

## Future scenarios Mar Menor

Mar Menor, Spain

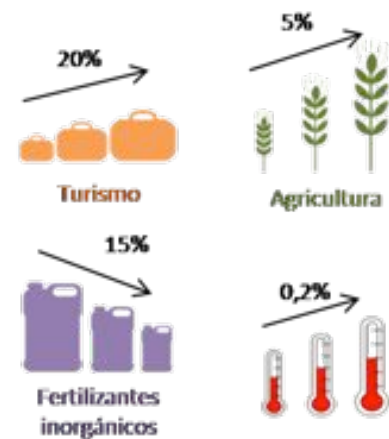
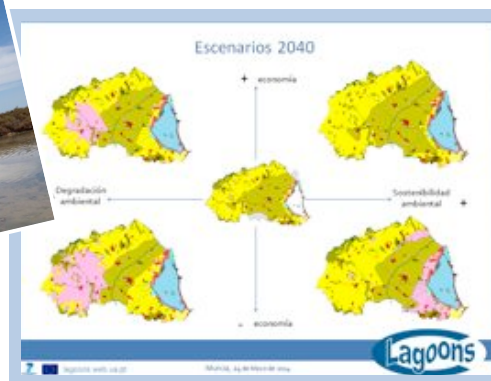
24th May, 2014

*Autores: Carolina Bello, Javier Lloret, Arnaldo Marín*

### Background

The Mar Menor is one of four coastal lakes considered in this international project and together with the Ria de Aveiro (Aveiro), the Vistula Lagoon (Poland and Russia) and Lake Tyligulskiy (Ukraine), Norway, Germany and the UK are also involved as partners in the project.

The aim of the project is the Integrated management of coastal lagoons, which involves not only scientists and policy makers but also the general population from the point of view of the Mar Menor and activities, practices and customs that develop around the lagoon. The results are presented in Technical Summary highlight the importance of public participation in the management of coastal lagoons, the importance that users be heard and their participation in the efforts to influence locally.



## Framework

The workshop was attended by a diverse group of participants, composed of residents of the Mar Menor, researchers, business people in the area and representative of other entities (IEO). This multiplicity of views and opinions to enrich the discussion allowed. We contacted participants via email and announcements to advertise the event. We also got in touch with participants from previous workshops (working groups and Citizen Jury).

The workshop involved 17 people. The majority were resident citizens of the municipalities that make up Mar Menor and Murcia city. The workshop reflects the great heterogeneity of connections and uses they made of the Mar Menor.

The workshop followed the agenda presented in Table

**Tabla 1. WS Program Future Scenarios, Mar Menor**

Schedule	Program
09:30 – 09:45	Reception of participants
09:45 – 10:15	Introduction - LAGOONS Project presentation. - Presentation of objectives
10:15– 11:15	Scenarios presentation .
11:15– 11:45	Coffee break
11:45– 13:00	Scenarios discussion and participants recommendations
13:00– 13:30	Questionnaire
14:00	Lunch



1.

**Figure 1. Javier Lloret, member Mar Menor team**



**Figure 2. Carolina Bello, member Mar Menor team**

## Opening session

The workshop started with the presentation of LAGOONS project, its objectives and the importance of the participation of key players at certain times of the project. This session also included a presentation of the methodology used for the elaboration of the scenarios for 2030, as well as the assumptions and the results of each scenario, taking into account the socio-economic trends (Fig. 3, vertical axis) and environmental (Fig. 3, horizontal axis).



Figure 3. Socio-economical scenarios 2030

The main objective of this workshop is related to the different scenarios proposed by the project, discussion with users and key players of the Mar Menor in order to establish a joint vision of the desirable scenario for the Mar Menor and the measures, actions and strategies to be taken in order to achieve it.

Posters of each scenario of the Mar Menor in 2030 and the corresponding narratives were presented. All participants were provided a dossier with all maps, narratives and then discussed with the entire group.



Figure 4. Posters with the different scenarios 2030

During the session the knowledge and perception of the inhabitants of the Mar Menor area was recorded. A number of issues related to the Mar Menor were discussed, its changes, current management and other topics. In this session are drawn major future recommendations according to their individual perceptions and / or collective.

## PARTICIPANS RECOMENDATIONS

The participants proposals have been grouped into five fields:

### AGRICULTURE

- ▶ Location several green filters, preferably in agricultural areas close to wetlands through land purchase and subsequent transformation, as set naturalized wetland. One of them should be located in the areas close to the end of Albuji3n wadi.

- ▶ Participants suggested reinvestment of profits of agriculture in waste management (debug, environmental management, etc.).
- ▶ Also they indicated water purification at farm level as part of their duties.
- ▶ Statement of agricultural areas bordering the protected lagoon shores as "Protected Landscape" and develop a plan agri-environment improvement throughout the agricultural area of Campo de Cartagena which drawing water towards the Mar Menor. It also should establish limits of chemicals use in intensive agriculture and facilitate their transformation to integrated farming systems.
- ▶ Implementation of labor techniques and vegetation screens to prevent excessive erosion of Campo de Cartagena, in order to reduce the silting of the lagoon and the loss of depth.
- ▶ Adoption of measures for the protection of agricultural landscapes to avoid la proliferation from non-farming infrastructure such as industrial estates y warehouse, at least in the



areas close to protected areas.

Figure 5. Participants group during discussion.

## NATURAL AREAS

- ▶ Participants proposed more environmental education and to promote awareness of this unique space at all levels of the population (in schools, neighborhoods, universities, tourists).
- ▶ Berth visiting points for areas with environmental interest as Grossa and Farallón Islands to facilitate boats dropping anchor.
- ▶ It is necessary to improve monitoring and control of diving in protected areas.
- ▶ It was also suggested to increment of surveillance and control of natural areas. They underlined specific measures for Calblanque and Salinas de San Pedro.
- ▶ Participants recommended the final approval of Natural Resources Management Plan of "Open areas and Mar Menor and Cabezo Gordo de Torre Pacheco Islands" and its corresponding "Governing Use and Management Plan".
- ▶ Adoption of appropriate management plans with different protection of Natura 2000 network and UNESCO of Mar Menor surrounding
- ▶ Complete the survey and post signage of the public domain in the Mar Menor basin.
- ▶ Restoration of Public Domain Land and Maritime Public Water (including the

demolition of illegal buildings) both inside and outside protected areas.

#### FISHERIES MANAGEMENT OR MARITIME DOMAIN

- ▶ Regulation of fishing and recreational boating (jet skis and boats): Regulating the funding, access and types and number of ports
- ▶ Comprehensive program for the management of shipping and ports instead of having each locality port.
- ▶ Changing the type of ports. Remove jetties pontoons to replace them supported by pillars and skirts that reflect and attenuate wave system that allows water circulation.
- ▶ Penalties for illegally moored boats.
- ▶ Quick removal of abandoned boats.
- ▶ Creating daily access areas with parking and a ramp or jetty for boats with trailers.
- ▶ Installing dry marinas.
- ▶ Cleanups seabed. Removing thousands of anchor.
- ▶ Control of illegal fishing by developing joint actions between the State Government and the Autonomous Community of the Region of Murcia.
- ▶ Management and marketing of Fisheries products.
- ▶ Control of jellyfish in swimming areas.

- ▶ Statement of marine protected areas or restricted to the preservation of habitats and



species of interest and uniqueness uses.

Figure 6. Participant full filling the questionnaire

#### WATER MANAGEMENT

- ▶ The main recommendation was to apply zero discharge to Mar Menor basin.
- ▶ Redirect discharges to Mediterranean sea through outfall San Pedro or projected into the spillway pipe wastewater treatment plant south in Cala Reona (Cartagena). It should be a controlled and responsible discharge.
- ▶ Improved prediction and control of water quality. Increase analysis, according to the Water Framework Directive. Eliminate discharges of emerging substances as drugs and hormones.
- ▶ Having some of the resources of the aquifer for irrigation thus reduce its discharge in the Mar Menor
- ▶ Green filters (wetlands) in areas of culture to retain runoff waters.



- ▶ Uptake of surface runoff from mining tailings areas and La Unión.
- ▶ Install management system for collecting waste, bilge water and blackwater from ships in ports. This service would prevent vessels discharged waste directly to the harbors
- ▶ Determination of specific competences for each agency tied to Mar Menor management.
- ▶ Coordination between government and surveillance.
- ▶ Single liaison office for Mar Menor with skills and financial means to expedite troubleshooting.
- ▶ Bottom-up planning (creating a specific management bodies of the Mar Menor ( Association of Municipalities).
- ▶ Zoning beaches. To narrow spaces reserved for swimmers and water sports equipment.
- ▶ Opening a Civil Guard base. Currently there is no checkpoint dedicated entirely to the Mar Menor.
- ▶ The body under MAGRAMA basin must adopt a concrete program with appropriate and effective measures to prevent overexploitation of the water body multilayer aquifer of Campo de Cartagena. It should prevent illegal deposits and exemplary punishment of the detected extractions. Review concessions. This is competence of river basin organisation, which

must be supported by the available scientific knowledge.

- ▶ Perform an update on the discharge of brines in the basin of the Campo de Cartagena, where several hundred small desalination plants have been installed for agricultural use, principally in order to detect magnitude of the problem and propose solutions and implement effective study.
- ▶ Regarding this issue, channeling brine discharges into artificial wetlands could contribute to the purification of water, on one hand, and the recovery of biodiversity on the other hand.

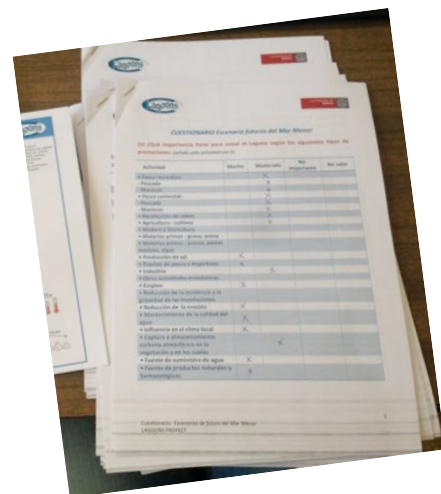


Figure7. Questionnaires related to the workshop

## TOURSIM

- Paradigm shift based on the conversion of tourism in an efficient and appropriate model system capacity. Urban recycling.
- Construction of boardwalks especially target for La Manga.
- Improving urban model in La Manga. They want to fix the imbalance between the dominance of the few houses and hotel rooms. Since almost all the space is filled, it is recommended reclassifying parcels already built destined for hotel use.
- Acting Public Interest purchase and expropriation of urban land in La Manga del Mar Menor. In this action the demolition of some buildings is included in the areas with more potential for sand recovery, prioritizing especially those bordering on the last stretches of undeveloped beaches yet.

## Acknowledgement:

The University of Murcia and the Mar Menor team want to thank the collaboration of the participants. Thank you for your motivation and interest in working in these Discussion Groups.

- ANSE Association
- Residents' association Playa Paraiso
- Estación Náutica Mar Menor-Cabo de Palos
- Water Observatory, UMU
- Marine Excursions, Solaz Lines
- Spanish Oceanographic Institute (IEO)

Thanks also for the great symbols designs provide by Lisa Sousa from University of Aveiro (Portugal) and Ria de Aveiro Team also from University of Aveiro (Portugal) for the posters layout.

The authors would like to also thank Sue Baggett and Geoffrey Gooch from University of Dundee (Scotland, UK), for the wonderful work they have done in storyline wording and extrapolation the information to quantified scenarios.



Figure8. Lunch with participants group.



The **Lagoons Brief** series translate the results from the project into practical and useful information for policy makers and water managers.

The Briefs are also available online: <http://lagoons.web.ua.pt/>

### Title of project:

*Integrated water resources and coastal zone management in European lagoons in the context of climate change*

**Contract number:** 283157

**Start date of project:** October 2011

Duration: 36 months

*Project funded by European Commission within the Seventh Framework Programme (2007-2013)*

### Disclaimer

*The information provided and the opinions given in this publication are not necessarily those of EC. The authors and publisher assume no liability for any loss resulting from the use of this report.*