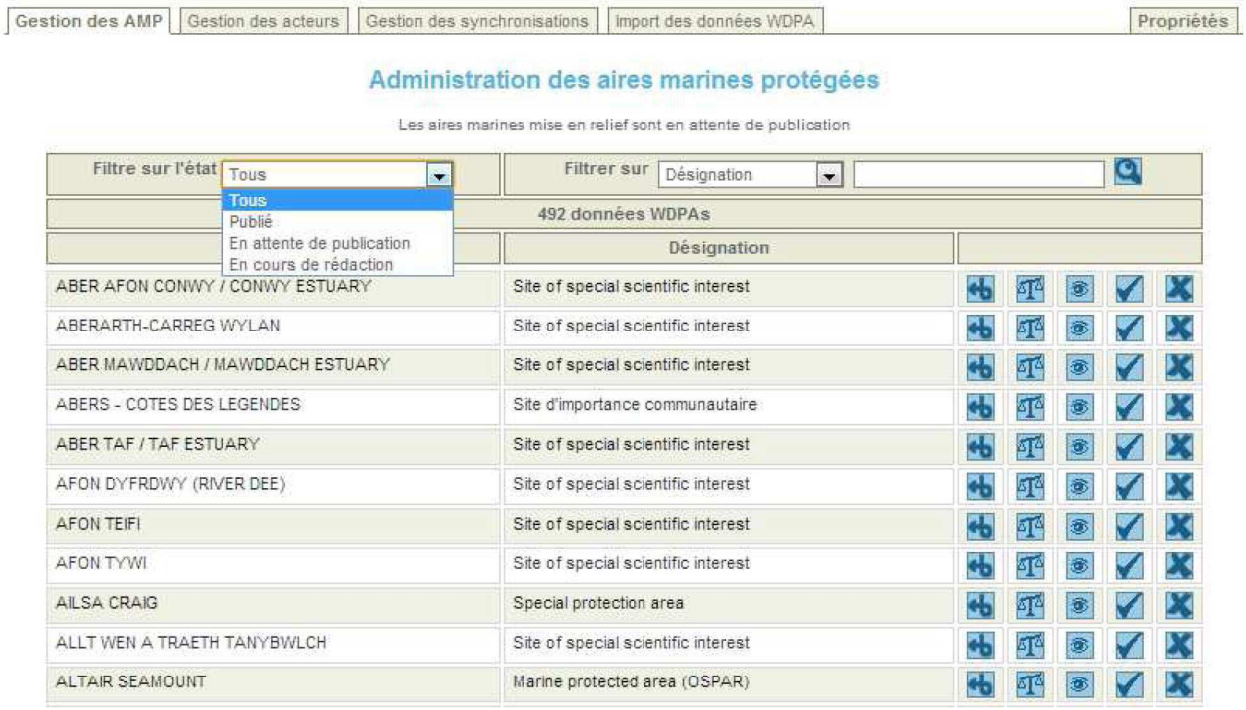


Figure 8: Marine Protected Areas administration (back-office view of the website)

Several actions are possible for each MPA:

: change the MPA attribute information (WDPA information)

: define the users having the right to change

: change the MAIA information (access to the MPA sheet in collaboration/edit mode)

: post the marine protected area (it will then become visible on the website)

: delete the marine area (warning: this deletes the WDPA data and the associated MAIA information)

The integration of GIS data (perimeter and standard attributes) therefore implies that a datasheet for the marine protected area be created on the MAIA website. Once this sheet is posted, it may be viewed by the general public.

The map tool provides another way of viewing a marine protected area.

6) Administration of the various maps on the MAIA website

The map administration application can be used to set the parameters of the maps in the application (management of symbology, display thresholds, tags, etc.). This application can only be accessed by administrators using the left-hand menu in the back-office.

The administrator must/may perform the following actions on each map:

- manage the layer names;
- manage the visible fields on each layer;
- manage the symbology of the layers;
- manage the tags of each layer;
- manage the key tree;
- where applicable, add layers in the map background.

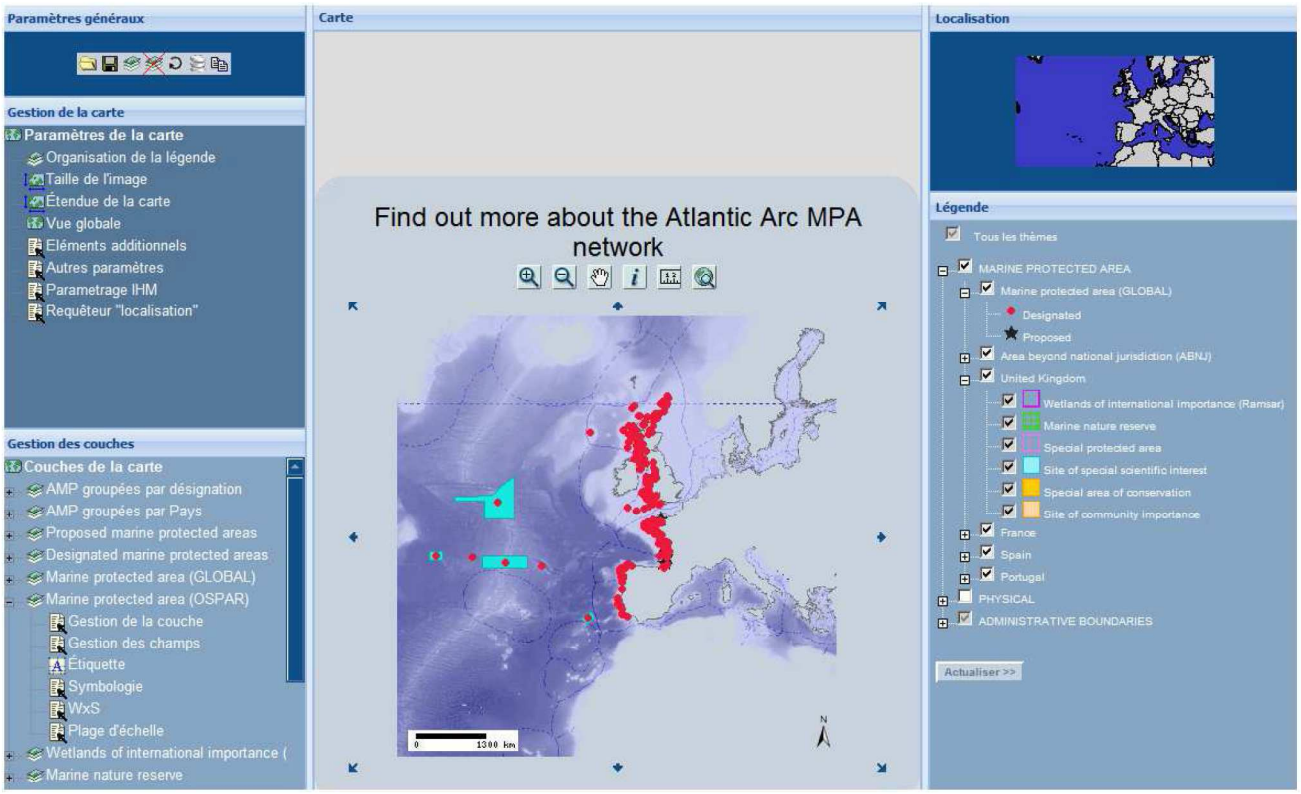


Figure 9: Administration and set-up of the MAIA website maps (back-office view)

When new MPA data is imported, the administrator may therefore add the new layers (per designation) in the map of the MAIA web tool and set the relevant parameters (key, symbology, viewing scale, tags, etc.).

F. Second step: integration of the 'MAIA' management data

The integration of standard information into the base automatically generates a datasheet for the MPA. It must then be completed ('MAIA' management attributes) by the MPA manager using the on-line input tool available in the collaborative space of the website.

First, the "manager – contributor" must be entered in the directory (surname, first name, organisation, contact details, name and designation of the MPA(s) he/she is responsible for). His/her login parameters for the collaborative space can then be created. These parameters provide access to the collaborative space and to the datasheets of the MPA he/she is responsible for.

To fill in the 'MAIA' management attributes, the contributor can find help in a 'help balloon' next to each field to be filled in. All the fields and help balloons are available in the four languages of the MAIA network.
In addition, the MAIA team developed a guide explaining how to fill in the fields and how to use the input interface (available in the four languages) and provided extensive support to contributors. An initial phone conversation was systematically proposed to help fill in the first sheet. As regards France, a presentation of the tool was given at a round table attended by the Atlantic arc MPA managers in March 2012.

The 'MAIA' management attributes cover the following topics:

- Main features of the MPA;
- Governance;
- Management scheme;
- Monitoring;
- Means and resources;
- Regulations;
- Uses and activities;
- Stakeholders;
- Marine habitats and species.

To have data that is ultimately usable, a special effort was made to use mainly "closed" descriptors: choices in closed yes/no lists.

While this information collection method may seem frustrating for contributors (inability to precisely qualify an answer to a "yes/no"-type closed question), it guarantees a very high level of data usability and the production of reliable global summaries. Aware of the limits of this approach, the MAIA team in association with the contributors, took into account a certain amount of information and a certain number of details concerning the answers chosen, to highlight and correctly comment the data analysed.

Once the datasheet finalised, the contributor asks for it to be posted. The final validation and posting of data on the front-office (for the general public) are carried out by the site administrators through the back-office. Figure 8 illustrates this step in detail. Any change can be made after posting following the same procedure, via the website administrators.

V. Presentation of the MPA datasheets

A datasheet is created for each MPA. If an MPA comprises a main perimeter and a sub-perimeter, only one datasheet will be generated. If an identical geographical area is covered by two overlapping MPAs (relatively frequent in the case of special protection areas and sites of community interest or special areas of conservation), two different datasheets will be filled in.

An MPA datasheet comprises three main elements:

- A location map
- Standard information (WDPA)
- MAIA management information

Each datasheet of an MPA features a map locating the MPA in the Atlantic arc and its perimeter. This is a dynamic map. The 'Access the map tool' command can be used to switch from the datasheet to the dynamic map directly centred on the MPA perimeter.
The main standard attributes are listed to the left of the map, the rest of the attributes being displayed in the various sections below the map.

If the MPA includes one or more sub-perimeters, they can be viewed using the 'sub-perimeter' tabs displaying the same categories of information as the datasheet of the main perimeter. The different characteristics of each sub-perimeter are highlighted to detect them quickly when reading.

Three additional modules are also presented:

- 'Intersection with other MPAs' module
- 'MPA documents' module
- 'Photos' module

The 'intersection with other MPAs' module allows users to find out, where applicable, the MPAs that intersect with the perimeter viewed and to browse from one sheet to another by clicking on the relevant MPAs.
The 'documents' module can be used to directly download the documents related to the MPA: creation decree, management scheme, regulatory documents, etc.
A maximum of three low-definition photos can be used to provide an overview of the MPA, its main habitats and species or the main activities done in the MPA.

An MPA datasheet may be searched for using a "fast search" function (2 criteria) or "advanced search" (19 criteria); this latter function can be used to filter MPAs according to:

- Whether or not the MPA has a management scheme;
- The regulated uses/activities in the MPA;
- The protected habitats and species within the MPA.

A list of all the MPAs contained in the base may also be viewed.

Example of a datasheet

ARRABIDA - Parque natural

Country:
Portugal

Name:
ARRABIDA

Designation:
Parque natural

Status:
Designated

Status year:
1998

Main standard attributes

Location in the Atlantic arc

Access to the map tool

MPA perimeter

Access to sub-perimeters

Main perimeter | Sub perimeter 1 | Sub perimeter 2 | Sub perimeter 3 | Sub perimeter 4

General features

- **Name:** ARRABIDA
- **Original name:** Arrábida
- **Country:** Portugal
- **Designation:** Parque natural
- **Designation in English:** Natural park
- **Designation type:** National
- **IUCN Category:** V
- **Reported Marine Area:** 52.75 km²
- **Reported area:** 176.52 km²
- **Calculated total area:** 176.49 km²
- **Calculated marine area:** 176.49 km²
- **Status:** Designated
- **Status year:** 1998
- **Management authority name:** ICNF-Instituto da Conservação da Natureza e das Florestas, IP
- **Management authority web site:** www.icnf.pt
- **Official objectives/aims:**
  - To maintain conserve restore biodiversity, natural heritage of habitats, species, landscapes, under protection status
  - To maintain conserve restore biodiversity, natural heritage of habitats, species, landscapes, out of protection status
  - To maintain key ecological functions (spawning areas, nursery, feeding zone, rest areas, productivity areas, etc.)
  - To protect, preserve and restore cultural heritage
  - To promote sustainable management / development of socio-economic activities
  - To manage natural resources exploitation
  - To improve governance on the MPA territory
  - To improve water quality
  - To educate on environmental issues and improve public awareness
  - To foster scientific research
  - To create socio economics added values

Intersection with other MPAs

Consult the datasheets of these MPAs

- ARRABIDA / ESPICHEL - Sítio de importância comunitária
- CABO ESPICHEL - Zona da protecção especial

Documents

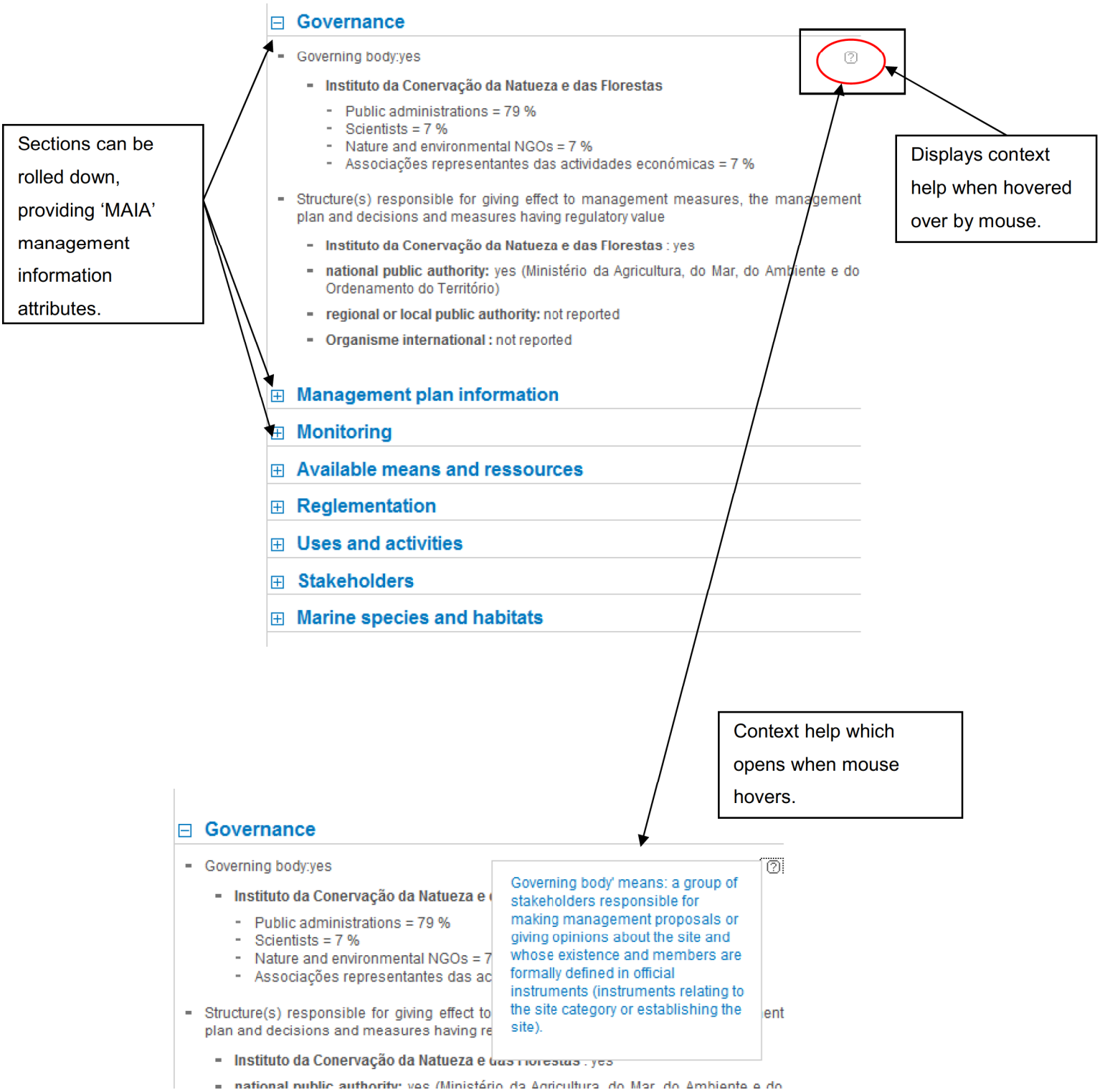
- Resolução do Conselho de Ministros n.o 141/2005, Conselhos de ministros, 23/08/2005

Photos

Access to the other MPAs

Access to the MPA documents

View of the MPA pictures

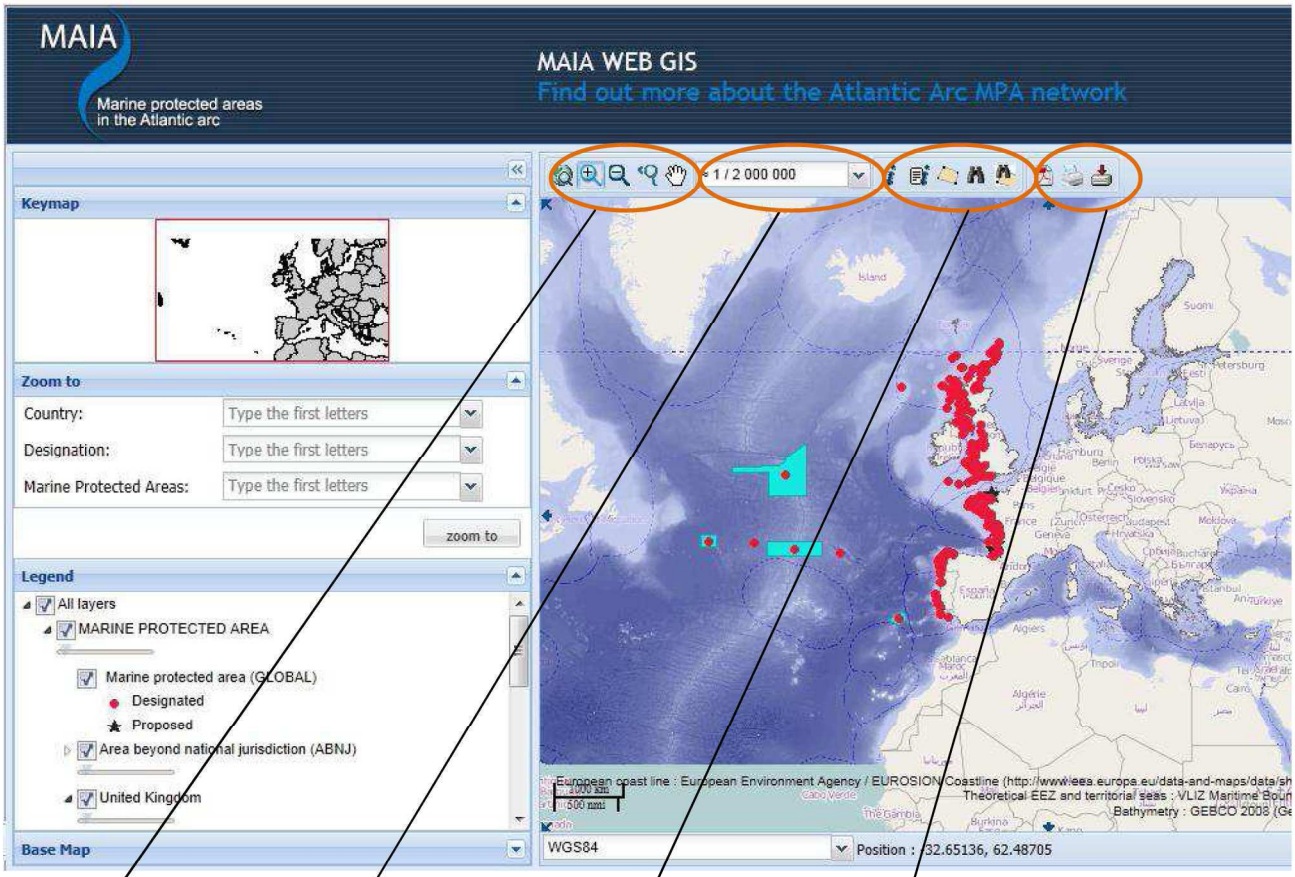

Governance
Governing body:yes
Instituto da Conervação da Natueza e das Florestas
Public administrations = 79 %
Scientists = 7 %
Nature and environmental NGOs = 7 %
Associações representantes das actividades económicas = 7 %
Structure(s) responsible for giving effect to management measures, the management plan and decisions and measures having regulatory value
Instituto da Conervação da Natueza e das Florestas : yes
national public authority: yes (Ministério da Agricultura, do Mar, do Ambiente e do Ordenamento do Território)
regional or local public authority: not reported
Organisme international : not reported
Management plan information
Monitoring
Available means and ressources
Reglementation
Uses and activities
Stakeholders
Marine species and habitats
Sections can be rolled down, providing 'MAIA' management information attributes.
Displays context help when hovered over by mouse.
Context help which opens when mouse hovers.
Governing body' means: a group of stakeholders responsible for making management proposals or giving opinions about the site and whose existence and members are formally defined in official instruments (instruments relating to the site category or establishing the site).

VI. Presentation of the dynamic map

The dynamic map tool available on the MAIA website can be accessed from the homepage and from any MPA datasheet.

This real online viewing GIS has all the features of a standard GIS, especially geographic or attribute query functions and layer query functions (3 query layers).

Perimeter-related data can be downloaded in various formats.



Navigation tools

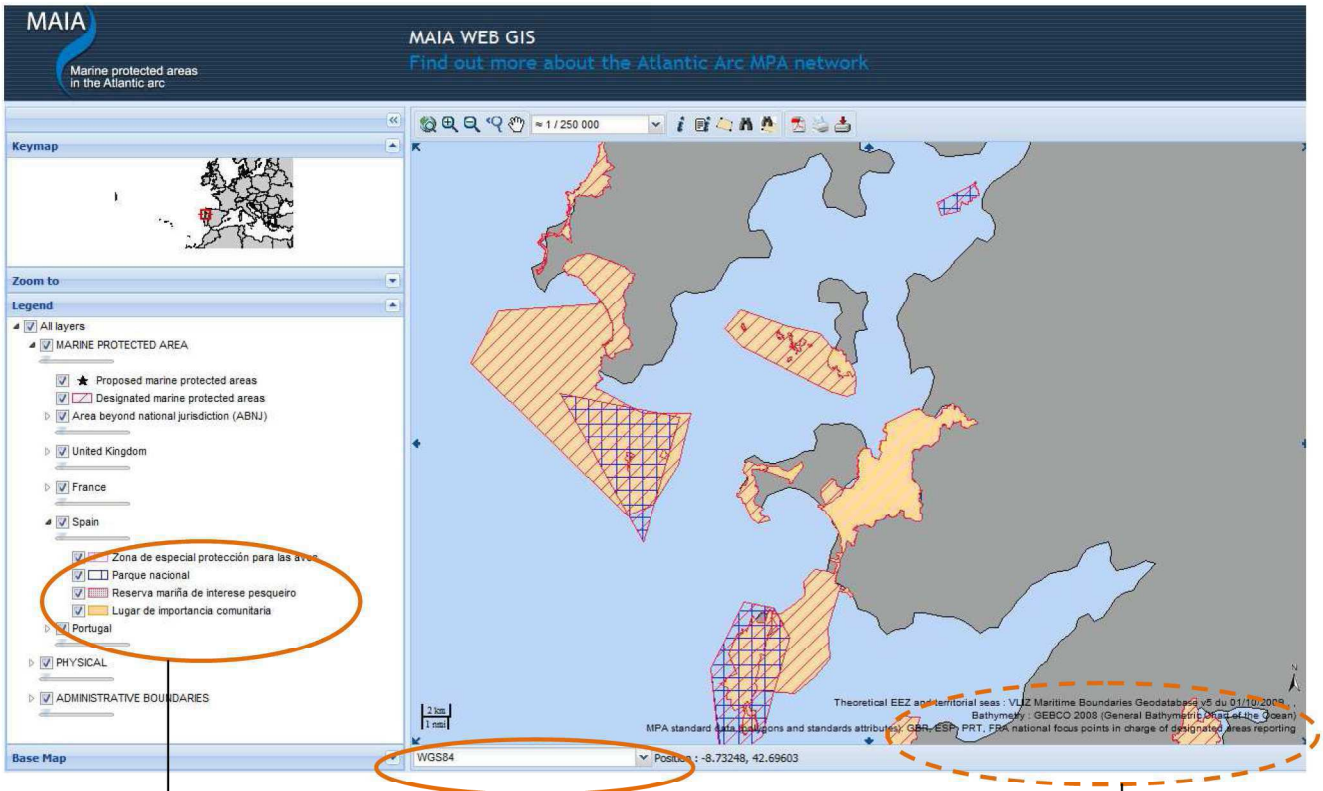
Scale list

Query tools (from left to right):

- Information
- Detailed information
- Surface area selection
- Attribute requests
- Spatial requests

Output tools (from left to right):

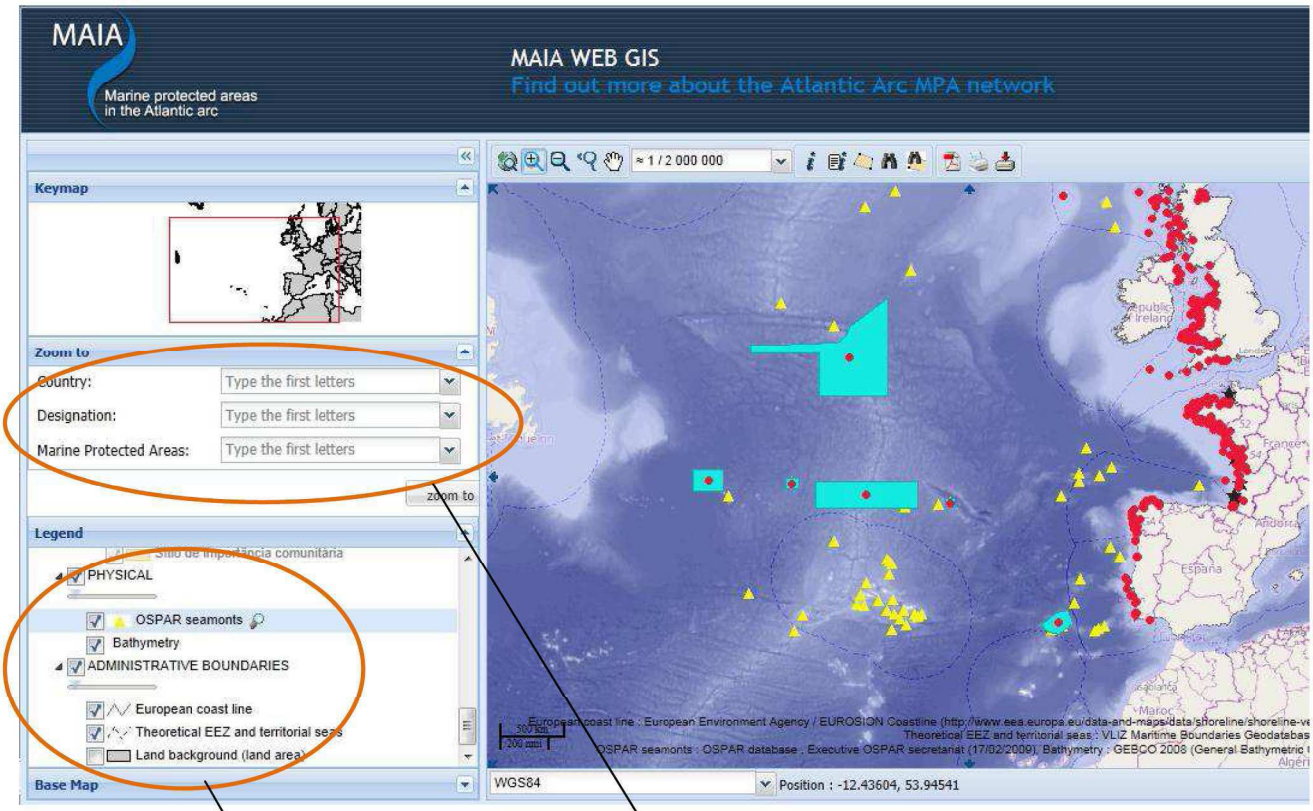
- PDF export
- Printing
- GIS data export (Formats available: *.TAB, *.SHP, *.KML, *.MIF/MID)



Key: MPA designations by country in native language.

Choice of coordinate system (WGS84, Google Mercator projection, ETRS89 – INSPIRE).

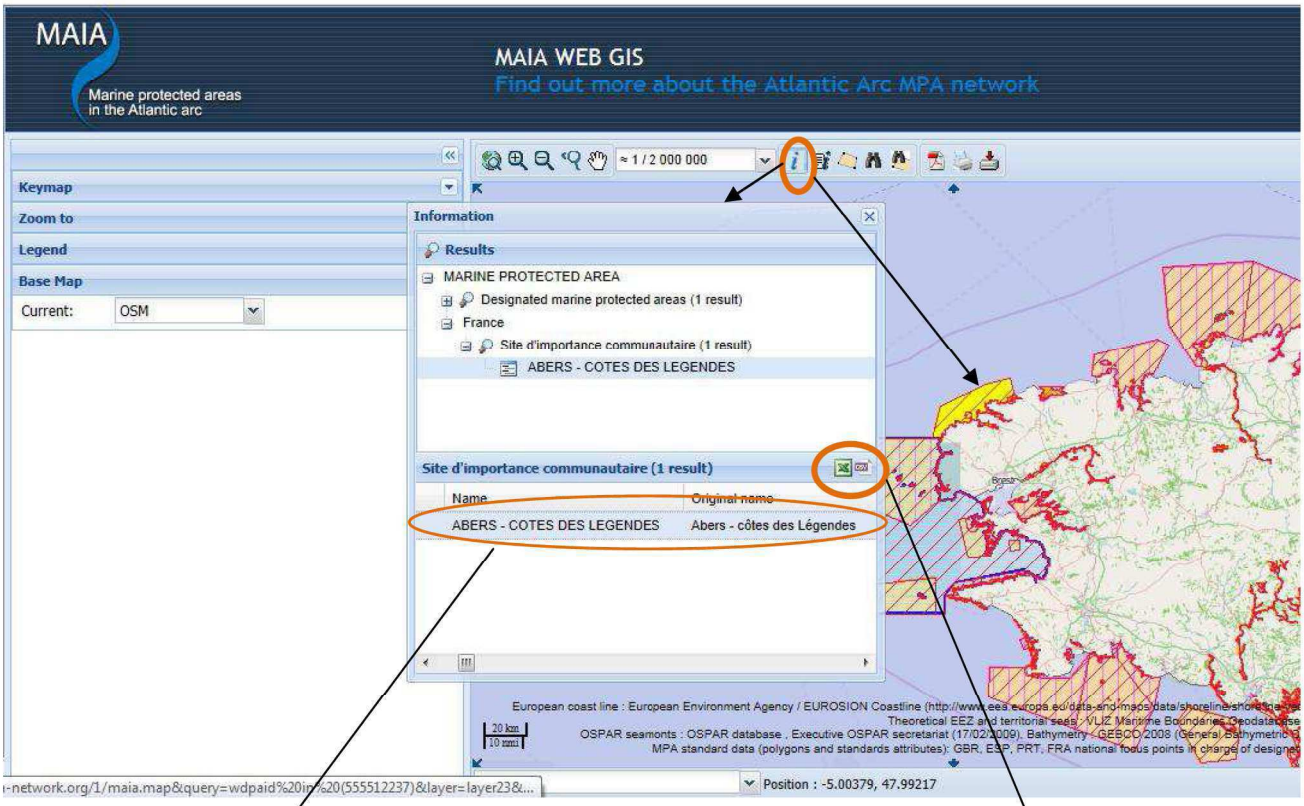
Data sources (dynamic content).



Physical and administrative layers available for viewing.

A 'predictive habitats' layer resulting from the MeshAtlantic project work will eventually be available for viewing.

Search tool (through successive filters) based on country, designation and MPA name.



Viewing of attribute data of the layer queried.

Export tool for attribute data in the following formats:*.XLS and *.CSV

VII. Presentation of the managers directory and the document database

G. Directory

The directory contains all the people using the MAIA geoportal, whether front-office users only or back-office administrators.

The directory can be viewed from the collaborative space but it can only be managed by administrators through the back-office. The directory cannot be viewed from the front-office.

1) Directory functions

The directory has the following functions:

- Search engine;
- Export of search results in Excel format / data import from an Excel spreadsheet file;
- Users added through the creation of a “user sheet”;
- Change of user information: contact details, profile (partner, manager, contributor, etc.), link to the MPAs managed;
- Deletion of an user (the sheet may be deleted or merely disabled);
- Users grouped together by theme (e.g.: MAIA project partners / Portuguese managers) within distribution lists.

2) Viewing through the collaborative space

All users of the workspace may access the directory. All the information entered for each user appears in a “user sheet” comprising:

- Full name;
- Postal address;
- E-mail;
- Phone number;
- Name of the organisation;
- MAIA partner (yes/no);
- MPA managed by the organisation (NAME – designation).

A search engine can be used to find a user based on several criteria (surname, first name, organisation, country, MPA(s) managed, MAIA partners (yes/no)).

The name of a manager can be found from an MPA (selection in a list of MPAs characterized by their NAME – designation).

A search may also be done for a group of users (e.g.: all MAIA partners) and the results obtained may be downloaded as an Excel spreadsheet file.

3) Directory administration

Only geoportal administrators may make changes to user information.

⇨ User sheet

Each user is recorded in the directory through the creation of a user sheet (Figure 10).

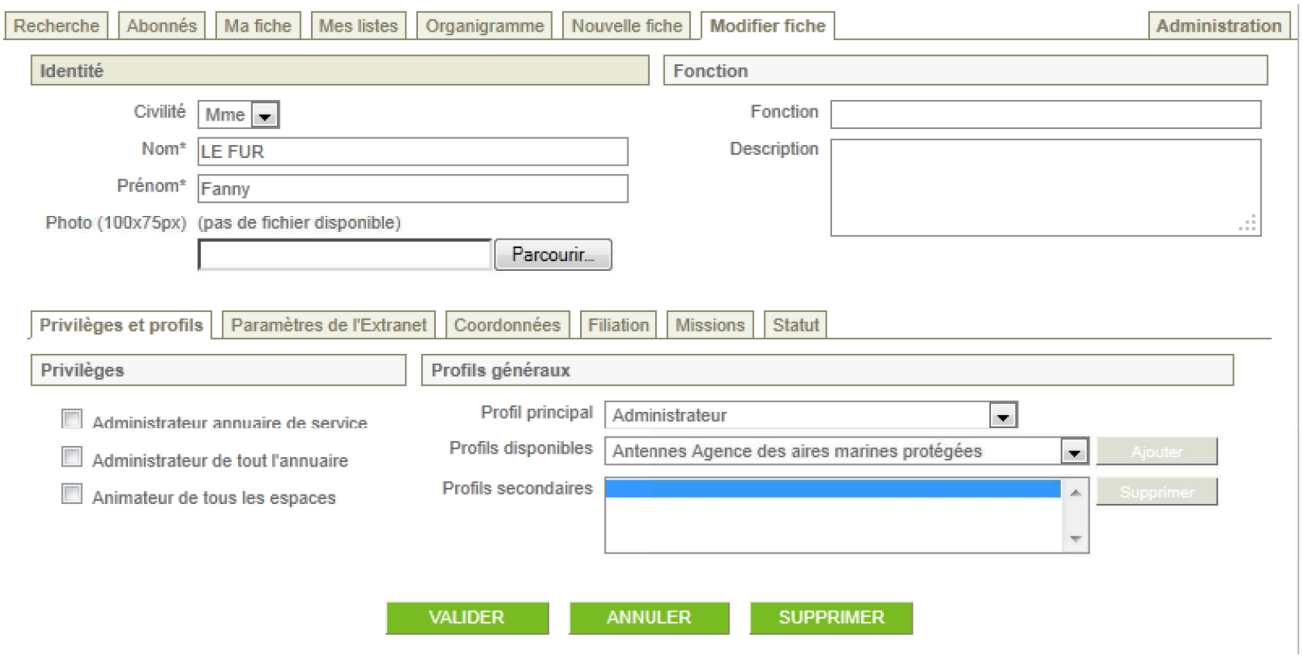


Figure 10: View of the parameters of a user sheet

Rights and profile

Each “profile” has a set of rights specific to the various geoportal applications. The main applications are as follows:

- “News” management
- Map administration
- Form creation and management
- MPA management
- Editorial content management
- Mailing

For each application, there are four types of rights: posting, administration, viewing and no rights.

For example, the ‘contributor’ profile has administration rights on MPA management but no right to mailing, form creation or the management of “news” on the website. ‘Administrator’ profiles have posting rights for all applications.

Extranet parameters

This information is used to enable or disable a user sheet; disabling keeps the sheet and all the information but makes the sheet inactive in distribution lists or inhibits the profile rights.

The “language – country” information selected in a list is a compulsory field to create a sheet. “English – Great Britain” is selected by default.

A tick box can be used to generate the account opening parameters. A username (login) is created and a hypertext link may be used by the user to generate his/her own password. The hypertext link is sent by an automatic message to the relevant user.

These logon parameters must be entered on the front-office to automatically access the collaborative space. They must be entered from an admin URL to access the back-office.

For example, after receiving their login, each MPA manager (‘contributor’ profile) may create their password and directly access the collaborative space. The menu bar provides access to the sections for which the user has the appropriate rights.

Contact information

Contact information comprises e-mail and postal addresses, as well as phone/fax numbers. The e-mail address is required for the creation of the user sheet.

Affiliation

The user’s organisation is entered under the field name “department”.

Status

This refers both to the status within the MAIA project (MAIA partner → yes/no) and to the status in relation to one or more MPAs (MPA manager → yes/no). A list of MPAs (NAME - designation) is used to select one or more MPAs for which the user has access authorisations.

When the user logs on to the collaborative space to contribute to completing “his/her” datasheets, only “his/her” MPAs display and may be edited.

⇨ Functions

Distribution lists

To date, the main distribution lists created are as follows:

- A list of managers for each country;
- A list of the main institutional stakeholders for each country;
- A media list for each country;
- A list of MAIA partners;
- A list of MAIA “Workshop” participants.
-

They are used to send the “Newsletter”, press releases and MAIA partner surveys, etc.

The “mailing” application can also be used to create lists of people not entered in the directory.

Searching the directory

Searches can be done using the criteria below:

- Name
- E-mail address
- List name
- Department (user organisation)

User Import - Export

Export to an Excel spreadsheet file can be done for a group of users searched, for a distribution list or for the entire directory.

A group of users may be imported in a single batch from an Excel spreadsheet file compliant with the directory structure.

H. Document database

A document is a file or a group of files together with a descriptive datasheet or a document record.

This document database can be consulted from the front-office by any visitor to the geoportal, from the "Documents" tab in the menu bar. The documents relating to an MPA can also be viewed or downloaded directly via the MPA's datasheet.

A document can only be uploaded to the MAIA geoportal from the collaborative space, in the "Documents" section. Each uploaded document is classified and identified by a set of criteria ("metadata" of the document). Working papers are not posted and can therefore only be viewed from the collaborative space, according to the user profile.

4) Consultation by the general public

⇨ The search engine

Consultation is possible by the general public in the "Documents" section on the home page of the geoportal.

The search may be simple (by key words) or advanced (by selecting several criteria):

- Key words;
- Author;
- Document date;
- Author's organisation*;
- Type of document* (newsletter, handbook, guidelines, field study, management scheme, legal documents, etc.);
- Producing country* (United Kingdom, France, Spain, Portugal, Other);
- Technical themes (climate change, environmental education, regulation - enforcement, monitoring, MPA management, etc.);
- Geographical areas (Atlantic Ocean, Mediterranean Sea, Pacific Ocean, etc.);
- Languages available* (English, French, Spanish, Portuguese).

*These criteria are defined by closed lists; selection may be simple or multiple.

When the search is successful, three functions are available for each document found:

- "View the information record": this record describes the content of the document (title, author, date, country, type, technical themes and languages);
- "Download the document";
- "Add to selection": this is used to select a set of documents that can be downloaded in one go.

⇨ Documents relating to an MPA

The datasheet includes a "Documents" section listing the documents (title, author, date) associated with the MPA. A click on the link opens the document(s). For instance, when opening the management scheme for the *Parc naturel marin d'Iroise*, 4 downloadable files are displayed.

5) Document management

Documents are classified in three groups:

- MAIA working documents
- Picture library
- General public publications

For each document saved, above and beyond the items that can be selected in the search engine visible in the front-office, the information provided is:

- Title (in the original language);
- Status (working document / validated);
- Description (at least in English, if possible in the four languages);
- Key words (at least in English, if possible in the four languages).

Several additional functions can be enabled:

- "Post" is used to post the document;
- "Main news" is used to post at the top of the list on the website home page;
- "Syndication" is used to post in the RSS feeds;
- "Version management" is used to monitor the validation status of documents.

Compulsory fields are the title, author, status, producing country, type of document, geographical area, as well as the date of posting. The obligation to complete the "author" field avoids storing non-usable photographs (because without credit).

The document database offers search functions based on all the components of the document record described above or directly on the content of the files.

VIII. Results

Today, the MAIA database includes complete information (standard information and information specific to the MAIA project) for MPAs on the French Atlantic seaboard, mainland Portugal, Galicia, Wales and for Special Areas of Conservation located in UK offshore zones.
Only standard attributes are available for Special Areas of Conservation and Special Protection Areas located in inshore areas of England, Scotland and Northern Ireland.

At the start of November, this represents over 450 MPAs in the MAIA database.

Ireland, the Azores Islands as well as the others regions on the Spanish Atlantic seaboard have been contacted to supply their data.

In addition to the process of creating the database and collecting data, which we hope to complete in a few months' time, the MAIA project has generated the following positive effects:

- Contact with national focal points was an opportunity to remind them of the objectives of transferring standardized information to the CDDA;
- The organisation of data in compliance with international standards (France, Portugal) but also the escalation of "regional"-type MPA data to the national level, for Spain.

Furthermore, MAIA has asked all the focal points, once the data standardisation work complete, to send the information to the CDDA.

Lastly, close working relationships have been developed firstly with the CDDA but also with the WCMC: this creates value and guides us in this process in order to comply with official flows and international standards.

We can also say that the portal is frequently visited for a website dedicated to specific users: over 200 unique connections a day.

IX. An expandable portal

A. Networking without duplicating data: the introduction of web services

A network approach means that all actions must be maintained by those involved. Data is consumed by directly using the source of data. The difficulty lies in limiting, or even completely avoiding, data duplication.
Today, the development of standardised Web services makes it possible to set up distributed systems capable of communicating, including in the world of geomatics, with the OGC on-line geoservices (WMS, WFS, etc.).

The existence of standard data and the development of web services will be fully leveraged to make the MAIA portal a real networking tool:

- MAIA data is centralized in a single database and managed by the MAIA team;
- The standard data will be consumed via web services provided by the relevant national authorities. This will allow them to keep control over the management of their standard data and the MAIA project will have official data.

In fact, it should be added that the WCMC only does the registration and allocates the identifier (indexing). The (alphanumeric and geographical) data is supplied directly by the relevant authorities of each State (national focal point). These authorities are the only ones capable of guaranteeing the validity and official nature of the information.

The current version of the portal is the first version. All of the data (MAIA + standards) is centralized in a single database administrated by the MAIA team. The stakeholders can update some of their data directly from the portal via specific forms.

In the near future, the most technically advanced stakeholders will be able to provide the first Web services from their standard data.

In the long run, the portal will only host MAIA data. All the standard data will be consumed via web services provided by the relevant national authorities.

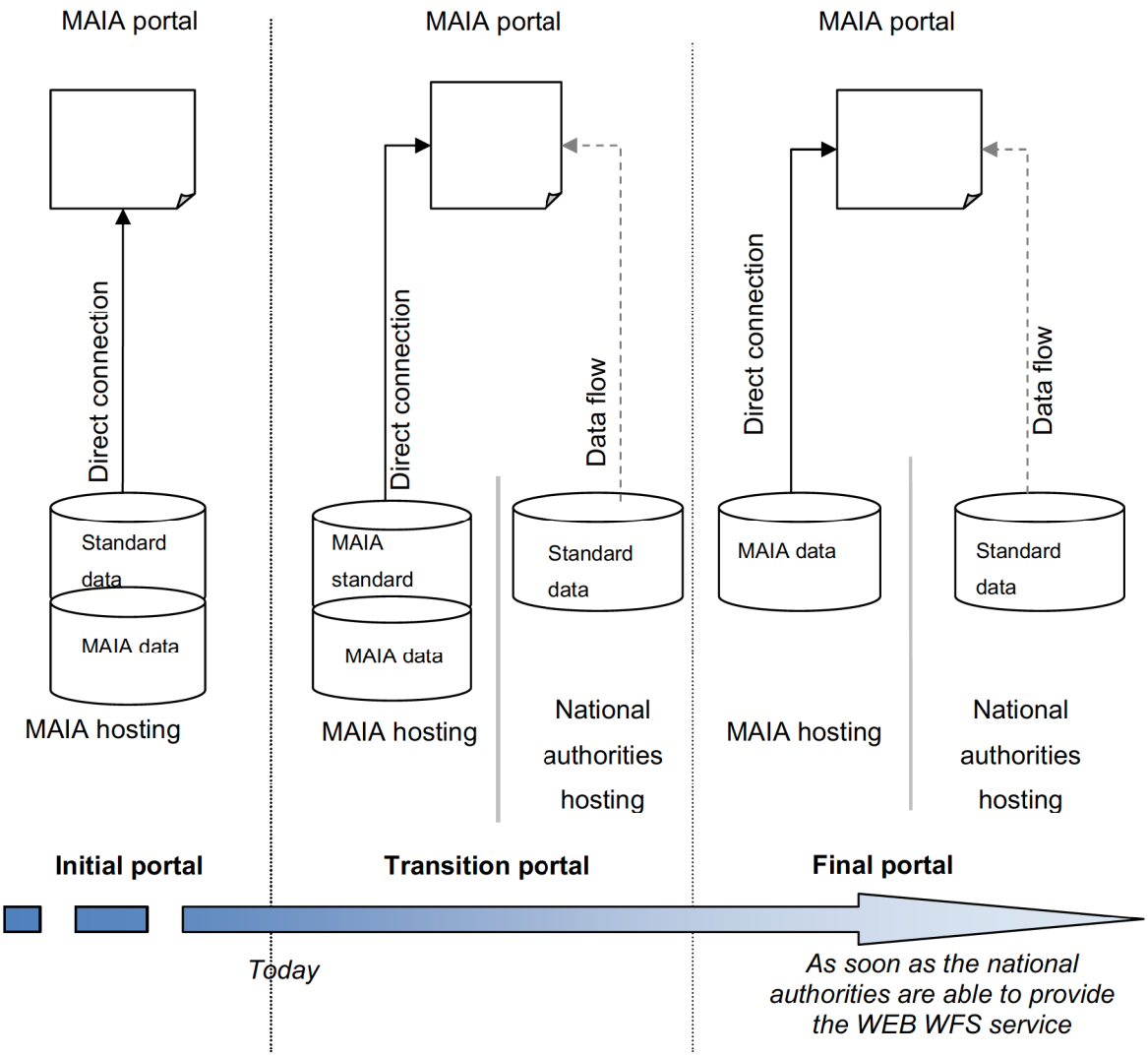


Figure 11: Presentation of the changes to the MAIA portal relating to standard and MAIA data hosting.

B. Future challenges

1) Driving the portal and the MAIA database

To present complete information about MPAs in the Atlantic arc, the missing data must be collected as soon as possible. Furthermore, to secure the update of standard information, the web services should ideally be implemented rapidly, which requires a complete organisation and formatting of the data about MPAs in the Atlantic arc countries complying with international standards.

2) Promoting use

The tool has been on-line for nearly a year now and is gradually becoming part of managers' professional processes, particularly to search for information. As the database grows day by day, we hope that managers

will increasingly use this tool, together with institutions in search of official information about MPAs in the Atlantic arc.

It is also worth noting that sea users can also use the website. The presentation of regulations allows them to quickly find out whether their professional or leisure activities are regulated and in which zones.

To promote use of this tool, appropriate communication must be maintained and contributors must be trained.

3) Developing

The collection and supply of official information were the first objectives for the development of this web portal. However, a new step of optimising use of the data collected must be launched: data analysis to do a first review of the Atlantic arc MPA network in 2013.

4) Perpetuating

Such a tool requires a long-term updating effort. Even though the standard data will eventually be available and updated directly via the introduction of web services with each of the Atlantic arc countries, updating the MAIA attributes will be necessary, no doubt over several years (to be specified).
Furthermore, the tool must be continuously adapted to future needs. In a way, this step is already initiated. In partnership with the OSPAR Secretariat, the *Agence des aires marines protégée* is conducting a comparative study of the MAIA and OSPAR databases. The MAIA database appears to partly meet the need to monitor OSPAR MPA management (data to be provided by the Parties to the Convention). This study will determine the similarities and differences between the systems and lead to proposals of how to bring them into line.

X. Conclusion and outlook

Initiated at the beginning of 2010, the MAIA project has asserted its objectives and defined its needs. The portal is one of the first concrete achievements on which the MAIA network's future actions will be based. It has been designed to be an open collaborative space. The MAIA portal is positioned as a major source of reference information for MPAs in the Atlantic arc.

The collection of data was initiated early in 2011 and must be continued in the years ahead. These initiatives with the stakeholders have had a strong inductive effect. They must draw up inventories and organise their data. Although a process vital to their everyday action, few stakeholders had taken their data classification as far. Their involvement in the MAIA network has prompted them to start creating homogeneous databases in line with international standards for protected areas.

The first workshops between stakeholders have revealed keen interest in sharing experience and using common indicators and analysis grids. This convergence must result in 2013 in a first review of MPAs in the Atlantic arc. It will then be possible to objectively compare, using common indicators, the features of MPAs in the Atlantic arc and their level of management.

The MAIA network is not the only project of this kind: MedPAN in the Mediterranean region and the PANACHE project for a network of managers in the Channel - North Sea meet the same needs and objectives. In all cases, data models converge and the emphasis is on high inter-operability between these various regional networks.

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Appendices

Appendix 1: Data dictionary - description and definition of the WDPA standard attributes

This data dictionary developed as part of the MAIA project is very much based on that of the UNEP-WCMC 2010 (Data Standards for the World Database on Protected Areas, UNEP-WCMC).

It has been translated into the four Atlantic arc languages in order to promote acceptance and use by official contributors.

ATTRIBUTE	DEFINITION
WDPAID	 Unique identifier of the marine protected area This identifier is the **entry key** to the database and is **essential**. For new protected areas not listed in the WDPA, a new identifier must be created. To respect the flow of information, depending on the type of MPA, the following must be contacted: – the national focal point for ‘‘**national**’’-type designations; – the secretariat of the convention or treaty, for ‘‘**international**’’-type designations;
WDPA PID	Identifier of the parent site
Links to keys to understanding the WDPA identifiers	
NAME	Official name of the protected area (in the original language and without accents) in accordance with what is indicated in the site designation or creation document.  The designation must not be indicated ‘before’ the name. NAME: Iroise NAME: Parc naturel marin d’Iroise
ORIGINAL NAME	Official name of the protected area spelt in the original language (with accents). For European countries, the name and original name are often the same. However, the original name makes it possible to put accents on names in Spanish, Portuguese and French.

COUNTRY	Country in which the MPA is located. Only one answer is possible. The list of countries, according to the ISO code 3166-1 alpha-3, is: FRA, ESP, PRT, GBR and ABNJ (for MPAs not in waters under jurisdiction)
DESIGNATION	Indicate the category of protected area as officially and legally defined by the country. – United Kingdom: Site of special scientific interest, Wetlands of international importance (Ramsar), etc.; – France: parc national, parc naturel marin, réserve naturelle nationale, etc.; – Spain: Parque nacional, Reserva mariña de interese pesqueiro, etc.; – Portugal: Parque natural, Reserva natural, etc.
ENGLISH DESIGNATION	Indicate the category of protected area as officially and legally defined by the country, and translated into English.
TYPE OF DESIGNATION	Indicate the type of designation by selecting in the list: 'national' or 'international'. ➔ A designation is ‘‘**national**’’ when it has legal value at the national level and applies to sites on the national territory. ➔ A designation is “**international**” when it refers to a protected area recognised by an international convention or treaty (MAB/OSPAR/RAMSAR/Natura 2000/World Heritage, etc.). Please note: Sites designated pursuant to a document applying to more than one country have an “international” designation. The designation is “international” even when the document applying to several nations has been transposed into domestic legislation, such as sites designated under the European “Habitats” or “Birds” directives (N2000).
IUCN CATEGORIES	Nine values are possible: – The 7 IUCN categories (Ia, Ib, II, III, IV, V, VI) applicable to “national” designations; – ‘Not applicable’ for all ‘‘international’’-type designations; – ‘Not reported’ when the IUCN category for the designation is unknown. Even though all the national designations are supposed to have a correspondence with an IUCN category, 'Not reported' will be indicated if there is no match between IUCN categories and the national designations (of your country).

REPORTED MARINE AREA	Surface area of the marine part of the site (in square kilometres). This information is declaratory. This is a surface area declared in an official document that does not come from a geomatic calculation.
REPORTED AREA	Total surface area of the perimeter considered (marine and land surface area in the case of “mixed” sites) in square kilometres. This information is declaratory. It can be taken from designation or creation documents.
STATUS	Select the status of the site in the list. Three values are possible: – Proposed (project); – Designated (officially designated site); – Listed (term only used for sites listed as UNESCO World heritage sites, once designated).
STATUS YEAR	Year of the official document of the current status

Appendix 2: A few links

MAIA portal: www.maia-network.org

Agence des aires marines protégées: www.aires-marines.fr

World Database on Protected Areas (WDPA): www.wdpa.org

Convention for the protection of the marine environment of the North-East Atlantic (OSPAR): www.ospar.org/

INSPIRE Directive: http://inspire.jrc.ec.europa.eu/

Network of managers of Marine Protected Areas in the Mediterranean (MEDPAN): http://www.medpan.org/

MAIA

Marine protected areas in the Atlantic arc

Towards an Atlantic network of Marine Protected Areas

The purpose of the European Marine Protected Areas in the Atlantic arc (MAIA) project is to create a **network of MPA managers and stakeholders**, who will take initiatives on an international level in terms of designation, governance and management. This will be to enhance the **development of a consistent, efficient and accepted MPAs network** in the Atlantic arc.

MAIA is structured in four main technical lines of work:

- Establishing a status report on the existing MPAs
- Setting up common monitoring strategies
- Implementing management plans
- Involving stakeholders

MAIA gathers 9 partners from 4 countries: United Kingdom, France, Spain and Portugal, **involved in MPAs designation and management.**

As lead partner, the French Marine Protected Areas Agency, coordinates the project implementation.

The 2010 – 2012 Action Plan

Organisation of technical workshops on common MPA management issues in the Atlantic arc.

Site visits in each partner country to enhance the sharing of information, knowledge and know-how.

Overview reports to compare MPAs' situation in the Atlantic arc.

Field studies to be carried out by MAIA partners, promoting the exchanges within the network.

Creation of a dedicated website, including a private collaborative space, a document database and a GIS database used to establish a baseline on the status of MPAs in the Atlantic arc.

Production and dissemination of document resources.

www.maia-network.org

ATLANTIC AREA Transnational Programme
ESPACIO ATLÁNTICO Programa Transnacional
ESPACE ATLANTIQUE Programme Transnational
ESPAÇO ATLÂNTICO Programa Transnacional

European Union
European Regional Development Fund

INVESTING IN OUR COMMON FUTURE