

Format for the Periodic Review of the SPAMIs

SPAMI Name : Acantilados de Maro-Cerro Gordo

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

The area has improved its legal protection status; now the area also is Special Area of Conservation (SAC), and the management plan was approved (Decreto 6/2015, de 20 de enero, por el que se declara la Zona de Especial Conservación de la Red Ecológica Europea Natura 2000 Acantilados de Maro-Cerro Gordo (ES6770002), se amplía el ámbito territorial del Paraje Natural Acantilados de Maro-Cerro Gordo y se aprueba el Plan de Ordenación de los Recursos Naturales del citado Paraje Natural).

Furthermore a Special Protection Area adjacent to the SPAMI (ES0000504 Bahía de Málaga-Cerro Gordo) was declared in 2014 (*Orden AAA/1260/2014, de 9 de julio por la que se declaran Zonas de Especial Protección para las Aves 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

Being shared by two provinces, the area is managed by two territorial offices of the Consejería de Medio Ambiente y Ordenación del Terriotrio. However the competences are clearly defined and the coordination is ensured by the Director of the Natural Site.

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 measures taken to face the threats are included in the management plan adopted in 2015 (*Decreto 6/2015, de 20 de enero, por el que se declara la Zona de Especial Conservación de la Red Ecológica Europea Natura 2000 Acantilados de Maro-Cerro Gordo (ES6770002), se amplía el ámbito territorial del Paraje Natural Acantilados de Maro-Cerro Gordo y se aprueba el Plan de Ordenación de los Recursos Naturales del citado Paraje Natural*).

Both terrestrial and marine areas of the SPAMI are managed by the same administration.

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 body/authority as when the SPAMI was established and/or last evaluated?

Existence of a management body with sufficient powers (*Art. 7.2.d, 7.2.f. D6 - Annex I: "To be included in the SPAMI List, a protected area must have a management body, endowed with sufficient powers as well as means and human resources to prevent and/or control activities likely to be contrary to the aims of the protected area". See 8.1. in the AF*

YES

3.2. Is the management plan in force?

Has the management plan been officially adopted? (*D7 Annex I). See 8.2.1, 8.2.2. in the AF*

YES, It has been approved in January 2015 and enter into force.

3.3. Does the management plan address the requirements set out in article 7 of the Protocol and Section 8.2.3 of the Annotated Format?

More details useful for the evaluation of the management plan are addressed in question 7.1 of this questionnaire.

YES

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.

4. AVAILABILITY OF RESOURCES AND INFORMATION

4.1. Is there basic equipment, human and financial resources ensured to the management body?

(*Art. 7.2.d, 7.2.f. D6 in Annex I: "To be included in the SPAMI List, a protected area must have a management body, endowed with sufficient powers as well as means and human resources to prevent and/or control activities likely to be contrary to the aims of the protected area"). See 9.1, 9.2. in the AF*

YES.

However, an additional boat will be very useful to complement the surveillance effort on the marine area.

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?

For the terrestrial environment, in addition to the monitoring activities undertaken by the SPAMI staff, monitoring activities are ensured thanks to (i) the program "Rabjen: endangered species localization and tracking program", (ii) "Emergencies, epidemic, control and monitoring of endangered wildlife species" and (iii) monitoring program for the *Rosmarinus tomentosus* in collaboration with the University of Málaga.

For the marine environment the "sustainable **management program of Andalusian marine environment**" is still carrying out the monitoring of the seagrass, threatened invertebrates (*Patella ferruginea*, *Astroides calycularis*, *Pinna nobilis* and *Charonia lampas*), the invasive alien species (*Asparagopsis armata* and *A. taxiformis*) and the artificial reefs. Further details for the monitoring of the marine environment are given in the ANNEX I 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

The management plan has indicators in order to have a feedback from the monitoring to the management team in order to adapt the conservation actions, where necessary in consultation with the scientific community and the Provincial Council of Environment.

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

The reinforcement of the artificial reef barrier allowed to mitigate the illegal bottom trawling that was a threat in the past in the area.

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

Thanks to surveillance, control and environmental awareness actions implemented in the area the level of threats coming from the sea users decreased during the last years.

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")

2

According to recent monitoring results, there is no significant impact of diving activities in the area. The declaration of close zones for scuba diving and the mooring system being deployed in the area have the potential to further mitigate the impact of this threat.

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 The actions implemented during the last years reinforced the surveillance and contributed to raise the awareness of fishermen, scuba divers, recreational boaters and other users and visitors.

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

- **Public use** (Scuba diving, recreational sailing, access by motorized vehicles), all of them are regulated and forbidden where they could make damage. (2)
- **Climate change**, some of the habitats and species and on their distribution limit area, the expected rise of sea temperatures will affect them. (1)

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")

1

Significant impacts on landscapes and on cultural values. See 5.2.2

(SCORE: 0 means "very serious threats"; 3 means "no threats")

2

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.

- Debris and waste accumulation dragged to the protected area by occasional **torrential rainfall**. (2)
- **Bottom and demersal trawling**, it is forbidden and there are artificial reefs to protect the sea bottom. (2)
- **Pollution from urban waste water**. The surrounding area of the SPAMI is very important for coastal tourism (Nerja and Almuñecar); despite regulations, occasionally the wastewater treatment capacity is exceeded, resulting in sporadic contamination. (1)
- **Changes in land uses**, mainly because the debris accumulation in a torrential rainfall event. (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 de la Costa del Sol Oriental-Axarquía (2006), Plan de Ordenación del Territorio de la Costa Tropical de Granada (2011) and Plan de Protección del Corredor Litoral de Andalucía (expected to be approved).

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

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)

3

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)

2

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)

2

The elaboration of the management plan offered the opportunity for further consultation and involvement of the public and the stake holders in the planning and management of the SPAMI

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)

1

Being issued by legal text (Decree 6/2015 January 20th 2015) the management plan is binding for all administrations.

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)

1

YES on land. For the marine area following the official approval of the management plan it will be possible to install marks at sea to delimitate the restricted areas of the SPAMI.

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

YES

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

YES

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

YES

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

YES

In addition to the regional and the provincial relevant emergency plans (forest fire, pollution, etc.) the protected area prepared its own emergency plan to face marine pollution (oils spills).

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

YES

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

YES

Part time permanent staff is available in the two provincial biogeographical units concerned with the SPAMI (Vélez-Málaga and Motril)

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-economic factors)

See 9.3.1. in the AF

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

2

The Environmental Department of the Government of Andalusia has developed the LIFE+ *Posidonia* Project with the main objective to improve the conservation of *Posidonia oceanica* meadows in Andalusian Mediterranean coast. This Project started in 2011 and ended in 2014 and carried out actions on 6 SCI (Site of Community Importance), including "Acantilados de Maro-Cerro Gordo", this included:

- seabed mapping and monitoring
- installation of ecological anchorages
- artificial reefs
- information materials.
- environmental awareness activities

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)

2

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 financial support of:

- The Project "Surveillance and Awareness in Maro-Cerro Gordo Protected Area", funded by the MedPan Association, was implemented in summer 2013.
- LIFE+ *Posidonia* project, financed by European Commission
- POCTEFEX Alboran, financed by European Commission

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)

2

The collaboration with other SPAMI areas has increased, nevertheless it is recommended to further develop networking among SPAMIs at regional level (Mediterranean) as well as with relevant organizations (MedPAN, IUCN, WWF, etc.). RAC/SPA could play a significant role in this context.

COMMENTS by the Technical Advisory Commission

This SPAMI provided a significant contribution in safeguarding the natural features of the area while the adjacent coastal zones were subject to an extensive development.

It is also contributing to the conservation of the only population of Spanish wild goat (*Capra pyrenaica*) near the sea, as well as populations of reptiles (e.g. chameleon), seabirds, raptors and songbirds. Its marine component hosts many key habitats and threatened species. Furthermore, this SPAMI is located in the limits of the natural extension of *Posidonia oceanica* in the West Mediterranean.

CONCLUSION

Most of the weaknesses identified in the previous evaluation report (2011) were addressed by the managing authorities, in particular regarding the management of scuba diving and the elaboration of the Self Protection Plan to face oil spill incidents.

The actions undertaken to complete the barrier of artificial reefs and to finalise the management plan and have it officially adopted are the most important achievements of the SPAMI during the last years.

The SPAMI endeavoured during the last years to improve the networking with other MPAS in the Mediterranean, in particular through the participation in MedPAN activities.

The Technical Advisory Commission concluded that the SPAMI fulfil the criteria that allowed its inclusion in the SPAMI List.

RECOMMENDATIONS:

- Implement as soon as possible the management plan approved in January 2015,
- Install the ecological moorings for the diving boats
- Establish a new committee within the framework of the Environment Council to deal specifically with the coastal zone management issues
- Investigate ways to improve the financial resources of the SPAMI,

SIGNATURES

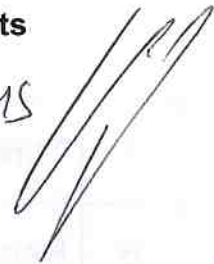
For National Focal Point :



ELENA CONSUEGRA

Independent Experts

Chedly RAIS



SPAMI Manager(s)



Edo: RICARDO A. SOLAS DE LA VEGA



Edo: CATALINA NOVIO ESTERAMEZ

(ADDITIONAL PAGES MAY BE ADDED FOR EACH MEMBER'S COMMENTS)

SPAMI VALUE-ADDED

| Questions | | Score obtained | Maximum |
|--------------|---------------------------------|----------------|-----------|
| 5 | Threats and surrounding context | 16 | 23 |
| 6 | Regulations | 4 | 4 |
| 7 | Management | 9 | 11 |
| 8 | Protection measures | 5 | 5 |
| 9 | Human resources | 4 | 5 |
| 10 | Financial and material means | 5 | 9 |
| 11 | Information and knowledge | 4 | 6 |
| 12 | Cooperation and networking | 4 | 6 |
| TOTAL | | 51 | 69 |

ANNEX I ANCANTILADOS DE MARO-CERRO GORDO SPAMI

Format for Periodic Review of the SPAMIs

SPAMI Name: Acantilados de Maro-Cerro Gordo

4.2. Does the area have a monitoring program?

The Program for Sustainable Management of the Andalusian Marine Environment, the Ministry of Environment and Spatial Planning (CAMYOT) of the Government of Andalusia, works exclusively on ZEPIIM with seagrass species and invertebrates threatened present therein.

Among the objectives and work included in this Program must: Bionomics; inventory of species and biocenosis, monitoring seagrass (*Posidonia oceanica*) and monitoring of threatened invertebrates: *Patella ferruginea* (species listed in catalogs Spanish and Andalusian Endangered Species in category "Endangered" (Royal Decree 139/2011 and Decree 23/2012, respectively; Since 2010 censuses are conducted annually for *Patella ferruginea* National Strategy adopted in 2008, with the methodology developed in 2009. It is planned to continue this monitoring in future annuities), *Astroides calycularis*, *Pinna nobilis* and *Charonia lampas* (all species included in the Spanish catalog and Andalusian Endangered Species in the category of "Vulnerable"); monitoring of invasive alien species (*Asparagopsis armata* and *A. taxiformis*) and biomarkers: *Posidonia oceanica* and *Astroides calycularis*:

You can find this information in the reports of the Sustainable Management of the Marine Environment of the years 2008-2014 in:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

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 Andalusian Marine Environment and volunteer groups. In Acantilados de Maro-Cerro Gordo SPAMI there are 2 stations: POS_22 y POS_23. They held annually monitoring in which data descriptors 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_22 station. Moreover, in this same station, it has made a demographic monitoring of *P. oceanica* 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. Could not detect the presence of the invasive alga *Caulerpa racemosa* in the SPAMI.

The Program for Sustainable Management of the Marine Environment of the Andalusian Ministry of Environment and Spatial Planning (CAMYOT), monitors and monitoring ferruginous limpet ***Patella ferruginea*** in the area of SPAMI. Are held annually censuses growth in Peñón del Fraile town, where you have identified thirty specimens on which their growth is controlled. According to the National Strategy for this species exhaustive surveys are also conducted every four years in the localities of Calaiza, Cantarriján, Peñón del Fraile, and Maro.

You can find this information in the reports of the Sustainable Management of the Marine Environment of the years 2008-2014 in:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

In the area of SPAMI is carried out monitoring of coral starry ***Astroides calycularis*** (included in the catalogs Spanish and Andalusian Endangered Species in the "Vulnerable" category). Once inventoried localities of the species with the tracking station was selected and monitoring of the species in 2010. Initially started this monitoring was to follow, with fixed wall sections, is based on the coverage and density of the species on the wall and in the study of the colonies falls to the bottom (length and width, weight, volume, percentage of live or dead colonies with visible skeleton, etc.). Currently the Program for Sustainable Management of the Andalusian Marine Environment of the Ministry of Environment and Spatial Planning (CAMYOT), has established a monitoring station for more detail of this species in the Peñón del Fraile, 7 meters deep, which annual monitoring involves monitoring in fixed plots of colony growth on 20x20 grids that are processed by image analysis (Photoshop CS4 extended) and the collection of colonies falls in the background both before and after the summer, to assess the impact of activities like scuba diving on the development of the species. It also has been evaluated both the available wall as that occupied by the species and estimated coverage occupied by the species, which is evaluated on 50x50 squares by image analysis (Seascape program) every five years. It is planned to continue this monitoring in future annuities.

You can find this information in the reports of the Sustainable Management of the Marine Environment of the years 2008-2014 in:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

In the area of ZEPIM is carried out monitoring of the bivalve mollusk ***Pinna nobilis*** (included in the catalogs Spanish and Andalusian Endangered Species in the "Vulnerable"). The Program for Sustainable Management of the Andalusian Marine Environment of the Ministry of Environment and Spatial Planning (CAMYOT), once the funds of the protected area recognized two stations have been established to monitor this species: Calaiza, 15 meters deep, and Molino de Papel, between 9-12 meters deep, where they have markedly different specimens and where annual follow-ups are conducted to provide data for growth. It is planned to continue this monitoring in future annuities.

You can find this information in the reports of the Sustainable Management of the Marine Environment of the years 2008-2014 in:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

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

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

More information can be found in publications:

- Arroyo M.C., Moreno D., Barraón A., de la Linde A., Remón J.M., De la Rosa J., Fernández-Casado M., Gómez G., Ruiz-Giráldez F., Vivas M.S. y Fernández E. 2011. Trabajos de seguimiento de la lapa ferruginosa *Patella ferruginea* Gmelin, 1791 en Andalucía en el marco de la Estrategia Nacional de Conservación de la especie. *Mediterránea*, Serie de Estudios Biológicos. Época II, Número Especial: 9-46.
- Moreno D. 1992. Presencia de *Patella ferruginea* (Gmelin, 1791) en el Cabo de Gata (Almería, SE España). *Cuadernos de Investigación Biológica, Universidad del País Vasco, Bilbao*, 17: 71.
- 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. y Arroyo M.C. 2008. *Patella ferruginea* Gmelin, 1791. 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: 308-319.
- Moreno D. y Barraón 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., Arroyo M.C. y López-González P.J. 2008. *Astroides calycularis* (Pallas, 1766). 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: 281-287.
- Moreno D., de la Linde A., Remón J.M., De la Rosa J., Arroyo M.C., Fernández-Casado M., Gómez G., Barraón 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.

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 boat IN the 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 en:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnnextoid=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:

http://www.juntadeandalucia.es/medioambiente/site/rediam/menuitem.04dc44281e5d53cf8ca78ca731525ea0/?vgnextoid=a7da3b95b06de310VgnVCM2000000624e50aRCRD&vgnnextchannel=4a26fa937370f210VgnVCM1000001325e50aRCRD&vgnnextfmt=rediam&lr=lang_es

The Program for Sustainable Management of the Andalusian Marine Environment, the Ministry of Environment and Spatial Planning (CAMYOT), made **surveys of cetaceans** both aircraft (2005, 2006, 2007, 2008, 2009, 2010 and 2011), as with boat (2008, 2009, 2010 and 2011).

You can find this information in the reports of the Sustainable Management of the Marine Environment of the years 2008-2011 in:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es:

In 2006 a specific report on seabird monitoring with ship in Andalusia was written, not available on the 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 Program for Sustainable Management of the Andalusian Marine Environment of the Ministry of Environment and Spatial Planning (CAMYOT) takes **care of strandings of cetaceans and sea turtles**.

You can find this information in the reports of the Sustainable Management of the Marine Environment of the years 2008-2014 in:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

The Regional Ministry of Environment and Planning (CAMOT), of the Regional Government of Andalusia, have 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 (all present in the Acantilados de Maro-Cerro Gordo SPAMI): *Patella ferruginea*, *Astroides calycularis*, *Dendropoma petraeum*, *Charonia lampas* and *Pinna nobilis*, and the seagrasses *Posidonia oceanica*, *Cymodocea nodosa*, *Zostera marina* and *Zostera noltei*, all included in the Spanish and Andalusian LIST of Wildlife in Special Protection Regime. The first is present the Acantilados de Maro-Cerro Gordo SPAMI.

The Artificial Reef of Acantilados Maro-Cerro Gordo SPAMI was installed by Regional Ministry of Agriculture and Fisheries in 2006, with a mixed design: a) anti trawling elements, in order to make a passive surveillance against illegal fishing, and b) modules for fish concentration which

aim to provide shelter and protection to marine fauna. The monitoring includes the modules concentration E1-C3 and E2-C3. The monitoring focuses on the fish fauna with censuses in 2008 to 2011. During inspections, checks that all the blocks of nuclei found in the original position, their state (coating and more conspicuous species) and if they have hooked networks. Observations including data on the most important invertebrate species. The state of the substrate around and the presence of species of interest (listed species, exotic, etc.) are also observed. In censuses of fish is made a circular path around the nucleus, and once completed, a second circular path by the inner portion is made. In each survey the following data are taken in a plastic splint, following the general method of the "reserve effect" (Garcia-Charton *et al.*, 2004): Locality; Number of census; Date and time; Water temperature at the surface and at the bottom; Visibility surface (Secchi disk) and bottom; Fish species observed, noting its abundance classes (1, 2-3, 4-5, 6-10, 11-20, 21-30, 31-50, 51-100, > 100) and length in centimeters.

You can find this information in the reports of the Sustainable Management Program of the Andalusian Marine Environment of the year 2011:

http://www.juntadeandalucia.es/medioambiente/site/portalweb/menuitem.7e1cf46ddf59bb227a9ebe205510e1ca/?vgnnextoid=f9e6a9947df29410VgnVCM2000000624e50aRCRD&vgnnextchannel=f51bb2c42f207310VgnVCM2000000624e50aRCRD&lr=lang_es

With the Alboran Project (0066_ALBORÁN_2_E), approved by the "Programa Operativo de Cooperación España Fronteras Exteriores" (POCTEFEX) and cofinanced by the European Regional Development Fund (ERDF), were generated tools (manuals, worksheets, protocols...) for shared management between the two shores of the Alboran Sea (from 2012 to 2014). The Sustainable Management Program of the Andalusian Marine Environment, of the Ministry of Environment and Spatial Planning (CAMOT), of the Regional Government of Andalusia has participated in the monitoring and protection of endangered species (marine invertebrates, turtles and cetaceans) in the Andalusian SPAMI areas of the Alboran Sea (Cabo de Gata-Níjar SPAMI, Isla de Alborán SPAMI and Acantilados de Maro-Cerro Gordo SPAMI).

ANNEX II LIST OF PARTICIPANTS MARO-CERRO GORDO SPAMI EVALUATION

March 26th, 2015

| Name | | Email address |
|-------------------------|--|---|
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