

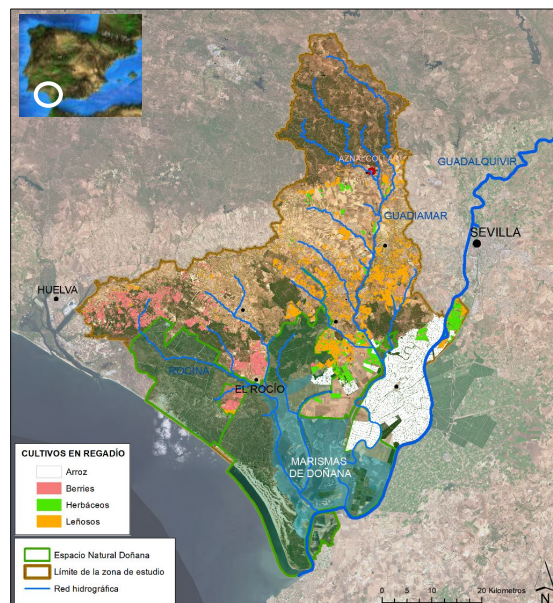
Project pilot Areas: Doñana (Spain)

ADDRESSING THE SUSTAINABILITY OF AGRICULTURE AND ECOSYSTEM SERVICES IN THE DOÑANA REGION

The pilot area includes the Doñana marshlands, one of the most valuable wetlands in the Mediterranean region, being the wintering site for more than 500,000 waterfowl each year. Moreover, the region is the largest berry producer and one of the essential rice cultivation areas across Europe. Climate change and intensive use of resources are seriously compromising the sustainability of irrigated agriculture and the conservation of the environmental heritage of Doñana. Novel and holistic solutions and approaches are required to ensure the resilience of the whole agro-ecological system.

GENERAL CHARACTERIZATION

- ✓ The pilot area encompasses the Doñana National and Natural Parks as well as the cultivation areas sharing water resources (i.e., surface and groundwater) with the Doñana natural space.
- ✓ **Location:** South-West of the Iberian peninsula, within the Andalusia region.
- ✓ **Main economic activities:** Agriculture and (eco)tourism.
- ✓ **Area:** 3,700 km².
- ✓ Doñana is a UNESCO World Heritage site because of its exceptional value for in situ conservation of biological diversity.
- ✓ More than 8,500 ha of berries, 23,000 ha of rice and 15,000 ha of woody crops are irrigated in the Pilot area.
- ✓ The official Drought Emergency Plan is currently activated.



LENSES GOALS

Contribute to improving water resources management by creating a systemic view to help address Nexus challenges:

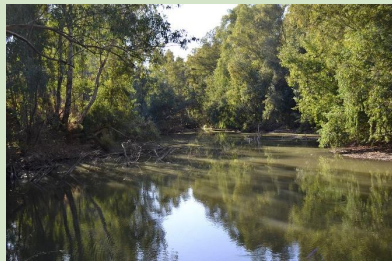
- ✓ Sustainable high-value agricultural activity in a context of water scarcity exacerbated by climate change.
- ✓ Better adaptation to more frequent and intense droughts.
- ✓ Guaranteeing ecological services (i.e., provision, regulation, cultural) from Doñana natural space, currently limited by a decrease in rainfall and water contribution.
- ✓ Improved water allocation between competing activities.
- ✓ Identification of consensus desired futures.

HOW WILL LENSES WORK?

Considering all the targets, the priority actions being implemented in Doñana focus on identifying strategies to overcome existing challenges. Our approach is based on the elaboration of PARTICIPATORY SCENARIOS and PATHWAYS towards increased system resilience and enhanced sustainability of the Water-Ecosystems-Food systems.

Through participatory scenarios, we understand the result of adding: (1) Consensus visions (i.e., desired futures) and descriptive narratives for these visions. (2) A validated explanatory model (i.e., a Participatory System Dynamic Model) provides a basis for quantitative analysis and simulates and visualises scenarios that help steer the stakeholder discussion for consensus visions.

By pathways, we understand a well-defined set of suitable policy actions that can potentially lead to desired scenarios (visions). This participatory approach is supported and builds upon LENSES solutions: climate risk assessment, water accounting and water balance simulations, and the identification of suitable NBS bundles.



FUTURE PERSPECTIVE “CALL TO ACTION”

“Doñana is a singular area facing complex and impending challenges, exacerbated by climate change. LENSES adopts a strongly participatory approach and a holistic perspective for improving the understanding of interactions (trade-offs and potential shared benefits) among water allocation, ecosystem services, food production and climate adaptation. The setting of this common ground will allow building suitable scenarios strengthening the system resilience and clear pathways to reach these scenarios.”

Ecoadapta Team



COUNTRY PILOTS REGIONAL TEAM



ECOADAPTA is a non-profit organization with the objective of promoting the advancement of knowledge-transfer on climate change adaptation and the action towards sustainability and increased resilience of socio-ecological systems.

