



From four “hotspot” lagoons to pan-European lagoons management: Lessons learnt so far from the FP7 LAGOONS project

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<http://www.euronews.com/2013/03/25/lagoons-under-the-microscope/>



SedNet Conference 2013 , Lisbon, Portugal

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

Project Coordinators: **Ana Lillebø**, University of Aveiro - Portugal
Per Stålnacke, Bioforsk - Norway

Total Cost: 3.3 M €

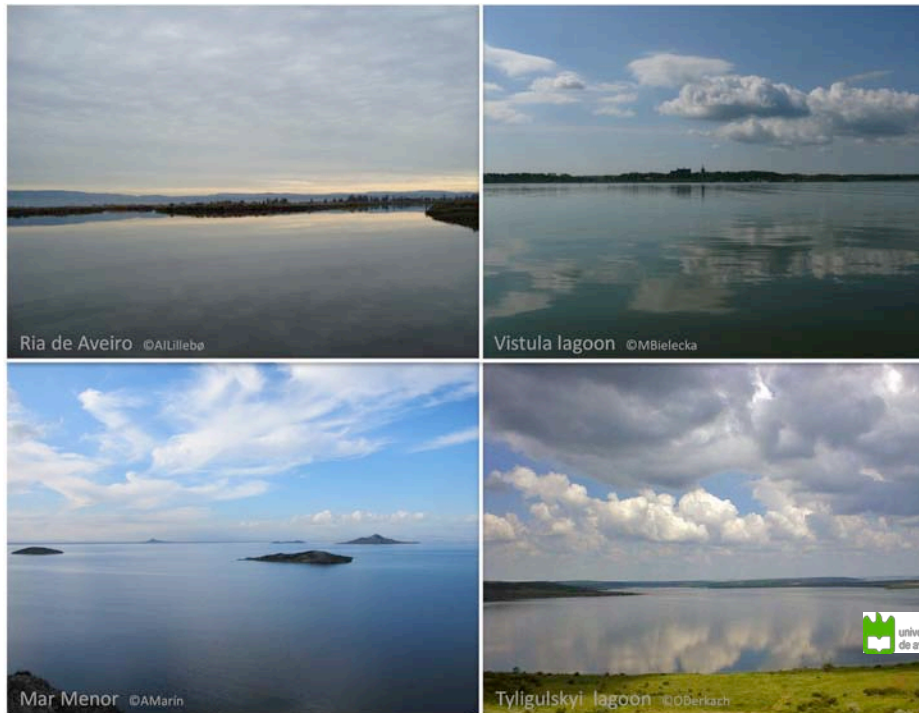
Start Date: October 2011

EC Contribution: 2,5 M €

Duration: 3 yrs

Project Web Site: lagoons.web.ua.pt

9 partners and 4 CASE STUDY LAGOONS



PROJECT OBJECTIVES

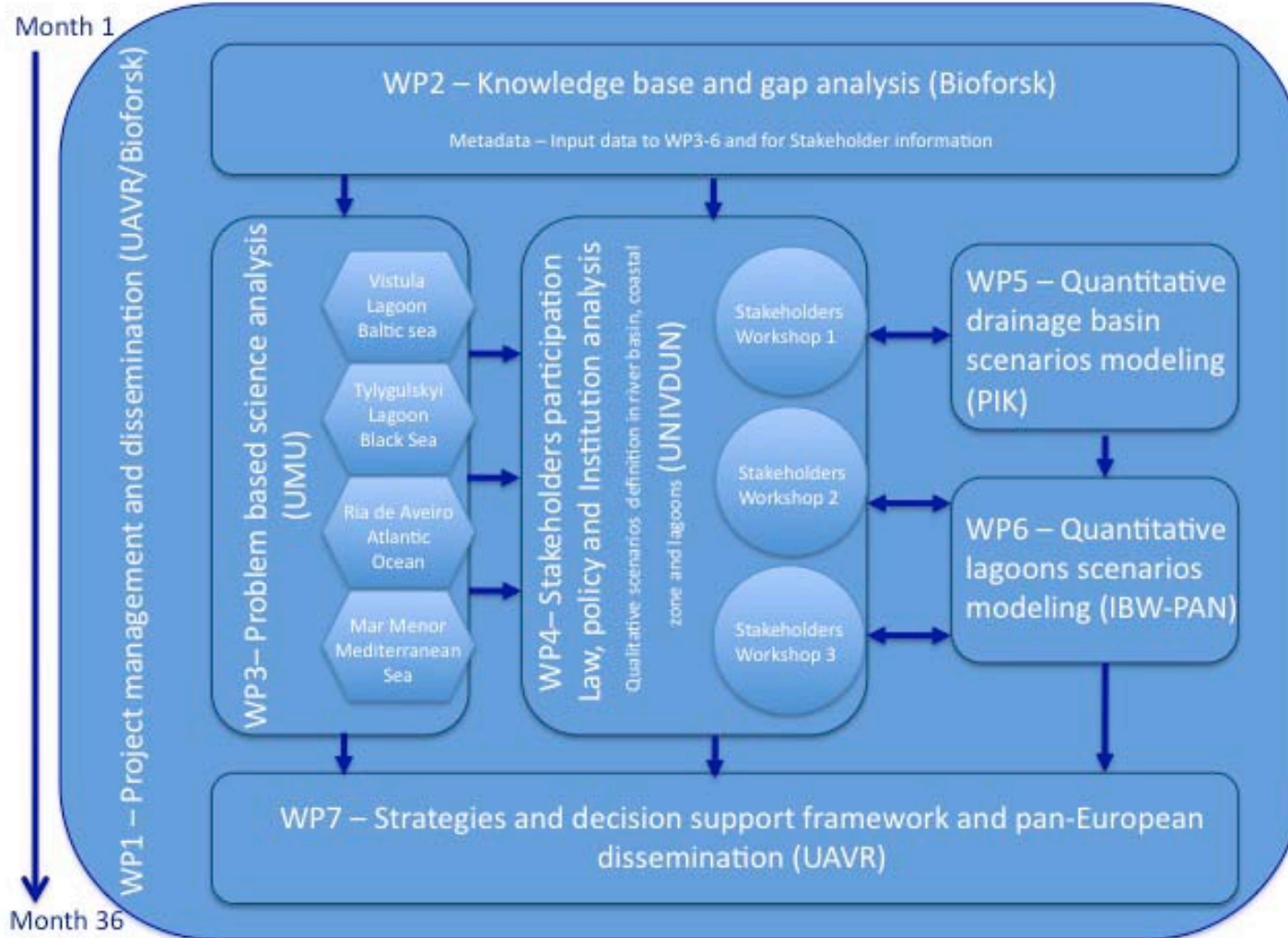
- The main and overall objective of the LAGOONS project is to develop science-based strategies and decision support frameworks for the integrated management of lagoons, based on an increased understanding of **land-sea** linkages processes and the **science-policy-stakeholder** interface in the context of **climate change**.
- The project will seek to contribute to interface between:

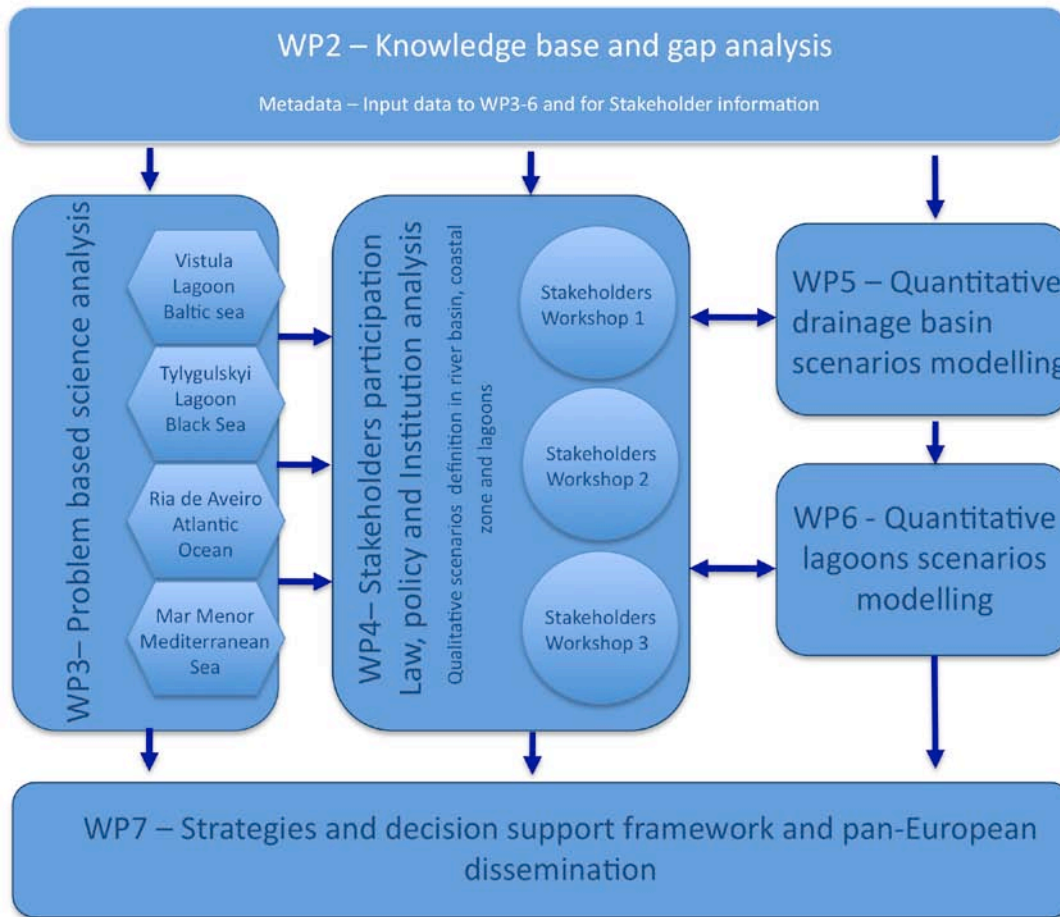
LAGOONS will propose actions foreseen in the goals of the Europe 2020 strategy

Marine Strategy Framework Directive (Directive 2008/56/EC)

Integrated Coastal Zone Management (ICZM) (COM(2007)308 final, 7.6.2007)

WFD (Directive 2000/60/EC)





WP2 – Knowledge base

WebGIS - Lagoons Knowledge base
Your source to descriptions of maps, data, models and reports from the Lagoons project. Choose a lagoon by clicking on it's image to the right.

Case Study Areas → [Vistula] [Tyligulskyi] [Mar menor] [Aveiro]

Available data → [Spatial data, Background map, Aerial map, Streetview, Land cover, Habitats, Time series, Management data]

Case Study Area information (example: Ria de Aveiro) → [Aveiro Lagoon details, Available data, Model overview, Reports and papers]

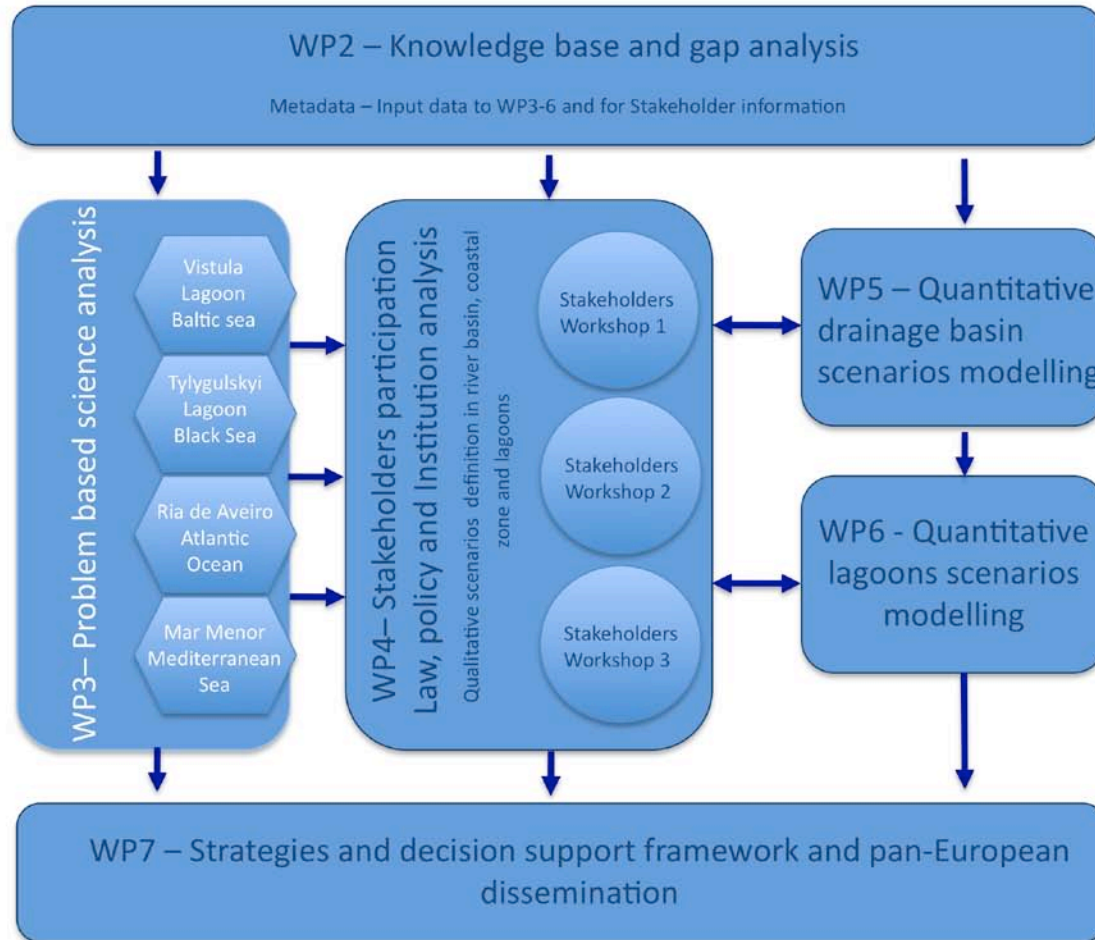
Technical Brief [Lagoons Technical Brief - The Ria de Aveiro Lagoons, Portugal]

Report [Lagoons - The Ria de Aveiro Lagoons - Current knowledge base and knowledge gaps]

	VISTULA	TYLIGULSKYI	RIA DE AVEIRO	MAR MENOR
HYDROLOGICAL	Hydrological monitoring is not sufficient for modelling	Lack of hydrological and hydro-chemical data	Need to identify the impacts resulting from the changes in the system's tidal prism and water velocity	Hydrological monitoring is not sufficient for modelling
ENVIRONMENTAL	Environmental monitoring is not sufficient for modelling; lack of sediment/water interactions studies	Hydroecological observations were sporadic	The protection of Ria de Aveiro's natural and cultural capital is considered insufficient	A better understanding of the interactions between changes in the watershed and their consequences on the lagoon
ECOSYSTEM SERVICES	Need to enhance a more holistic approach regarding eutrophication, fisheries and natural protection	Need to enhance model's ability to describe the lagoon ecosystem under natural and anthropogenic forcing	Need to enhance the collaborative research in order to identify and value the provided ecosystem services	The consequences of CC in the area and the possibility of aggravated eutrophication needs to be addressed
SOCIAL	Solutions to unemployment and outflow of young people problems	Unconscious and uninformed in respect of environmental protection and conservation	Increase the knowledge about the evolution of the lagoon as a social-ecological system	Seasonal increase of the tourist population
MANAGEMENT	Effective methods for local and cross border environmental management	Modern environmental management systems are lacking	Need to integrate on the lagoon management system its resilience and adaptability to human and natural change	Need to integrate on the lagoon management system its resilience and adaptability to human and natural change.
STAKEHOLDERS INVOLVEMENT	Application of mechanisms for active participation of stakeholders	The location of the lagoon in the territories of two administrative units (Odessa and Mykolaiv regions)	Application of mechanisms for active participation of stakeholders in the decision-making process	Application of mechanisms for active participation of stakeholders in the decision-making process
EQUIPMENT & DATA	Knowledge gaps in soils properties; CLC database does not cover Russian territory; data gaps regarding the catchment area and the lagoon	There are no stationary hydrometeorological stations or monitoring sites. The census data are old.	There are data gaps regarding the catchment area and the lagoon; No stationary hydroecological stations	Insufficient number of stationary hydroecological monitoring stations in the main wadis.

WP2 – Gap analysis across all case lagoons

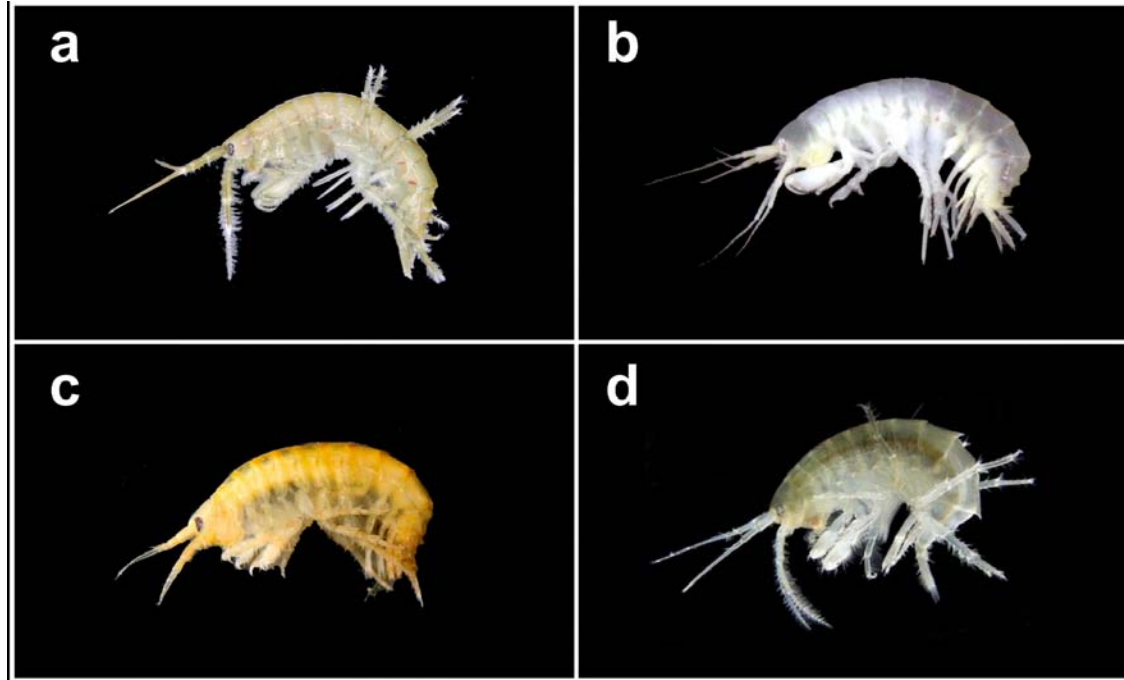
- **i)** Improve the number of meteorological and/or eco-hydrological monitoring stations in the lagoons and/or in the respective catchment area;
- **ii)** Application of effective methods for environmental management, including its resilience and adaptability to human and natural stressors;
- **iii)** Increase the knowledge about the evolution of the lagoons as social-economic and ecological systems;
- **iv)** Application of mechanisms for active participation of stakeholders including “ordinary citizens”, in the decision-making process.



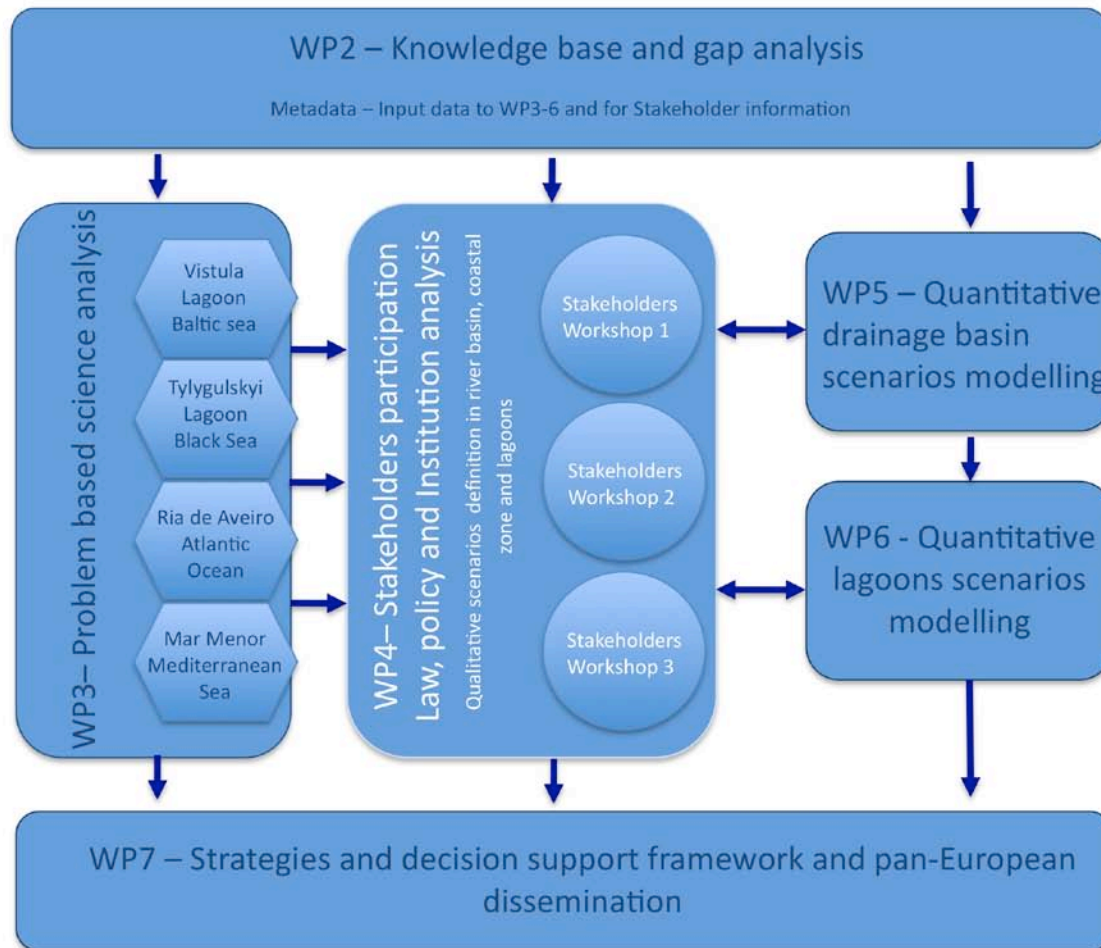
Species level approach: Amphipod toxicity bioassays

Assess the impact of contaminants in costal lagoons in the context of
Climate change

WP3— Science analysis

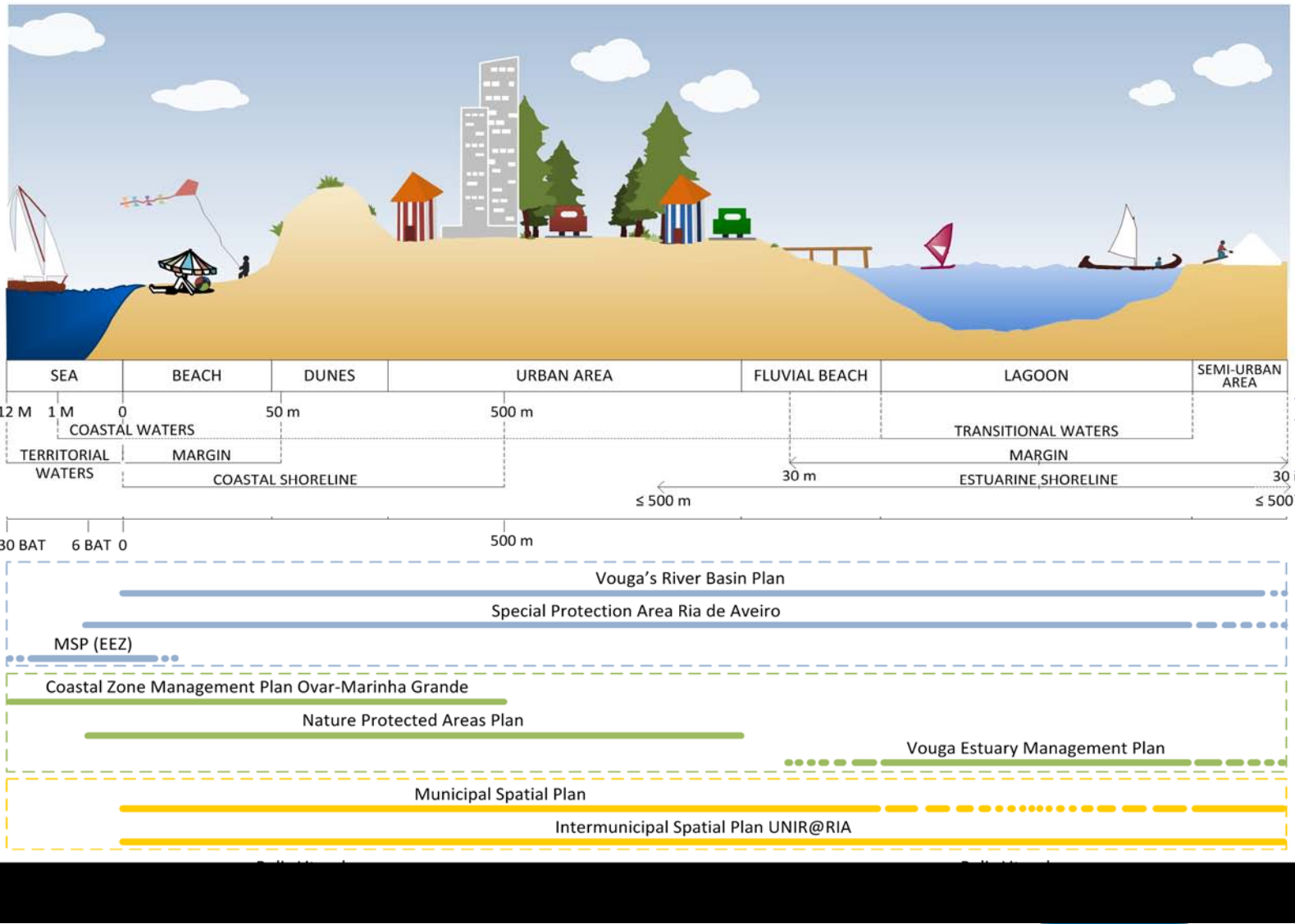


a) *Gammarus chevrenxi* (Aveiro); b) *Gammarus aequicauda* (Mar Menor);
c) *Pontogammarus robustoides* (Tyligulskiy); d) *Gammarus duebeni* (Vistula)



RIA DE AVEIRO

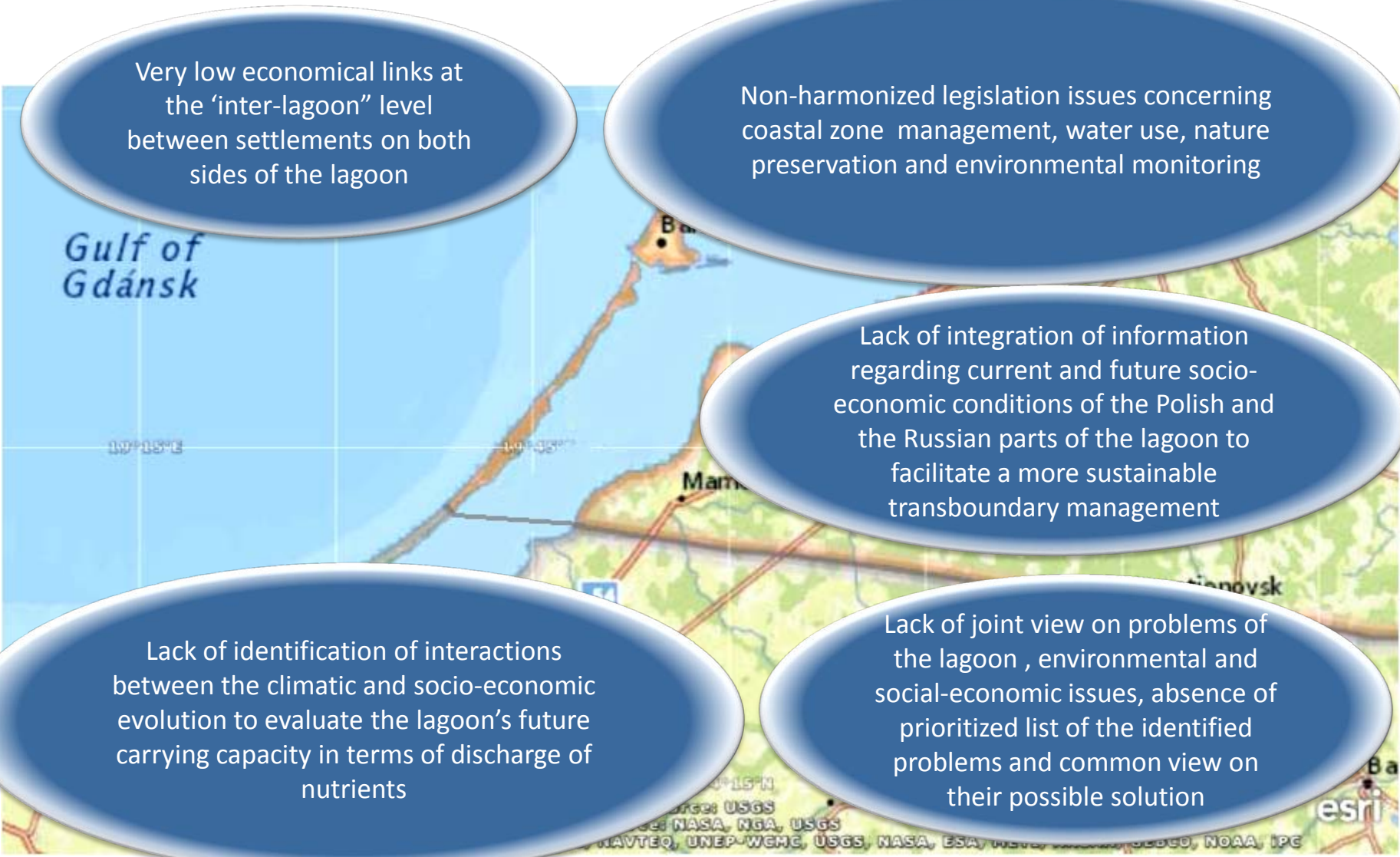
WP4—Law, policy and Institution analysis



Hydrological domain

Territorial management tools



A map of the Gulf of Gdansk, showing the coastline between Poland and Russia. The map includes labels for 'Gulf of Gdansk', 'Bałtyk', 'Marianka', and 'Gdynia'. A red line indicates a boundary or path along the coast. Four blue callout boxes are overlaid on the map, each containing text about environmental and socio-economic issues. The map also shows latitude and longitude coordinates and a grid.

Very low economical links at the 'inter-lagoon' level between settlements on both sides of the lagoon

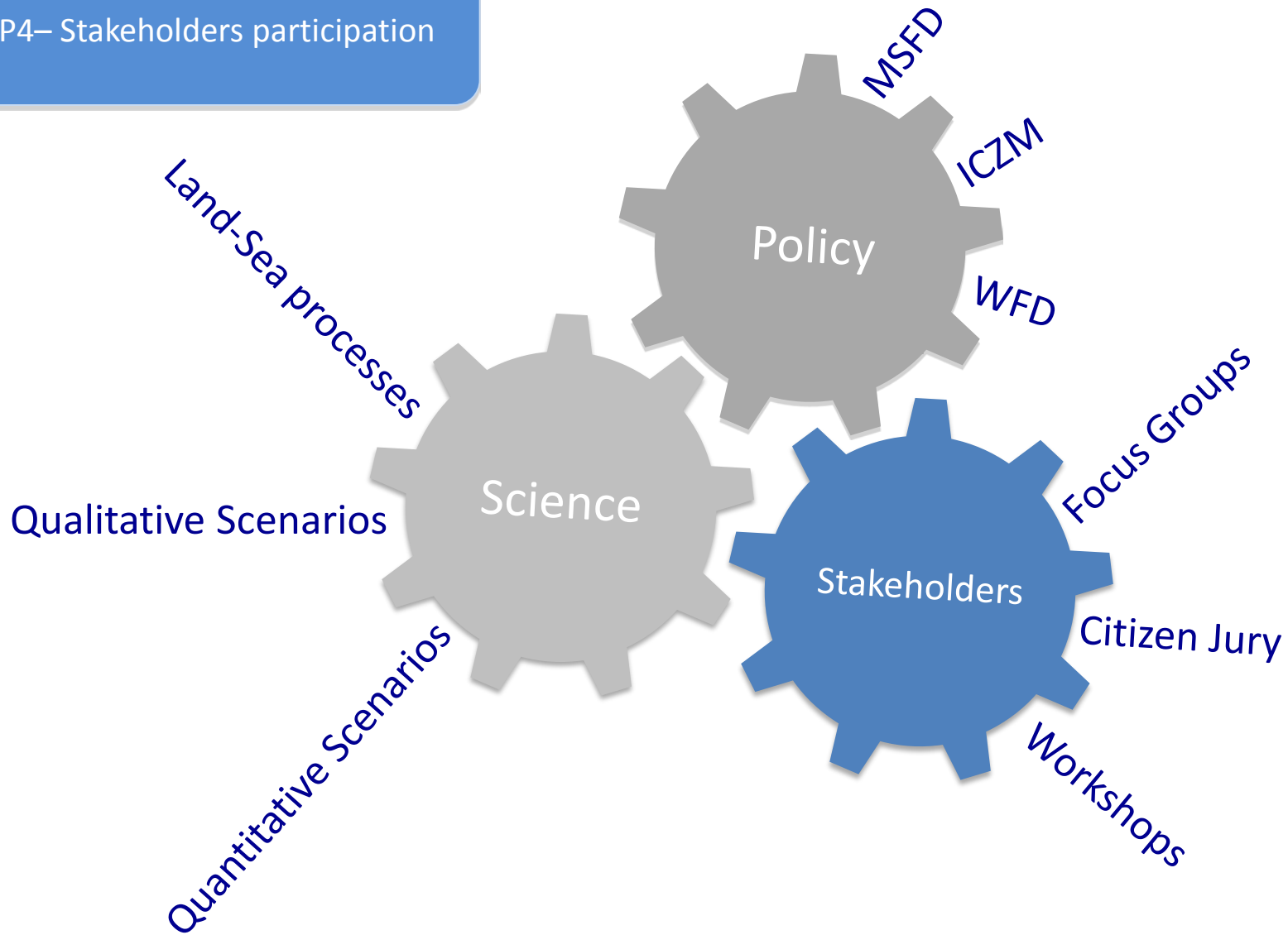
Non-harmonized legislation issues concerning coastal zone management, water use, nature preservation and environmental monitoring

Lack of integration of information regarding current and future socio-economic conditions of the Polish and the Russian parts of the lagoon to facilitate a more sustainable transboundary management

Lack of identification of interactions between the climatic and socio-economic evolution to evaluate the lagoon's future carrying capacity in terms of discharge of nutrients

Lack of joint view on problems of the lagoon, environmental and social-economic issues, absence of prioritized list of the identified problems and common view on their possible solution

WP4– Stakeholders participation



WP4– Qualitative Scenarios

Identify main drivers and concerns through group discussions with stakeholders and the public in Focus Groups

Use results to formulate qualitative scenarios and storylines and to identify relevant areas of expertise

Use Citizen Juries to refine scenarios

WP4– Qualitative Scenarios

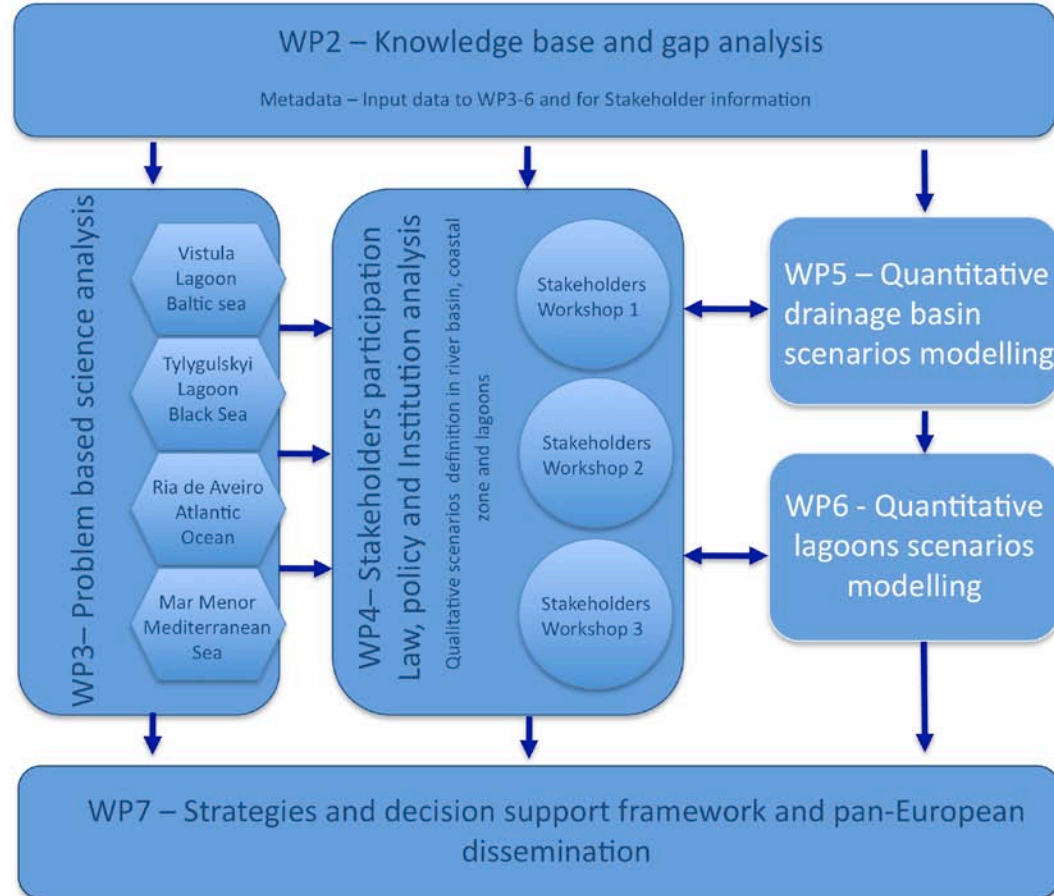
Use socio-economic data to quantify storylines

Combine socio-economic and water quality and quantity data in models

Use results to present quantified storylines in final workshops

WP5 – Quantitative drainage basin scenarios modelling

WP6 - Quantitative lagoons scenarios modelling



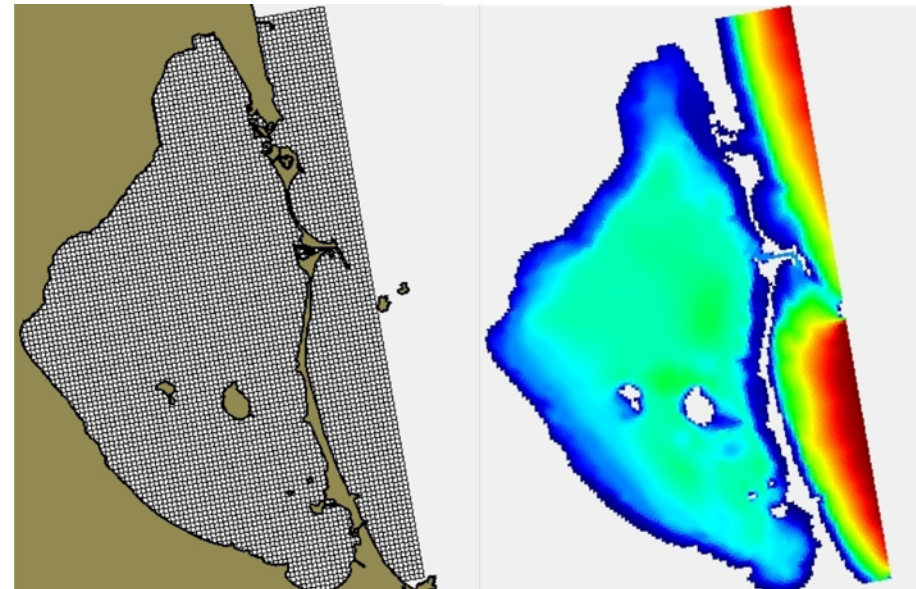
WP5 – Quantitative drainage basin scenarios modelling

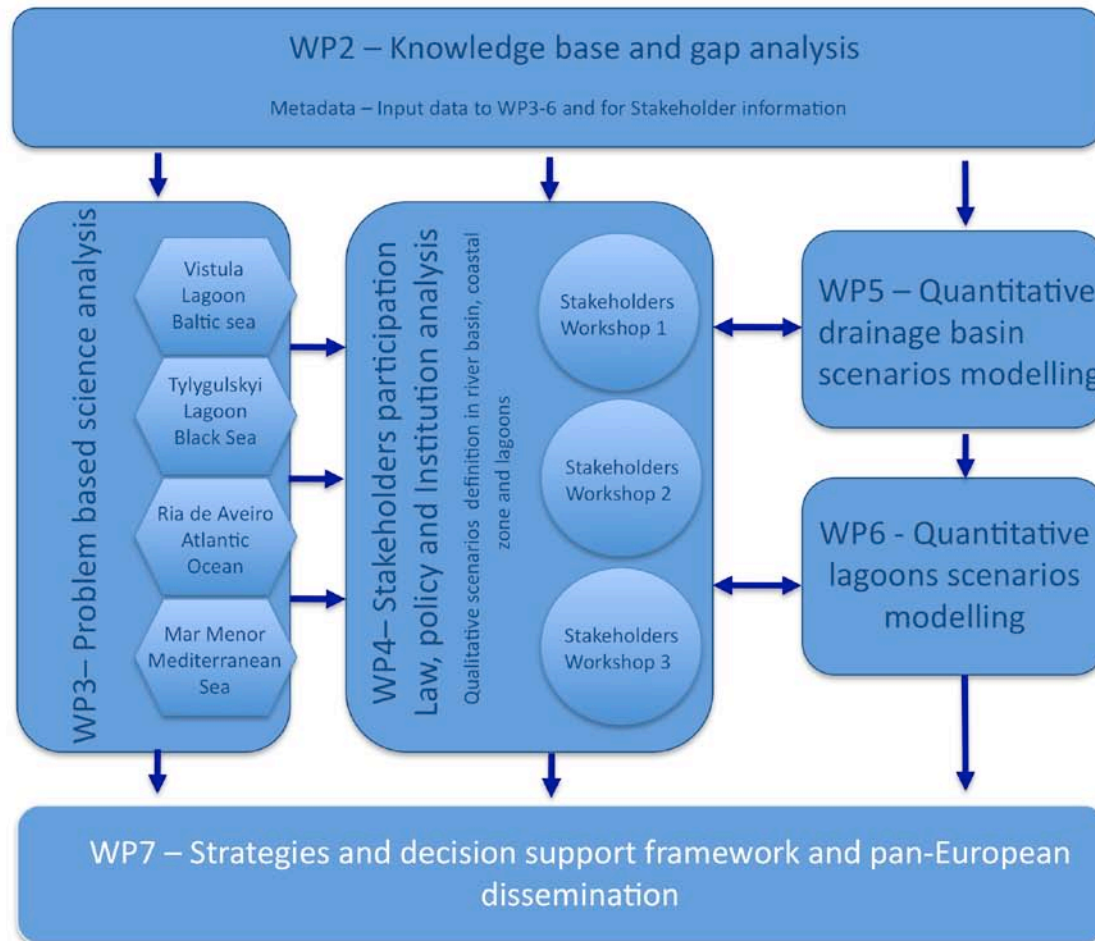


WP6 - Quantitative lagoons scenarios modelling

Albujón catchment: SWIM model

MOHID water modelling system





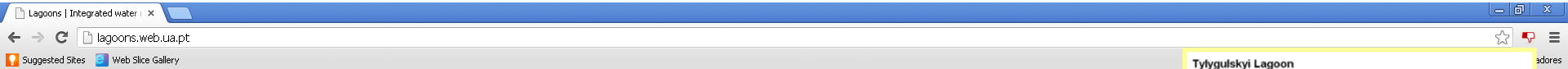
integrated and participatory scenarios



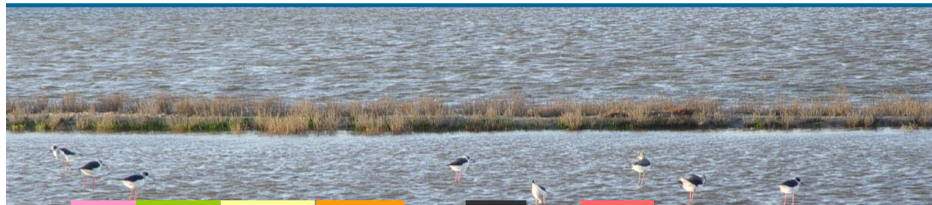
LAGOONS
Pan-European approach



Where to know more about LAGOONS?



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



LAGOONS at the ICWRER 2013 conference

Posted on [March 12, 2013](#) by [admin](#)

The experiences and project results will be presented at the ICWRER 2013 – Water & Environmental Dynamics in Koblenz, Germany, 3-7 June 2013. The title of the oral presentation is “Lessons learnt from integrated and multi-disciplinary research on coastal lagoons and water management” and will be given by the co-coordinator Per Stålnacke from Bioforsk.

[Conference website](#)

Posted in [Uncategorized](#) | [Comments Off](#)

Support material for Ria de Aveiro Citizen Jury

Posted on [February 27, 2013](#) by [admin](#)

The University of Aveiro team has now prepared the material (flyers and poster) explaining what is a ‘Citizen Jury’ and why it is important to have the community involved.



Tyrgulskiy Lagoon

- Case study area description and end users**
The Tyrgulskiy Lagoon (its local name is Tyrgulskiy Liman) is located at the north-western part of Black Sea coast between the Cape of Adzhisk and Odessa Bay. It is separated from the sea by wide sandy isthmus with 4.6 km length and 0.3–4.1 km width. An artificial canal with 15–25 m width and 2 m deep joins the lagoon and the sea. However the canal functions occasionally because it is intensively filled with sand from the sea.
[Read full description Factsheet_Tyrgulskiy-CSA \(98\)](#)
- Spatial Planning and Governance**
At present, the implementation of Water Framework Directive in Ukraine is in an initial stage. As for the Tyrgulskiy Lagoon and its catchment basin, WFD's basic requirements such as the implementation of basin management model for catchment, river basin management plans, and programmes for the monitoring of water status are absent.
[Read full description Factsheet_Tyrgulskiy_Governance \(98\)](#)
- Socio-economic and policies issues**
The Tyrgulskiy Lagoon is located on the territories of two southern regions of Ukraine. Its axis line coincides with the administrative border between the Kominternovo and Beresovka districts of Odessa region and Berezanka district of Mykolajiv region. The drainage basin area is 5,420 km² with a population of 127,800 inhabitants. The major components of economics in the basin of Tyrgulskiy Lagoon are the agriculture, recreation and transport. The long distance pipelines – ammonia pipeline Togliatti-Gorlova-Yuzmoie, gas pipeline Shebelinka-Odessa, and oil pipeline Kherson-Stegirevka-Odessa – cross the basin of lagoon.
[Read full description Factsheet_Tyrgulskiy_Socioeconomic_and_policies \(98\)](#)
- Pictures**
Pictures of Tyrgulskiy Lagoon available [here](#).



Calendar

LAGOONS

Collaboration with EU projects

- ARCH
- ARTWEI
- CONSIDER
- EcoWeb
- Environmental NCP together
- KLIMAT
- MOMENT
- STREAM
- WFD CIS PFI

Facebook

- Facebook

Links

- 1. University of Aveiro
- 2. BIOFORSK
- 3. IBW-PAN
- 4. ABIORAS
- 5. SFI
- 6. JUNIVDUN
- 7. OSENU
- 8. PIK
- 9. UMMU
- CESAM
- Cordis
- European Commission
- FP7 Environment

About

The environmental issue of concern of the LAGOONS project is the anthropogenic deterioration and climate change impacts (especially the effects of extreme weather event) on surface water and lagoons ecosystems.

The main objective of the LAGOONS project is to contribute to a science-based seamless strategy – in an integrated and coordinated fashion – of the management of lagoons seen under the land-sea and science-policy-stakeholder interface; i.e., the project seeks to underpin the integration of the EU Water Framework Directive, Habitat Directive, the EU's ICM Recommendation, and the EU Marine Strategy Directive.

Partners

universidade de aveiro
The University of Aveiro (UA) is one of Portugal's 14 public universities. Founded in 1973, has grown into a successful, dynamic and competitive institution. Integrated in the community and regions, has a strong research dimension and offers a wide range of educational programmes, from post-secondary vocational to doctoral programmes. Committed from the start to innovation, quality and the attainment of national and international recognition in the pillars of Education, Research and Cooperation with Society, UA has built a profile based on sciences and technology and on pioneering areas. The Centre for Environmental and Marine Studies (CESAM) – Associated Laboratory of the University of Aveiro – has as its fundamental mission to develop research in the coastal and marine environment, integrating the atmosphere, biosphere, hydrosphere, lithosphere and soil sphere.
[LAGOONS TEAM AT UA](#)

Bioforsk
The Norwegian Institute for Agricultural and Environmental Research – is a National R&D institute under the Norwegian Ministry of Agricultural and Food. The main areas of competence are linked to food quality and safety, agricultural and rural development, environmental and water protection and natural resources management. Bioforsk has a staff of about 2000.
[LAGOONS TEAM AT BIOFORSK](#)

IBW PAN
IBW PAN, employing ca. 50 people, covers fundamental and applied research in marine and inland water engineering, coastal engineering, soil mechanics and foundation, geotechnics, geo-mechanics and environmental engineering. Theoretical studies are supplemented with extensive laboratory and field investigations.
[LAGOONS TEAM AT IBW-PAN](#)

ABIORAS is a regional branch of governmental non-profit research institute under Russian Academy of Sciences, 450 employees (210 permanent and 240 ship crew), founded 11 of October, 1961. Abioras conducts independent basic and applied researches on integrative study of the Baltic Sea (as well as coastal waters and coastal zone) as an enclosed sea in the Atlantic Ocean. The Laboratory for Coastal Systems Study (16 researchers including 11 PhDs and 4 engineers) will be responsible to participate in the project. Its main activities are in physical, sedimentological

Deliverables

Jan. 2013 | Technical Briefs available in five languages
[Technical Brief_Mar_Mexico_BI \(ca\)](#)
[Technical brief_Ria de Aveiro_PT \(ca\)](#)
[Technical Brief_Tyrgulskiy_Ukr \(ca\)](#)
[Technical brief_Vandulskiy_Lagoon_PT \(ca\)](#)
[Technical brief_Vandulskiy_Lagoon_RU \(ca\)](#)

Dec. 2012 | Deliverable 6.1 – Hydrodynamic and water quality models (rev.)
[Deliverable 6.1 - Hydrodynamic and water quality models - rev. \(ca\)](#)





Thank you

