

From Consejería del Medio Ambiente, Murcia/ICONA document, Madrid, Sept. 1994

TRANSLATION FROM ORIGINAL SPANISH TEXT (28 Nov 1994 By Dave Fawcett)

[Square brackets indicate translator's notes. The direct translations of Spanish common names may not always equal the common name used in English. I have left the translation in quotation marks ("") where I felt that this may be the case. Spanish common names etc. that I could not translate have been left in italics. ~ Indicates text is present in the original but has not yet been translated.]

[Site code: 7ES033]

MAR MENOR

Introduction

The Mar Menor (*Lesser Sea*), the largest lagoon of the Spanish Mediterranean coast, has been and is considered as an economic resource of maximum importance, and one of the principal natural indications of identity of the murcian coast. As such it has been the centre and driving force of activities of production and recreation, with an important repercussion on the local and regional economy.

In spite of the impacts and transformations suffered historically and recently, through agriculture, mining, fishing, tourism, etc., the Mar Menor continues to shelter species, habitats and landscapes of great ecological interest, in many cases associated with traditional activities compatible with their existence.

The exhaustion of the tourism pattern developed in the area in the last three decades, which had caused the loss of an important part of the area's ecological and aesthetic values, had fed social awareness of the need to protect the best conserved areas of the lake and its surroundings.

The nature value of those sectors, and in particular their populations of waterbirds, qualify the Mar Menor as a wetland of international importance, recognized amongst other work of the National Wetlands Inventory, put together by order of the Ministry of Public Works and Urbanization, and by various lists of areas of importance for birds such as that from ICBP-IWRB.

The protection of the main ecosystems of the Mar Menor is today assured by various regional laws, whilst there exist, furthermore, instruments of management, and lines of public investment, underway or previous, for the conservation, management and recovery of its natural resources. The following text describes the most relevant characteristics of the lagoon and its associated wetlands, and sets out the criteria which justify its inclusion in the List of Wetlands of International Importance of the Ramsar Convention.

DESCRIPTION OF THE AREA

Geographic location and delimitation

The Mar Menor is a coastal lagoon situated in the southeast of the Region of Murcia between 37° 50' - 37° 34' N and 0° 41' - 0° 55' W. It forms part of the Campo de Cartagena geographic unit, whose western part is the Campo del Mar Menor, extensive quaternary plain spattered with small mountainous peaks and furrowed *ramblas* (wide flat-bottomed gullies which only occasionally carry water: usually from torrential precipitation) which drain into the lagoon (Albujón, Beal, Carrasquilla).

To the east of the lagoon is found La Manga, a sand bar (length 24km, max width 900m) which separates the lagoon from the Mediterranean. The communication between the Mar Menor and the Mediterranean is occurs through *golas* (shallow channels). Of the three existing, one is currently blocked and another dredged and converted into a navigable canal. The third, with a more natural interchange regime, contains the *encañizadas*, "fishing weirs" in the lake, of ancient tradition.

The main basin of the lagoon, with an area of approx. 13,500 ha, an average depth of 4m and maximum depth of 6.5m. In its inner part are five islands: Isla Mayor or Barón, Isla Perdiguera, Isla del Sujeto, Isla Redonda or Rondella and Isla del Ciervo. This last one has been joined artificially to La Manga by a road.

To the south of the Campo del Mar Menor, the chains of mountains which extend between Cabo de Palos and Cartagena separate the watershed of the lake from other smaller basins which empty directly into the

Mediterranean. To the south of these mountains, in the Natural Area of Calblanque, there exist sedimentary coastal systems (dunes and beaches) of a limited extent. The dune system of Calblanque closes a small pool-trapping depression, the Salinas del Rasall wetland, closely associated with the complex of aquatic systems of the lagoon.

The wetlands included in this proposal are delimited in the cartographic Annex.

Climate

The area of the Mar Menor is characterized by its scarce rains (300 mm/ year) and by the torrential nature of these. The maximum values are registered in autumn (September and October), perhaps making up 20% of the annual total, whilst the the minimums in July and August represent only 2% of that total.

The annual temperature is 18°C, and the absolute maximum and minimum are 40 and -4°C respectively. Sunlight totals 3000 hours per year.

Hydrology and hydrogeology

The lagoon has a salinity (42-47g/l) greater than the Mediterranean Sea, by virtue of the diequilibrium between the precipitation and evaporation, not compensated by the scarce continental supplies. The lagoon basin acts as a concentrator with respect to the Mediterranean, with the interchange of water aperiodical and bidirectional, affected by variations in atmospheric pressure, winds, and the precipitation/evaporation balance. This interchange was regulated naturally across the The recent dredging of one of them (El Estacio) has increased the interchange, gradually reducing the salinity to the current values.

The lagoon basin receives run-off from various temporary water courses, of the *rambla* type. Generally they are inactive, but when it rains they carry great quantities of water and sediment to the lagoon. The torrential nature of the supplies is due also to the impermeable nature of the soils and the scarce vegetation cover of the headwaters of the catchments.

The main *ramblas* (wide flat-bottomed gullies which only occasionally carry water: usually from torrential precipitation) are: rambla de Los Alcázares, which cross the settlement of the same name; rambla del Albuñón, which has its mouth to the south of the the above mentioned settlement; rambla de Miranda, which drains to the south west of the Alicante-Cartagena road; rambla del Beadl, the longest and widest of all, which forms a substantial alluvial delta to the north of the ancient salt pans Lo Pollo and la Carrasquilla, and which has its mouth to the south of the settlement of Los Belones.

Furthermore there exist discharges of continental subterranean waters from the riparian (or lakeside) lands. The abandonment of extraction of these waters for irrigation, motivated by the arrival of the Trasvase Tajo-Segura reservoirs, and the drainage of the irrigation ducts fed by these, has allowed the rapid recovery of the *piezometric* levels in the Campo del Mar Menor, increasing the supplies of fresh water to the lagoon.

Geomorphology

One of the most outstanding features, from the geomorphological and landscape viewpoint, is the quaternary plain which borders the shore of the Mar Menor, with a gentle gradient (0-7%) and of diluvial origin, above which stand out the peaks of El Carmolí (111 m), of volcanic origin, and Mingote (60 m), of a limestone nature. The coast is low-lying, with beaches that are not always sandy, subject to the almost negligible influence of the tides, and to the variations of water level associated with winds and to general movement of the water body of the lagoon.

Other characteristic aspects of the shore are the salt pans and saltmarshes which have originated in the mouths of the *ramblas* (wide flat-bottomed gullies which only occasionally carry water: usually from torrential precipitation) and in the inland depressions, bounded by narrow dune systems. These wetlands were formed out of ancient secondary lagoons which were left cut off by the sediments transported to the basin, and which underwent alternate phases of drying out and filling up, through variations of water level in the lagoon. Part of these peripheral saltmarshes were converted to salt pans, some now abandoned, and others refilled for various uses.

The areas of greatest ecological interest at the periphery of the Mar Menor are found in these wetlands. For their size, the Salinas (saltpans) y Arenales (sandy areas) de San Pedro del Pinatar are outstanding, situated to the north of the lagoon, with an area of 822 ha, of which 460 correspond to the true salt pans, 130 to the *golas* (shallow) channels or fishery weirs situated immediately to the south, 32 to the reedbeds and salt flats/ marshes

which border them to the northwest, and 200 to the dunes and beaches which border them to the east. To the west and south of the lagoon, on the inner shore, the sedimentary systems of Playa [beach] de la Hita (70 ha), Marina del Carmolí, Lo Pollo (186 ha) and Marchamalo-Amoladeras (98 ha) follow, in a more or less complete form, a pattern of beach, sand bar, lagoon (which can convert into salt pans), saltmarsh, and coastal grassland. Lo Pollo is one of the most complete systems, with all the elements except the coastal grassland, (which is especially developed in the Marina del Carmolí. Working salt pans exist in Marchmalo, and abandoned ones in Lo Pollo.

The origin of the salt sand bar of La Manga is the marine currents, which deposited sediments on the existing pliocene base layer and volcanic formations of the area. The characteristic dune system and the extensive beaches of this sector have been seriously affected by urban development, with more than 60% of the area of sands disappearing just in the last 30 years. Today only the 200 ha of the northern sector are preserved, next to the Salinas de San Pedro del Pinatar. In the area of Calblanque there also exist fossil dune formations (*calcarenites* [= "chalksand"/calcareous sand]) and present-day dune formations, bordering sandy beaches and bounding the hollow where the Salinas [salt pans] del Rasall (15ha) are found.

Vegetation

In the natural areas are found basically the following communities:

Communities submerged in the lagoon

The bottom of the lagoon is covered principally by beds of algae (*Caulerpa prolifera*) and marine phanerogams (*Cymodocea nodosa*). The former of these species is found extensively, displacing the latter and colonizing the scarce patches of sandy bottom. In some shallow and sheltered area there are also beds of *Ruppia cirrhosa*, which are also found in the inner part of some of the saltworks ponds.

"Psammophytic" [sand loving] communities

They are especially well represented in the Cotorillo dunes, to the east of the Salinas [salt pans] de San Pedro del Pinatar, and in the beaches and dunes systems of Calblanque. They also appear on the coastal front of some wetlands of the inner shore, such as the Marina del Carmolí, Lo Pollo and Calblanque.

The dune vegetation is particularly complex in San Pedro del Pinatar, owing to the higher number of habitats and microhabitats present. In summary, the following communities can be defined, starting from the beaches of the Mediterranean through to the inner part of the salt pans:

- **"Terophytic"** [=with pteridophytes or "with land plants"?] grass beds with *Salsola kali* & *Cakile maritima*- Upper-beach perennial grass beds with *Elymus farctus*, *Sporobolus pungens*, *Eryngium maritimum*
- **Barronales** [areas of mud?] of the dune crests, with *Ammophila arenaria*, *Euphorbia paralias*
- Group [or scrubland] of semi-fixed dunes affected by *Maresia* with *Crucianella maritima*, *Teucrium dunense*, *Lotus creticus*, etc
- **Terophytic** [=with pteridophytes or "with land plants"?] pastures of semi-fixed dunes with *Maresia*, *Silene ramosissima*, *Triplanche nitens*, etc
- **Lentiscare** [? stands of *P. lentiscus*?] with *Rhamnus oleoides* ssp. *angustifolia*, *Pistacia lentiscus*, *Lycium intricatum*, etc.
- **Terophytic** [=with pteridophytes or "with land plants"?] pasture with *Loeflingia hispanica*, *Maresia nana*, *Ifloga spicata*, etc., in an area repopulated with *Pinus halepensis*
- Fixed dune **tomillar** [sea-thyme bed?] with *Helianthemum marminorense*, *Teucrium dunense*, etc.
- Grass beds with *Saccharum ravennae*, halophytic rushes with *Schoenus nigricans* and *Plantago crassifolia*, and saltmarsh with *Juncus maritimus*, *Sarcocornia fruticosa*, etc., all these in hollows with a high groundwater level
- Relict **savines** (with horizontally spreading bushy junipers) with *Juniperus turbinata* (a few examples), *Pistacia lentiscus*, etc.

In the wetlands of the internal shore, on sandy substrates, the following communities are found (starting from the beach on the Mar Menor through to the inner saltmarshes):

- Pasture of *Sporobolus pungens* and *Suaeda spicata*, with *Artemisia gallica*, *Cakile maritima*, *Eryngium maritimum*, *Halimione portulacoides*, *Inula chritmoides*
- Pasture of *Elymus farctus*, with *Artemisia gallica*, *Atriplex glauca*, *Halimione portulacoides*, *Inula chritmoides*, *Limonium delicatulum*, *Sporobolus pungens*, *Pseudorlaya pumila*.

Halophylic and hydrophylic communities

These are found in the transition zone between the sandy areas and the lagoon or salt pan systems (in San Pedro del Pinatar, Marina del Carmolí, Lo Pollo, Marchmalo and Rasall), or right on the true lakeside of the Mar Menor, as occurs in Playa de la Hita. Also in the inner dykes which separate the saltworks ponds (in San Pedro, Marchmalo and Rasall). In the innermost zones of transition between the lagoons or salt pans and the continental zone, reedbeds are generally found, those of San Pedro del Pinatar and Lo Pollo being outstanding. In these two localities examples or small groups of *Tamarix boveana* also appear..

In the localities where the zonation of the halophylic communities is represented in the most complete form, the following appear (on a gradient of greater to lesser proximity to the groundwater level and possibility of becoming waterlogged/ flooded/ forming pools):

- "Almarjal" [area characterised by a microrelief of *Anthrocnemum* hummocks] of *Sarcornia fruticosa* with *Aleuropus littoralis*, *Anthrocnemum macrostachyum*, *Frankenia corymbosa*, *Halimione portulacoides*, *Lycium intricatum*.
- Area liable to flooding (lagoon or salt pan system)
- "Almarjal" [area characterised by a microrelief of *Anthrocnemum* hummocks] of *Sarcornia fruticosa* with *Juncus maritimus*, *Juncus acutus*, *Phragmites australis*, *Limonium delicatum*, *Anthrocnemum macrostachyum*, *Frankenia corymbosa*, *Halimione portulacoides*, etc.
- Thicket [or scrubland] of *Limonium delicatum* with *Anthrocnemum macrostachyum*, *Frankenia corymbosa*, *Asparagus horridus*, *Limonium caesium*, *Lycium intricatum*, *Asteriscus maritimus*, *Suaeda vera*, *Thymelaea hirsuta*, etc.
- "Albardinal" [=a type of levee] of *Lygeum spartum* with various *Limonium*, *Asparagus horridus*, *Cynodon dactylon*, *Asteriscus maritimus*, *Dactylis hispanica*, *Piptatherum miliaceum*, *Phagnalon saxatile*, *Suaeda vera*, *Thymelaea hirsuta*, etc.
- Thicket [or scrubland] of *Suaeda vera* with *Asparagus horridus*, *Asteriscus maritimus*, *Dactylis hispanica*, *Frankenia corymbosa*, *Halimione portulacoides*, *Limonium caesium*, *Lycium intricatum*, *Lygeum spartum*, *Phragmites australis*, *Plantago albicans*, etc.

Fauna

The Mar Menor and the adjacent ecosystems offer a great variety of aquatic and terrestrial biotopes for fauna. The groups of vertebrates of greatest interest are the fish and birds, which constitute the best known taxa, however there are also data on the invertebrate communities of the lake, and on some taxa of the wetland and terrestrial ecosystems at the edge (terrestrial and aquatic coleoptera, hemiptera, etc). From the point of view of conservation, the prescence is noteworthy, in shallow areas of the lake, secondary basins and salt pans, of the threatened cyprinodont *Aphanius iberus* ("Fartet"), included in the National Catalogue of Threatened Species (R.D. 439/1990) categorized as "in danger of extinction", and included in Annex II of the Habitat Directive. The ornithological interest is found to be fundamentally associated with the salt pans and other wetlands, with nesting populations of Charadriiformes outstanding for their international importance. Furthermore the area is frequented by a great variety of species of aquatic birds, which use the lake and its outlying wetlands for various functions, following their temporal patterns of prescence.

In an overview sense , and paying exclusive attention to the vertebrates, the biotopes and their respective faunal communities can be typified in the following way:

- Cultivated and anthropogenic areas, with species such as the rabbit, hare, common hedgehog, little owl, turtle

dove, hoopoe, common blackbird, royal "*alcaudón*" [], common pipit, "ruby" wheatear, grey wheatear, crested lark, goldfinch, etc. In dry crop fields and other pseudo grassy plain areas, there are common- and marsh "*terreras*" [], "Calandra" lark, stone curlew, and "thymebed" whitethroat. Nesting of shelduck has been quoted.

- Scrubland zones in the hillocks and islands, with rabbit, fox, common partridge, "long-tailed" whitethroat, "black-headed" whitethroat, stone curlew, common crested lark, rock "*avión*" [], kestrel, black wheatear, etc. Reptiles are also abundant (Iberian wall lizard, "bastard" snake, "ocelated" lizard, Iberian "*eslizón*" []). On two islands there are stable colonies of yellow-legged gull, and on one the nesting of shelduck has been quoted.

- Sandy areas and beaches, dominated by waders, gulls and "*charranes*" [] in the periods and zones of least recreative usage, with the "black-legged" plover nesting on the beach and interdune hollows. On the inner part of the dunes the stone curlew, "*charrancito*" [=little *charrán*] and shelduck nest. They are zones of great richness in species and individuals and reptiles ("ocelated" lizard, various wall lizards and snakes, pink "*salamanquesa*" [=local variant on "salamander"?], with the red tailed wall lizard and Iberian "*eslizón*" [] outstanding for their abundance.

- Pine "forest" and scrubland on sandy areas of the Coltorillo with rabbit, common partridge, black headed whitethroat, common "mosquito eater", hoopoe, blackbird, robin, "*verdecillo*" [green-], stone curlew, crested lark, "*terreras*" [] etc.

- Salt pans, fishing weirs and bankside shallows of the lagoon, with sheets of water of depth and salinity that is variable between sectors, and with temporary variations within some of these (weirs and bankside areas). They shelter populations of nesting waders, gulls and "*charranes*" [] (black-legged plover, avocet, "cigüeñuela" (*Himantopus himantopus*), stone curlew, yellow-legged gull, "*reidora*" [] gull, common "*charrán*" [], "*charrancito*" [=little *charrán*]) and waders, *láridos* [], herons, cormorants, greater flamingos and migratory and wintering ducks. Noteworthy amongst the non-nesting species are slender-billed gull, Audouin's gull, black-legged "*charrán*" [], greater flamingo, black-necked grebe, grey heron and little egret. On the fishing weirs important concentrations are produced of "black-legged" plovers and "great" plovers, common- and little "*correlimos*" [?(literally="mudrunners")], grey plovers, turnstones and "royal" curlews. These species appear in the salt pans together with "*archibebes*" [], "*combatientes*" [], "*correlimos zarapitines*" [?=curlew sandpipers], avocets, and "*aguas*" []. The shelduck appears as a nesting and wintering species. The "*fartet*" [] is abundant. In winter they [the salt pans] are visited by the Kingfisher.

- The main lagoon, in whose deepest sections of open water abound the "*somormujo lavanco*", black-necked grebe, great cormorant, and red-breasted merganser, on migration or wintering. Other important groups are the gulls and the "*charranes*" [] which feed on the main lagoon.

- Reedbeds, saltmarshes and rush beds, with temporary or permanent inundation/formation of pools, in the proximity of the mouths of *ramblas* (wide flat-bottomed gullies which only occasionally carry water: usually from torrential precipitation) or old salt pans. Insectivorous passeriformes abound, such as the "*buitrón*" [], common "*tarabilla*" [], "*lavandera boyera*", [], "long-billed" whitethroat, marsh "*terrera*", "*escribano palustine*" [?= "marsh scribe"], and aquatic species such as "black-legged" plover, "*charrancito*" [] stork, egret. In the reedbeds there are numerous passeriformes, above all in winter (warblers, "*pechiazul*" [bluethroats?], "*pajaro moscón*" [= "botfly bird"]...) and some anatidae and waders. They are visited by marsh harriers and "*cenizo*" [] on migration.

LAND REGIME AND USE

Land use and ownership

Tourism development and the expansion of irrigation in the vicinity of the lagoon began in the 1960s, modifying to a substantial degree the regime of land tenancy and the modes of exploitation of resources, based formerly on "dry-field" (non-irrigated) agriculture, and traditional irrigation using local water sources. These activities were complemented with fishing and the exploitation of salt. In summary, the currently dominant types of use are:

- Urban-touristic on the shore of the Mar Menor and La Manga (urbanisation, camping, and other facilities)
- Military (San Javier, Cabezo Air Base and Carmolí Marines)

- Agricultural, beside the inward shore, with a clearing dominated by irrigated crops
- Industrial, on the Salt pans of San pedro, Marchmalo and Rasall
- Fishery, in the lagoon and fishing-weirs, declining in the former, and practically marginal in the latter
- Extensive uses, many natural areas not subject to agricultural exploitation or other use (pasture, hunting...)

In addition to these there is recreational use on all the public surroundings of the lake, with or without infrastructure or facilities , including the accesible natural areas, the lagoon itself (nautical activities) and the beaches.

The ownership of the land is mainly private, with exception of the beaches, some livestock tracks, the Cotorillo pine "forest" and the military areas. Public access is not permitted to the latter or the salt pans. The lagoon and the fishing-weirs are belong to the State Heritage, being subject to the Demarcation of Coasts.

Urban Planning

~not yet translated

PROTECTION REGIME

~not yet translated

INTERNATIONAL IMPORTANCE

In terms of waterbirds

For the evaluation of the ornithological importance of the area, the criteria drawn up by the Sociedad Española de Ornithología on request of ICONA [reference given in footnote ³, page 13 of orig. doc.] have been applied to the data available (wintering and nesting waterbird census, and other unedited information).

The following table presents the numbers of birds of the four species nesting regularly in the area of Mar Menor which pass the criteria for assigning a wetland to the category of international importance. These data refer exclusively to the areas included en this proposal (NC=species not censused).

[see table on page 13 of orig. doc.]

Other relevant ornithological information

Nesting

Other regularly censused nesting species of interest are:

[see table on page 14 of orig. doc.]

Other certain nesters are *Anas platyrrhynchos*, *Burhinus oedicephalus*, and *Larus ribundus*, and possible nesters are *Charadrius dubius*, *Tringa totanus*, *Marmaronetta angustirostris* and *Ixobrychus minutus*. All these reproduce in scarce numbers, irregularly, or have appeared recently in the wetlands in question. Although regular censuses are not available, it is known that *Larus cachinnans* nests in appreciable numbers on the lagoon islands (more than 200 pairs), and very recently on the Salinas [salt pans] of San Pedro.

The most abundant group (when considered together) to be nesting, are the Charadriiformes, with an average of 500 pairs annually, and maximum ammount of 1000 pairs, including the four species which surpass the crieria of international importance

[see table on page 13 of orig. doc.]

For *Tadorna tadorna* the criteria proposed by the S.E.O. although not used, is that of regular prescence as a breeder, a criteria which is satisfied by the Mar Menor.

Wintering/migration

The censuses of aquatic wintering birds provides moderate figures: the greatest use [of the wetland] may not occur, for the majority of species, in this period. Regrettably there is no similar record of the populations present in the principal migratory periods.

Even so, comparing the scarce data available with the January census hints at [i.e. starts to indicate] the importance which the Mar Menor acquires at certain times of year, for the following species:

Podiceps nigricollis: The average from the winter census is 108 birds (N=15), datum calculated from censuses made from boats, with a fixed route through the lagoon. Extrapolating to the entire lagoon, results in an wintering average of -at minimum 216 birds. However, the black-necked grebe reaches its maximum abundance in autumn, with a census of up to 1138 individual, equivalent to more than 2000 birds in the whole lagoon. In its revision of criteria, S.E.O. proposed for this species the criterion of 120 birds on wintering/migration, this is not applied, however.

Phoenicopterus ruber: The wintering average (for N=8 years) is of 311 birds, but in August and September there are frequently concentrations of more than 1000 individuals, with a maximum known of 1436 in September 1988. The criterion for this species is 650 individuals.

Recurvirostra avosetta: Concentrations of more than 250 individuals (criterion for wintering/migration) are not rare at the end of summer. However it is probable that it is largely a case of the local nesting birds plus the young of that year, which come from the breeding population.

Charadrius alexandrius: The wintering average for 8 January censuses, is 101 birds, but on migration it usually surpasses the criterion of 250 individuals. The maximum count available is 487 in September 1987.

Other nature values

In addition to the ornithological importance, the following criteria of evaluation must be considered:

Habitats of Annex I of the EC Directive 92/43 (Flor, Fauna, Habitats): Types of natural habitats of community [European Community, presumably] interest for whose conservation it is necessary to designate special conservation areas (*=types of priority habitat):

11.34. **Posidonia* grassland

21. * Lagoons

15.15. Saline mediterranean pastures (*Juncetalia maritimi*)

15.16. Halophytic *matorrales* [=scrublands or thickets] (*Arthrocnemetalia fruticosae*)

15.18. * Saline grassy plains (*Limonietalia*)

16.223. Coastal fixed dunes of *Crucianellion maritimae*

16.27. *Scrubland/thickets of juniper (*Juniperus* spp.)

44.8. Warm-mediterranean riparian gallery(*Nerio-tamaricetea*)

Species of Annex ii of the EC Directive 92/43 (Fauna, Flora, Habitats): Animal and plant species of community

interest for whose conservation it is necessary to designate special conservation areas.
Fartet (*Aphanius iberus*)

Species from Annex I of the EC Directive 79/409 (Wild birds): Species which will be the object of special conservation measures with respect to their habitat, with the aim of assuring their survival and reproduction in their area of distribution:

~[see list of species, 2nd paragraph, p16 of orig. doc]

PLANS FOR USE AND MANAGEMENT

The framework of regulations and management of the protected natural areas of the Mar Menor is currently being drawn up. With the 22nd September 1993 resolution of the Regional Environment and Nature Agency, the procedure was begun of drawing up the P.O.R.N. of : Parque Regional [*Regional Park*] de las Salinas y Arenales de San Pedro del Pinatar;

Parque Regional de Calblanque, Monte de las Cenizas y Peña del Aguila; and
Paisaje Protegido [*Protected Landscape*] de los Espacios Abiertos e Islas del Mar Menor.

Before the end of 1993 it is anticipated that the P.O.R.N projects for these first two areas (whose drafting is practically finalized) will be made public information. That corresponding to the Protected Landscape is being drawn up and will be submitted to the same procedure in 1994.

With respect to particular management actions, they have executed, or are currently executing, some projects in the previously protected areas (San Pedro and Calblanque), such as the recovery and adaptation of a dried-up saltworks pond [footnote: "Action oriented to the reintroduction of *Aphanius iberus*, included in a project financed by the MEDSPA program of the European Community"], the protection and regeneration of dunes, the construction of ornithological observatories, signposting, and adaptation of interpretation routes [nature trails]. The investment of the Regional Environment Agency, which has up to now been modest, will be boosted during the period 1994-96 with the development of a project cofinanced by the EC through the LIFE fund for conservation, regeneration and management of wetlands characteristic of arid zones. This project foresees the assignment of 252 million pesetas (1,800,000 ECU), of which approximately 120 are destined to the wetlands in the Mar Menor area.. Amongst other aspects it includes:

- Setting up programs of research and biological & ecological monitoring of the wetlands of the Mar Menor area
- Campaigns for cleaning-up, elimination of dumping [or "spillage", i.e. of pollutant waste] and other momentary [or "immediate"] sources of degradation
- Recovery of wetlands degraded by drainage, with their basin filled in, or with their traditional use abandoned (salt pans)
- Adaptation for public use (signposting, facilities), information and disclosure of results

Synthesis and geographic localization sheet

MAR MENOR (Lesser Sea)

MUNICIPALITIES: San Pedro del Píntar, San Javier, Los Alcázares and Cartagena.

PROVINCE: Murcia

AUTONOMOUS COMMUNITY: Murcia

AREA: 14,933ha

FIGURE OF PROTECTION: *Lake*: Law 3/1987 of 23rd April, of Protection and Harmonization of Uses of the Mar Menor; Decree No. 7/1993, of 26th March, on measures of protection of ecosystems in inland waters. *Peripheral wetlands*: Law 4/1992, of 30th July, of Land Use Planning and Protection of Territory of the Murcia Region (Las Salinas y Arenales de San Pedro del Pinatar Regional Park; Calblanque, Monte de las Cenizas y Peña del Aguila Regional park; Protected Landscape of the Open Spaces and Islands of the Mar Menor).

LIMITS: Those indicated in the Cartographic Annex. They coincide with the limits of the wetlands protected by the Law 4/1992, next to the waters of the lake and the sector of reedbeds and salt flats situated to the northeast of Las Salinas de San Pedro, defined by a strip of 200 m breadth where the drainage canal leaves the salt pans, from its intersection to the north with the urban soil of El Mojón, to its union - to the south - with the prolongation of the western limit of the public plot of land of "El Saladar", following through the southern limit of this up to its contact again with the salt pans canal.