

Format for the Periodic Review of the SPAMIs

SPAMI Name: Sea Bottom of the Levante of Almeria

SECTION I: CRITERIA WHICH ARE MANDATORY FOR THE INCLUSION OF AN AREA IN THE SPAMI LIST

(Art. 8.2. of the Protocol and General Principles and C and D of Annex I)

In each question, crossed references to the Annotated Format (AF) are given.

1. CONSERVATION STATUS

1.1. Does the SPAMI fulfill one of the criteria related to Mediterranean interest as presented in Protocol's (Annex I section B para. 2), strictly maintain the status of populations of its protected species (those in Annex II to the Protocol), the status of its habitats and no adverse significant changes in the functioning of its ecosystems? (Article 8.2.) (See 3.4. and 4 in the AF)

In case of "no", indicate the reasons that have motivated the deficiencies, their relative seriousness and, if possible, the date in which they are expected to be overcome.

YES

1.2 If "yes", are the objectives, set out in the original SPAMI application for designation, actively pursued?

YES

2. LEGAL STATUS

2.1. Does the area maintains or has improved its legal protection status from the date of the previous report? (A-e and C-2, Annex I). See 7.1.2 in the AF

YES

In 2012 the competencies over this area changed from Regional Administration to the Central Administration (Agriculture, Food and Environment Ministry, MAGRAMA).

In 2014 the Central Administration declared a new Special Protection Area that partially covers the SPAMI zone (SCA ES0000507 Espacio Marino de los Islotes Litorales de Murcia y Almería declared by Orden AAA/1260/2014, de 9 de julio, por la que se declaran ZEPA en aguas marinas españolas).

2.2. Does the legal declaration of this area consider the conservation of natural values as the primary objective? (A-a and D1 in Annex I). See 7.1.3 in the AF

YES

2.3. Are competencies and responsibilities clearly defined in the texts governing the area? (D4 Annex I). See 7.4.3 in the AF

YES

The SPAMI is under the competency of the Central Administration (Agriculture, Food and Environment Ministry, MAGRAMA). However, there are two islands declared as a Natural Monument ("Isla de Terreros e Isla Negra") that is under the competency of the Regional Administration (Junta de Andalucía).

2.4. Are external influences/threats been taken into account in the legal framework of the SPAMI? Does the legal text clearly establish coordination means between land and sea authorities? (D4 Annex I, Art.7.4. in the Protocol).

YES

The legal text concerning the SPAMI is considering the threats and influences in the area (Orden de 25 de mayo de 2005, por la que se aprueban las medidas para la Ordenación y Gestión de las zonas especialmente protegidas de importancia para el Mediterráneo (ZEPIM) Fondos Marinos del Levante Almeriense).

The SPAMI is entirely a marine zone.

In case there is no sea within the SPAMI, this question would be non-applicant.
See 7.4.3. in the AF

Indicate measures that have been adopted to address these influences/threats. In case of any "no" answer, indicate the reasons that have motivated the deficiencies and, if possible, the date in which they are expected to be overcome.

3. MANAGEMENT METHODS (General principles D Annex 1)

3.1. Does the area have the same or an improved management

9.2. in the AF

YES

From the inclusion of this site in the SPAMI List the basic equipment, human and financial resources are provided by the Regional Administration (Junta de Andalucía). However, when the new management plans will be adopted, these resources will be provided by the Central Administration.

4.2. Does the area have a monitoring program?

(D8 - Annex I: "The program should include the identification and monitoring of a certain number of significant parameters for the area in question, in order to allow the assessment of the state and evolution of the area, as well as the effectiveness of protection and management measures implemented, so that they may be adapted if need be"). See 9.3.3. in the AF

YES

If yes, what are the monitoring parameters and the management objectives being addressed by these parameters?

Within the Programme for Sustainable Management of the Marine Environment in Andalusia, a certain number of parameters are checked annually. These are: *Posidonia oceanica* (Inventory of seagrass species and habitats); *Pinna nobilis*, *Dendropoma petraeum*, *Charonia lampas*, *Centrostephanus longispinus*, *Asterina pancerii* (invertebrates); *A. taxiformis*, *Oculina patagonica*, *Bursatella leachii*, *Percnon gibbesi* (alien species). Among them, *Posidonia oceanica* and *Dendropoma petraeum* are considered as biological indicators. Stranding of cetaceans and turtles in the area are also considered. Further details on the monitoring activities, including from other monitoring programmes, are given in Annex 1 to this evaluation report.

4.3 Is there a feedback mechanism that establishes an explicit link between the monitoring results and the management objectives, and which allows adaptation of protection and management measures?

In case of any "no" answer, indicate the reasons that have motivated the deficiencies, their relative seriousness, and the date in which they are expected to be overcome.

YES

Management measures are taken depending on the evolution of the data provided by the monitoring activities.

The draft Management Plans consider the relationship between indicators and the revision of the legal document. In consequence, there are indeed mechanisms that link monitoring data and results with management and protection measures.

SECTION II: FEATURES PROVIDING A VALUE-ADDED TO THE AREA
(Section B4 of the Annex I, and other obligatory for a SPA (Art. 6 and 7 of the Protocol))

5. THREATS AND SURROUNDING CONTEXT

5.1 Assess the level of threats within the site to the ecological, biological, aesthetic and cultural values of the area (B4.a Annex I).

See 5.1. consider also 3.5.2.b, 6.3 & 6.4. in the AF

In particular:

Unregulated exploitation of natural resources
(e.g. sand mining, water, timber, living resources) See 5.1.1. in the AF
(SCORE: 0 means “very serious threats”; 3 means “no threats”)

3

Serious threats to habitats and species (e.g. disturbance, desiccation, pollution, poaching, introduced alien species ...) See 5.1.2. in the AF
(SCORE: 0 means “very serious threats”; 3 means “no threats”)

2

Although pollution points (point waste from chemistry industry) exist in the area, they are impacting a limited portion of the SPAMI.

Increase of human presence (e.g. tourism, boats, building, immigration...) See 5.1.3. in AF
(SCORE: 0 means “very serious threats”; 3 means “no threats”)

1

Historic and current conflicts between users or user groups See 5.1.4., 6.2. in the AF
(SCORE: 0 means “very serious threats”; 3 means “no threats”):

2

There are still some conflicts between scuba divers, professional fishermen and aquaculture.

Please include a prescriptive list of threats that are of concern and are evaluated individually

- Seabed trawling (2)
- Underwater spear fishing (2)
- Alien species (2)
- Pollution due to not-controlled discharges and sewage pipes (2)

5.2 Assess the level of external threats to the ecological, biological, aesthetic and cultural values of the area (B4.a of the Annex I). See 5.2. in the AF

In particular:

Pollution problems from external sources including solid waste and those affecting waters up-current. See 5.2.1. in the AF
(SCORE: 0 means "very serious threats"; 3 means "no threats")

3

Significant impacts on landscapes and on cultural values. See 5.2.2
(SCORE: 0 means "very serious threats"; 3 means "no threats")

1

Expected development of threats upon the surrounding area See 6.1. in the AF
(SCORE: 0 means "very serious threats"; 3 means "no threats")

2

Please include a prescriptive list of external threats that are of concern and are evaluated individually.

- Seabed trawling (2)
- Underwater spear fishing (2)
- Alien species (2)
- Aquaculture (2)
- Increasing intensive agricultural activity in the area nearby (1)
- Shoreline alteration due to edification on the coast line, beaches nourishment and dredges (1)
- Pollution due to not-controlled discharges and sewage pipes (2)

5.3. Is there an integrated coastal management plan or land-use laws in the area limiting or surrounding the SPAMI? (B4.e Annex I). See 5.2.3.

(SCORE : 0 = No / 1 = Yes)

1

YES, land-use law, the Plan de Ordenación del Territorio de Andalucía (2006), Plan de Ordenación del Territorio del Levante Almeriense (2009) and Plan de Protección del Corredor Litoral de Andalucía (expected to be approved). From 2005 to 2012 a CAMP project was implemented covering the territories of 8 municipalities and provide framework for consultation and participation for all stakeholders in the integrated coastal zone management of the area.

5.4. Does the management plan for the SPAMI have influence over the governance of the surrounding area? (D5-d Annex I). See 7.4.4. in the AF
(SCORE : 0 = No / 1 = Yes)

1

6. REGULATIONS

6.1. Assess the degree of legal regulations See 7.4.2. in the AF

In particular, within the national framework:

Regulations concerning the strengthening of the application of the other Protocols to the Barcelona Convention, particularly dumping, passage of ships and modification of the soil (*Art. 6b, 6c, 6e in the Protocol, D5-a Annex I*)

(SCORE: 0 = No / 1 = Yes)

1

Regulations on the introduction of any species not indigenous to the specially protected area in question, or of any genetically modified species, (*Art. 6 d in the Protocol, D5-b Annex I*)

(SCORE: 0 = No / 1 = Yes)

1

Regulations concerning the Environmental Impact Assessment for the activities and projects that could significantly affect the protected areas (*Art. 17 in the Protocol*)

(SCORE: 0 = No / 1 = Yes)

1

In particular, within the SPAMI framework:

Regulations for fishing, hunting, taking of animals and harvesting of plants or their destruction, as well as trade with animals, parts of animals, plants, parts of plants, which originate in the area (*Art. 6 g in the Protocol, D5-c Annex I*)

(SCORE: 0 = No / 1 = Yes)

1

Council Regulation (EC) No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea, amending Regulation (EEC) No 2847/93 and repealing Regulation (EC) No 1626/94.

7.

MANAGEMENT

7.1. Assess the degree of detail of the management plan

(e.g. zoning, regulations for each zone, competencies and responsibilities, governing bodies, management programs as protection, natural resource management, tourism, public use, education, research, monitoring, maintenance, services and concessions....) See 8.2.3. in the AF

(SCORE: 0= No Management Plan / 1= Weak / 2= Adequate / 3= Excellent)

0

However, the two management plans drafted by MAGRAMA include an adequate level of details. These plans are:

- a management plan for the Site of Community Importance that will be officially approved at the same time of its declaration by the MAGRAMA.
- a management plan for the Special Protection Area declared in July 2014 and whose management plan should be approved not later than July 2016.

7.2. Assess to what extent land ownership is well determined

(Undetermined land tenure regimes and registrations are a common source of conflicts in most protected areas world-wide)

See 7.3. in the AF

(SCORE: 0= Undetermined / 1= Weak / 2= Adequate / 3= Excellent)

Not applicable for this SPAMI since it covers only marine areas.

7.3. Is there a body representing the public, professional and non-governmental sector and the scientific community linked to the management body? (B4b, B4c of the Annex I). See 8.1.2. & 8.1.3

(SCORE: 0 = No / 1 = Yes)

1

The Environmental and Biodiversity Provincial Council involves most of the key stakeholders, including representative of civil society and scientific community.

7.4. Assess the quality of the involvement by the public, and particularly of local communities, in the planning and management of the area (B4.b of the Annex I)

(e.g. adequate planning involves local stakeholders and accommodates within appropriate management regimes a spectrum of possible multiple uses and regulated human activities, within the primary objective of conservation of marine and coastal environments) See 8.1.4. in the AF

(SCORE: 0= No involvement / 1= Low / 2= Adequate / 3= Excellent)

1

7.5. Is the management plan binding for other national/local administrations with competencies in the area? See 8.2.2 in the AF
(SCORE: 0 = No / 1 = Yes)

0

The draft management plans are not yet officially approved. They will be binding for all administrations after their official approval by a legal text.

8. PROTECTION MEASURES

8.1. Assess the degree of enforcement of the protection measures

In particular:

Are the area boundaries adequately marked on land and, if applicable, adequately marked on the sea? See 8.3.1. in the AF
(SCORE: 0 = No / 1 = Yes)

0

Signs of the marine limits don't exist. The manager authorities consider that the setting of such signs is not feasible for the deeper limits, while it could be envisaged for the shallow limits.

Is there any collaboration from other authorities in the protection and surveillance of the area and, if applicable, is there a coastguard service contributing to the marine protection? See 8.3.2. 8.3.3. in AF
(SCORE: 0 = No / 1 = Yes)

1

Several authorities are contributing to the surveillance (SEPRONA, local police, and fishery inspectors).

Are third party agencies also empowered to enforce regulations relating to the SPAMI protective measures?
(SCORE: 0 = No / 1 = Yes)

1

Are there adequate penalties and powers for effective enforcement of regulations and is the field staff empowered to impose sanctions? See 8.3.4. in the AF
(SCORE: 0 = No / 1 = Yes)

1

Has the area established a contingency plan to face accidental pollution or other serious emergencies? (Art. 7.3. in the Protocol, Recom. 13th Parties Meeting)
(SCORE: 0 = No / 1 = Yes)

1

The SPAMI area is covered by the regional and the provincial relevant emergency plans (pollution, etc.).

9. HUMAN RESOURCES

9.1. Adequacy of the human resources available to the management body (Art.7.2-f in the Protocol, D6 in Annex I) (e.g. enough number of employees to ensure adequate management and protection of the area) See 9.1.1. in the AF

Is there a permanent field administrator of the area?

See 9.1.2. in the AF

(SCORE: 0 = No / 1 = Yes)

1

The field administrator of the area is now located in the "Delegación Territorial de Agricultura, Pesca y Medio Ambiente de Almería".

Are there other permanent staffs in the field?

(e.g. technicians, wardens, guides, ...) See 9.1.2. in the AF

(SCORE: 0 = No / 1 = Yes)

1

Part time permanent staff is available from the regional administration.

9.2. Asses the adequacy of the training level of available staff

(Art.7.2-f in the Protocol, D6 in Annex I) (e.g. enough training level to ensure protection of the area). See 9.1.2. in the AF

(SCORE: 0= Very Insufficient / 1= Low / 2= Adequate / 3= Excellent)

2

10. FINANCIAL AND MATERIAL MEANS

10.1. Assess the degree of adequacy of the financial means

Sufficient resources for the development and implementation of the management plan, including e.g. interpretation, education, training, research, surveillance and enforcement of regulations. See 9.2.1. in the AF

(SCORE: 0= Very Insufficient / 1= Low / 2= Adequate / 3= Excellent)

1

10.2. Assess the basic infrastructure (Art.7.2-f in the Protocol)

Administrative premises in the site, visitors' facilities (reception centre,

trails, signs...), specific information, education and awareness materials
(SCORE: 0= Very Insufficient / 1= Low / 2= Adequate / 3= Excellent)

2

10.3. Assess the equipment.

Guard posts and signs on the main accesses, means to respond to emergencies, marine and terrestrial vehicles, radio and communications equipment. See 9.2.3. in the AF

(SCORE: 0= Very Insufficient / 1= Low / 2= Adequate / 3= Excellent)

2

11. INFORMATION AND KNOWLEDGE

11.1. Assess the extent of knowledge about the area and its surrounding zones. (D3 - Annex I: Considering at least specific maps, habitat distribution, species inventories, and socio-economical factors)

See 9.3.1. in the AF

(SCORE: 0= Very Insufficient / 1= Low / 2= Adequate / 3= Excellent)

3

The Environment and Country Planning Unit of the Andalusia Autonomous Community has undertaken the LIFE + Posidonia Andalucía Project, aiming to improve the conservation status of seagrass meadows in the Mediterranean coast of Andalusia. The project started in 2011 –and finalised in 2014- and the Sea Bottom of the Levante of Almeria was among the areas of interest of the project. Actions included are: sea bottom cartography, monitoring, setting up of ecological anchorages and artificial reefs, elaboration and dissemination of information and development of promotional materials.

Besides, the Unit develops the Program for the Support of Management and Monitoring of the Marine Environment in Andalusia.

Furthermore, there were different project that provided useful information about marine bird species in the area, in particular:

- a LIFE+ project called "*Identificación de las Áreas de Importancia para las Aves marinas (IBA)*"
- the "*Programa de Emergencias, Control epidemiológico y seguimiento de Fauna Silvestre de Andalucía*"

Obviously the species inventories could be improved.

11.2. Assess the adequacy of the program for data collection and the monitoring program.

See 9.3.2. in the AF

(SCORE: 0= Inexistent / 1= Insufficient / 2= Adequate / 3= Excellent)

3

12. COOPERATION AND NETWORKING

12.1. Are other national or international organizations collaborating with human or financial resources? (e.g. researchers, experts, volunteers..).

See 9.1.3. in the AF

(SCORE: 0= No / 1= Weakly / 2= Satisfactory / 3= Excellent)

2

The SPAMI benefited from the European, national and regional financial support.

12.2. Assess the level of cooperation and exchange with other SPAMIs (especially in other nations) (Art. 8, Art. 21.1, Art. 22.1., Art. 22.3, A.d in Annex I)

(SCORE: 0= No / 1= Insufficient / 2= Adequate / 3= Excellent)

1

COMMENTS by the Technical Advisory Commission

Following changes in the governance of the area covered by this SPAMI, that are expected to be into force in a recent future, the competencies for the management of the SPAMI will be transferred to the Central Administration. Waiting the official transfer of competencies, the Regional Administration (Junta de Andalucía) is pursuing its activities of management, control and monitoring in the area.

Given the changes being done as for the competencies in its management, this area is not now covered by an officially approved management plan. However the Central Administration drafted a management plan for the northern part of the SPAMI (covered by a Special Protection Area) and a management plan for the whole SPAMI area (proposed as a Site of Community Importance).

CONCLUSION

The Technical Advisory Commission (TAC) stresses that the scores obtained for this SPAMI under Section 7 of the evaluation form (Management) are not reflecting the actual situation as for the management of the area. These are partly due to the transitional period concerning the competencies. Generally speaking the TAC assesses the management of this SPAMI as adequate.

RECOMMENDATIONS

The TAC recommends that the management plans drafted by the Central Administration for this SPAMI be adopted and implemented as soon as possible. Also the appropriate arrangements should be done to ensure full coordination in the future of the competencies and interventions of the Central and Regional Administrations.

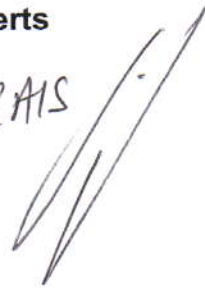
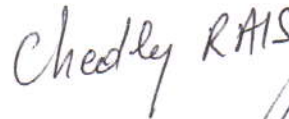
SIGNATURES

For National Focal Point :



ELENA LONSUEGRA

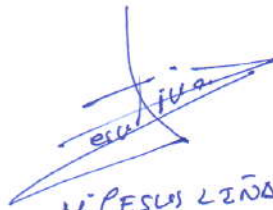
Independent Experts



SPAMI Manager(s)



ELENA LONSUEGRA



M'PESUS LIÑAN VEGANZONES.

SPAMI VALUE-ADDED

Questions		Score obtained	Maximum
5	Threats and surrounding context	16	23
6	Regulations	4	4
7	Management	2	8*
8	Protection measures	4	5
9	Human resources	4	5
10	Financial and material means	5	9
11	Information and knowledge	6	6
12	Cooperation and networkings	3	6
TOTAL		44	66

** 7.2. is not applicable for this SPAMI.*

ANNEX I

Format for Periodic Review of the SPAMIs

SPAMI Name: Fondos Marinos del Levante Almeriense

4.2. Does the area have a monitoring program?

The Sustainable Management Program of the Andalusian Marine Environment, of the the Ministry of Environment and Spatial Planning (CAMOT), of the Government of Andalusia, made monitoring of threatened invertebrate species present in the Fondos Marinos del Levante Almeriense SPAMI. The gastropod mollusc *Patella ferruginea*, species listed in the Spanish and Andalusian Catalogs of Endangered Species in category "Endangered" (Royal Decree 139/2011 and Decree 23/2012, respectively) is considered extinct in the area (shells are present in some historical sites as Villaricos and Torre del Rayo near Carboneras). However, it could ever any live specimen isolated since the species lives further south in Cabo de Gata-Níjar SPAMI, where it is very rare, and has been recently detected further north (2 live specimens) in the Hormigas Islands (Espinosa et al., 2009), included in the SPAMI called "Área del Mar Menor y zona oriental mediterránea de la costa de la Región de Murcia".

In the ZEPIM intertidal of the Fondos Marinos del Levante Almeriense SPAMI the gastropod mollusk *Dendropoma petraeum* (included in the Spanish and Andalusian Catalogs of Endangered Species as "Vulnerable") is present. Best populations of the species within this SPAMI are on the island of Terreros and the coastline that runs from the border with Murcia to Villaricos. Since 2013 annual monitoring of the population of the species in two localities of this ZEPIM, namely Pichirichi in San Juan de los Terreros and Pozo del Esparto, both easily accessible for tracking. The method is based on scale photographs taken in the summer period (July-August) which are subsequently treated with image analysis. In each photograph several replicates of 1 x 1 cm in which the diameter of the opening of the shell of each individual are measured. Besides, graphics size frequency can be obtained with great detail of recruitment events of new individuals that are fixed to the colony. This monitoring was designed after a year and a half of monthly monitoring of the Playazo population (Cabo de Gata-Níjar SPAMI) between 2011 and 2012. It is planned to continue this monitoring in future years.

The best known populations in Andalusia of bivalve mollusc *Pinna nobilis* (included in the Spanish and Andalusian Catalogs of Endangered Species as "Vulnerable") are those of the Fondos Marinos del Levante Almeriense SPAMI. The Sustainable Management Program of the Andalusian Marine Environment made the monitorig, once the bottoms of the protected area were recognized. In 2007 was established a station of this species in El Calón (20 m depth), where are conducted annually 3 censuses (in three different directions), with a tape of 30 m. In addition, to provide growth data have been marked tens of individuals with labels fixed to the substrate with a rod. For the labelled specimens controls, since 2011 has been installed a fixed grid covering an area of 30 x 10 m (with grids of 5 x 5 m). The monitoring is done in autumn, time of year with leaf *Posidonia* shorter and easier to locate de specimens. It is planned to continue this monitoring in future years.

The Cushion star *Asterina pancerii* (included in the Spanish and Andalusian Lists of Wildlife Species in Special Protection Regime, LESRPE and LAESRPE, respectively) in Andalusian is present only in the Eastern coasts of the Almería province. The best known population is located in the Fondos Marinos del Levante Almeriense SPAMI, in the point called El Calón (20 m depth). The Sustainable Management Program of the Andalusian Marine Environment, since 2005, has conducted an annual census of the species, obtaining size frequency graphs. In the first 3-4 years substrate samples 20 x 20 cm were taken to study in the laboratory. Since 2012 were conducted visual censuses with scuba diving reviewing all *Posidonia* leaves in a grid of 20 x 20 cm (at least 3 replicates). The monitoring is done in autumn, time of year with the leaves of *Posidonia* shorter and it is easier to locate the specimens. It is planned to continue this monitoring in future annuities

One of the best known populations in Andalusia and the most abundant of Almería, of the Long-spined Urchin *Centrostephanus longispinus* (included in the Spanish and Andalusian Lists of Wildlife Species in Special Protection Regime, LESRPE and LAESRPE, respectively), is located in El Cerro (near Punta Cala Infalible), at 28 m depth, in the Fondos Marinos del Levante Almeriense SPAMI. Since 2011 the Sustainable Management Program of the Andalusian Marine Environment has conducted an annual census of the species. The visual censuses were conducted during scuba diving. It is planned to continue this monitoring in future years

You can find this information in the reports of the Sustainable Management Program of the Andalusian Marine Environment of the years 2008, 2009, 2010, 2011, 2012 and 2013:

http://www.juntadeandalucia.es/medioambiente/site/portales/menuitem.7e1cf46ddf59bb227a9e9e205510e1ca/?vgnnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

The information on threatened marine invertebrates species of the Sustainable Management Program of the Andalusian Marine Environment is available on the Environmental Information Network of Andalusia (REDIAM) until 2013:

Catálogo: Avistamientos y varamientos de fauna marina en el litoral de Andalucía (Shapefile):

WMS Especies de fauna marina avistada y varada en el litoral de Andalucía y aguas de influencia (2003 a 2011): Invertebrados marinos

http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem.04dc44281e5d53cf8ca78ca731525ea0/?vgnnextoid=d6e612b44b5de310VgnVCM2000000624e50aRCRD&vgnnextchannel=4a26fa937370f210VgnVCM1000001325e50aRCRD&vgnnextfmt=rediam&lr=lang_es

More information can be found in the publications:

Espinosa F., Maestre M. y García-Gómez J.C. 2009. New records of distribution for the highly endangered limpet *Patella ferruginea* on the Spanish coasts. *JMBA2 - Biodiversity Records*, 1-2.

Moreno D. 2008. *Dendropoma petraeum* (Monterosato, 1884). En: Barea-Azcón J. M., Ballesteros-Duperón E. y Moreno, D. (Ed.). *Libro Rojo de los Invertebrados de Andalucía*. 4 Tomos. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla: 323-329.

Moreno D., Acevedo I., Templado J. y Pérez-Ruzafa A. 2008. *Asterina pancerii* (Gasco, 1870). En: Barea-Azcón J. M., Ballesteros-Duperón E. y Moreno, D. (Ed.). *Libro Rojo de los Invertebrados de Andalucía*. 4 Tomos. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla: 626-629.

Moreno D. y Barrajón Domenech A. 2008. *Pinna nobilis* Linnaeus, 1758. En: Barea-Azcón J. M., Ballesteros-Duperón E. y Moreno, D. (Ed.). *Libro Rojo de los Invertebrados de Andalucía*. 4 Tomos. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla: 396-402.

Moreno D., de la Linde A., Remón J.M., De la Rosa J., Arroyo M.C., Fernández-Casado M., Gómez G., Barrajón A., Gordillo I., Nevado J.C. y Barba R. 2007. Programa de Gestión Sostenible de Recursos para la Conservación del Medio Marino Andaluz: Datos preliminares de los censos de especies de invertebrados amenazados. En: Paracuellos M. (Coord. de la Ed.) (Ed.). *Ambientes Mediterráneos. Funcionamiento, biodiversidad y conservación de los ecosistemas mediterráneos*. Colección Medio Ambiente, 2. Instituto de Estudios Almerienses (Diputación de Almería), Almería: 27-48.

Remón J.M., Moreno D. y Pérez-Ruzafa A. 2008. *Centrostephanus longispinus* (Philippi, 1845). En: Barea-Azcón J. M., Ballesteros-Duperón E. y Moreno, D. (Ed.). *Libro Rojo de los Invertebrados de Andalucía*. 4 Tomos. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla: 630-635.

The LIFE+ *Posidonia* Andalusia Project (2011-2014), coordinated by the Regional Ministry of Environment, have worked in the monitoring of seagrass meadows and the exotic invasive seaweed *Caulerpa racemosa*. It has established a fixed network of tracking stations for *P. oceanica* called POSIMED Andalusia, integrated into the National Network POSIMED, in participating in a coordinated Sustainable Management Program of the Andalusia Marine Environment and volunteer groups. In Fondos Marinos del Levante Almeriense SPAMI there are 6 stations: Cocedores (POS_1), Isla de Terreros (POS_2), Pozo del Esparto (POS_3), El Calón (POS_4), Loza del Payo, Punta Cala Infalible (POS_5) y Deretil (POS_6). They held annually monitoring data descriptors of seagrass meadows, such as coverage (with tape and quatrat of 50x50 cm), density, burial, flowers, etc. Furthermore, within this action of the LIFE Project has been made fish (2011), algae and epiphytic on

P. oceanica (2012) and invertebrate censuses (2013) at the POS_2, POS_3, POS_4 and POS_5 stations. Moreover, it has made a demographic monitoring of *P. oceanica* in POS_1, POS_2, POS_4 and POS_5 stations, with marking shoots annually since 2012 for obtain data on mortality and survival. We have also installed sediment traps in 2013 and 2014 at the demographic stations. It is planned to continue this monitoring in future years.

The invasive alga *Caulerpa racemosa*, first detected in Andalusia in Fondos Marinos del Levante Almeriense SPAMI in the Terreros Island in 2008. This species has been the subject of monitoring within the LIFE + *Posidonia* with the establishment of permanent stations (in 2011) to determine the degree of extension of some spots and to obtain data of their density. The monitoring has been conducted annually until 2013 by the Sustainable Management Program of the Andalusian Marine Environment. Moreover, the LIFE + *Posidonia* has established a network of early detection of invasive alien species, in areas without previous presence of *Caulerpa racemosa*. In this network have been made 6 underwater transects (from 2011 to 2013) perpendicular to coast from 30 m depth, in capes, bays and ports, all areas that could be colonized by *Caulerpa racemosa*. This effort has been used to detect *C. racemosa* in two new locations (Cocedores and Playa de las Palmeras-Isla Negra), the invasive alga *Lophocladia lallemandii* (Cocedores) and the gastropod mollusc *Bursatella leachii* (costa de Vera), among other species previously known in the ZEPIM (*Asparagopsis taxiformis*, *Oculina patagonica* and *Percnon gibbesi*).

Once detected *Caulerpa racemosa* in 2008 in the Fondos Marinos del Levante Almeriense SPAMI a detailed cartography was made in the presence area in 2010 by the Sustainable Management Program of the Andalusian Marine Environment. The LIFE Project + *Posidonia* Andalucía made another cartography of the *P. oceanica* meadows within the SPAMI, completed in 2014, which also includes available information *C. racemosa*.

You can view the information about the studies on *Posidonia oceanica* and *Caulerpa racemosa* in the reports of the Sustainable Management Program of the Andalusian Marine Environment of the years 2008, 2009, 2010, 2011, 2012 and 2013:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9e9e205510e1ca/?vgnnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

The information of the Sustainable Management Program of the Andalusian Marine Environment about Monitoring Network on *Posidonia oceanica* (POSIMED) is available on the Environmental Information Network of Andalusia (REDIAM), until 2013:

Catálogo: Cartografía de fondos de fanerógamas marinas (Granada y Almería). Proyecto: LIFE+ 09 NAT/ES/000534. Año 2013 (shapefile):

WMS Distribución de fanerógamas marinas en el litoral de Andalucía

http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem.04dc44281e5d53cf8ca78ca731525ea0/?vgnnextoid=01a2e8a77d739410VgnVCM1000001325e50aRCRD&vgnnextchannel=cd6f726c4d6af310VgnVCM1000001325e50aRCRD&vgnnextfmt=rediam&lr=lang_es

WMS Caracterización de praderas de fanerógamas marinas del proyecto LIFE+ 09 NAES/000534

http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem.04dc44281e5d53cf8ca78ca731525ea0/?vgnnextoid=09f2fcb0d261b410VgnVCM1000001325e50aRCRD&vgnnextchannel=cd6f726c4d6af310VgnVCM1000001325e50aRCRD&vgnnextfmt=rediam&lr=lang_es

Catálogo: Red de Seguimiento del Estado de Conservación de Praderas de *Posidonia Oceanica*. E 1:10.000. CMAyOT - JA (shapefile):

WMS Distribución de fanerógamas marinas en el litoral de Andalucía (2011, 2012 y 2013)

http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem.04dc44281e5d53cf8ca78ca731525ea0/?vgnnextoid=01a2e8a77d739410VgnVCM1000001325e50aRCRD&vgnnextchannel=cd6f726c4d6af310VgnVCM1000001325e50aRCRD&vgnnextfmt=rediam&lr=lang_es

The Information of the Sustainable Management Program of the Andalusian Marine Environment about invasive alien species is available in the Environmental Information Network of Andalusia (REDIAM), until 2013:

Catálogo: Especies exóticas invasoras en el litoral de Andalucía (shapefile):

WMS Especies invasoras marinas (2004 a 2013)

http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem.04dc44281e5d53cf8ca78ca731525ea0/?vgnnextoid=6348cf9b6961b410VgnVCM1000001325e50aRCRD&vgnnextchannel=cd6f726c4d6af310VgnVCM1000001325e50aRCRD&vgnnextfmt=rediam&lr=lang_es

More information can be found in the publications:

- Moreno Lampreave D. 2009. Gestión sostenible del medio marino en Andalucía: las fanerógamas marinas. En: *Posidonia oceanica*. Redes de seguimiento y estado de conservación en el Mediterráneo español. Instituto de Ecología Litoral, Diputación de Alicante, Ministerio de Medio Ambiente y Medio Rural y Marino, Alicante: 114-128.
- Moreno Lampreave D. 2010. Flora y fauna alóctona del medio marino andaluz. En: Cobos F.J. y Ortega F. (Ed.). *Especies exóticas invasoras en Andalucía. Talleres provinciales 2004-2006*. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla: 214-229.
- Moreno D. y Guirado J. 2006. Nuevos datos sobre la floración, fructificación y germinación de fanerógamas marinas en Andalucía. *Acta Botanica Malacitana*, 31: 51-72.

The Sustainable Management Program of the Andalusian Marine Environment, of the Regional Ministry of Environment and Spatial Planning (CAMOT) has conducted censuses of seabirds by ship in the Fondos Marinos del Levante Almeriense SPAMI in 2008, 2009, 2010 and 2011.

You can find this information in the reports of the Sustainable Management Program of the Andalusian Marine Environment of the years 2008, 2009, 2010, 2011

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem_7e1cf46ddf59bb227a9ebe205510e1ca/?vqnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

In 2008 a specific report on seabird monitoring with ship in Andalusia was written, not available on the web:

CMA, 2008. *Campaña de seguimiento de aves marinas en el litoral andaluz desde embarcación*. Apoyo Técnico a la Gestión Sostenible del Medio Marino. Consejería de Medio Ambiente, Junta de Andalucía, 42 pp.

The information of the Sustainable Management Program of the Andalusian Marine Environment about seabirds is available on the Environmental Information Network of Andalusia (REDIAM) until 2013:

Catálogo: Avistamientos y varamientos de fauna marina en el litoral de Andalucía (Shapefile):

WMS Especies de fauna marina avistada y varada en el litoral de Andalucía y aguas de influencia en el periodo 2003 a 2011. Aves marinas

http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem_04dc44281e5d53cf8ca78ca731525ea0/?vqnextoid=a7da3b95b06de310VgnVCM2000000624e50aRCRD&vgnnextchannel=4a26fa937370f210VgnVCM1000001325e50aRCRD&vgnnextfmt=rediam&lr=lang_es

The Emergency Program, Epidemiological Control and Monitoring Wildlife of Andalusia, of the Regional Ministry of Environment and Spatial Planning (CAMOT) has monitored the seabirds *Calonectris diomedea* and *Hydrobates pelagicus* from 1994 to 2014, including control of nesting pairs in Terreros and Negra Islands (Fondos Marinos del Levante Almeriense SPAMI). Monitoring is currently in force and planned for future years.

You can find this information in the reports of the Emergency Program, Epidemiological Control and Monitoring Wildlife of Andalusia for the years 2009, 2010, 2011 and 2012:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem_7e1cf46ddf59bb227a9ebe205510e1ca/?vqnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

More information can be found in the publications:

Paracuellos, M. y Nevado, J. C. (1995). Nidificación de láridos en la provincia de Almería (SE Ibérico). Doñana, *Acta Vertebrata*, 22: 102-106

Paracuellos, M. y Nevado, J. C. (2003). Nesting seabirds in SE Spain: distribution, numbers and trends in the province of Almería. *Scientia Marina*, 67(Supplement 2): 125-128

The Sustainable Management Program of the Andalusian Marine Environment, of the Regional Ministry of Environment and Spatial Planning (CAMOT), made censuses of cetaceans in the Fondos Marinos del Levante Almeriense SPAMI, with plane (2005, 2006, 2007, 2008, 2009, 2010 and 2011) and with boat (2008, 2009, 2010 and 2011).

Se puede consultar esta información en los informes del Programa de Gestión Sostenible del Medio Marino de los años 2008, 2009, 2010, 2011 en:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem_7e1cf46ddf59bb227a9ebe205510e1ca/?vqnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

En el año 2006 se realizó un informe específico del seguimiento de cetáceos desde avioneta en Andalucía, no disponible en la WEB:

CMA, 2006. *Informe sobre la II Campaña de Seguimiento Aéreo de Cetáceos en el Litoral Andaluz*. Apoyo Técnico a la Gestión Sostenible del Medio Marino. Consejería de Medio Ambiente, Junta de Andalucía, 38 pp.

The Stranding Attention Network of the Regional Ministry of Environment and Spatial Planning (CAMOT), through the Sustainable Management Program of the Andalusian Marine Environment, started in 2007 and covering the entire coastline of the Fondos Marinos del Levante Almeriense SPAMI. Since 2011 attention is made by associates (NGOs).

You can view the information about the Stranding Network in the reports of the Sustainable Management Program of the Andalusian Marine Environment of the years 2008, 2009, 2010, 2011, 2012 and 2013:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem_7e1cf46ddf59bb227a9ebe205510e1ca/?vqnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

The Information of the Sustainable Management Program of the Andalusian Marine Environment about the Stranding Network is available in the Environmental Information Network of Andalusia (REDIAM), until 2013:

Catálogo: Varamientos y hallazgos de fauna marina en el litoral de Andalucía (Localización de los varamientos de fauna marina (fundamentalmente cetáceos y tortugas marinas) en el litoral andaluz en el periodo 2008-2013. Se incluyen además los hallazgos de ejemplares muertos en el mar). Shape.

The Regional Ministry of Environment and Planning (CAMOT), of the Regional Government of Andalusia, has drafted the "Plan of Conservation and Recovery of the species of the marine environment" and is expected approval in 2015. This Plan includes all invertebrates marine cataloged (Royal Decree 139/2011 and Decree 23/2012) living in Andalusia (*Dendropoma petraeum*, *Charonia lampas* and *Pinna nobilis* are present in the Fondos Marinos del Levante Almeriense SPAMI), and

the seagrasses *Posidonia oceanica*, *Cymodocea nodosa* and *Zostera noltii*, all included in the Spanish and Andalusian Lists of Wildlife Species in Special Protection Regime, and also present in the Fondos Marinos del Levante Almeriense SPAMI.

ANNEX II LIST OF PARTICIPANTS CABO DE GATA-NÍJAR SPAMI EVALUATION

March 26th, 2015

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