

XIV MEDECOS & XIII AEET meeting

Human driven scenarios for evolutionary and ecological changes

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Doñana: the lowlands at the mouth of Guadalquivir river

Eloy Revilla; Department of Conservation Biology, Estación Biológica de Doñana CSIC

Practical information on the trip

7:30. The bus will leave from nearby the conference venue (Calle Reina Mercedes).

8:30. Arrival at el Acebuche visitor center in Almonte, Huelva. There you can have a quick coffee or buy some souvenir related with the protected area.

9:00. Trip inside the National Park in two 4x4 busses. The trip will leave from Matalascañas entering the beach and following parallel to the dune barrier towards the SE. We will pass by Torre Carbonero tower, one of the many XVI century defensive watch towers present in Spanish coast to defend it from pirates. We will cross the dune system to reach the ecotone between scrubland and marshland or Vera. From there we will drive N to visit the Palacio de Doñana ICTS research infrastructure and the Reserva Biológica de Doñana (EBD-CSIC). If we have time, on the way back to el Acebuche we will stop at Santa Olalla lagoon, the largest in Doñana.

13:00. Back at El Acebuche. There we will take our main bus to Matalascañas, where we will have lunch.

13:30 to 15:00 Lunch in Matalascañas

15:00. Back to the bus to drive to El Rocio.

15:30 to 16:45 a quick visit to El Rocio, a picturesque village located at the North of Doñana National Park. From there we can see the northern wetlands and hopefully see some water birds.

16:45 back to Seville, where we should be arriving at 18:00

Doñana area

Doñana is a large area located between the SW of the Iberian Peninsula, at the mouth of Guadalquivir river (in the provinces of Huelva, Sevilla and Cadiz). It holds a mosaic of ecosystems, including large areas of Mediterranean scrublands, stone pine (*Pinus pinea*), cork oak (*Quercus suber*), Junipers (*Juniperus phoenicea*) and riparian forests or coastal ecosystems including the largest dune system in Spain and a long beach. Nevertheless, the most prominent ecosystems present in Doñana are its wetlands, including a large marshland and a myriad of

temporary pools and semipermanent lagoons. The area is protected by the Espacio Natural de Doñana, a figure covering about 122.000 Has divided between a core area protected by Doñana National Park and its surroundings protected by the less restrictive figure of Doñana Natural Park. The area holds a large number of species, including many associated with Mediterranean and wetland vegetation and standing out by its rich water bird communities and several emblematic species such as the Iberian lynx (*Lynx pardinus*) or the Spanish imperial eagle (*Aquila adalberti*).

The management and conservation of Doñana is complex due to the multiple human pressures affecting the area. The region includes a large human population living in the area surrounding the protected area. Historically human activities have shaped Doñana, starting with the sediment filling of the former estuary of Guadalquivir river, which in Roman times was still navigable, and generating the current marshlands. Nowadays only a small fraction of the former marshland remains, with most of it been transformed into croplands, including rice fields, along the XX century. Forest and scrubland areas have seen a strong transformation into a more intensive agriculture. This includes irrigated vegetable crops and olive plantations and underplastic berry production generating a strong demand for underground water and affecting the quality of the water reaching the park. Urban and infrastructure developments, such as Matalascañas touristic resort, are also included in the list of human impacts. In the longer term, the impact of climate change in this lowland coastal area can be profound.

Fig 1. Approximate outline of Doñana region, including the lands and wetlands south of the highway linking Seville and Huelva cities. Relevant sites for the excursion are marked.



Fig 2. Relevant sites that will be visited in the excursion to Doñana National Park and its surroundings

