

¿Tiene conocimientos u opiniones sobre cómo funcionan los programas de monitoreo en Doñana y cómo la información conduce a la toma de decisiones en la gestión del agua? Tengo curiosidad por aprender más. Por favor, no dude en ponerse en contacto a través de: ellis.dupker@wur.nl. Esta investigación de tesis forma parte del programa de gestión internacional de tierras y aguas de la Universidad de Wageningen, los Países Bajos.

Do you have knowledge or opinions about how the monitoring programs in Doñana function, and how the information leads to decision-making in water management? I am very curious to learn more! Please, don't hesitate to get in contact through: ellis.dupker@wur.nl. This thesis research is part of the MSc International Land and Water Management program of Wageningen University, the Netherlands.

How does monitoring information support integrated water management in Doñana?

European policies (e.g. the Water Framework Directive; Habitats and Birds Directives) are a key influence on environmental management practices, but their induced monitoring programs seem not to match the ideals of what is needed to support integrated management of social-ecological systems (Waylen et al., 2019). In these monitoring programs, there is a tendency to focus on understanding state and trends rather than tracing system changes after interventions; a focus on biophysical indicators in isolation at the expense of understanding the interactions that form the system, especially the understanding of social components; and limited understanding of how context affects the system (Waylen et al., 2019). In addition, it is rarely clear if and how the resulting information from monitoring programs influence local decision-making about environmental management of social-ecological systems, and why it happens that way.

The aim of this research is therefore to explore to what extent monitoring programs support local integrated management of a social-ecological system, applied to the case of water quantity and quality management of the Doñana Natural Space, southwest Spain. The Doñana social-ecological system is located in the Andalusian autonomous community in southwest Spain. The place grasps one of the largest and most iconic wetland complexes in Western Europe due to their rich biodiversity, situated in the estuary of the Guadalquivir river. However, excessive water withdrawals and sources of pollution agonize the wetland's water quantity and quality (Paredes et al., 2021). As currently Doñana's management is characterized by dispersed responsibilities, opposing political ideas, and scattered management plans and monitoring programs, conservationists and scientists call for a radical shift in land and water management towards a more holistic and integrated approach (Paredes et al., 2021; Green et al., 2017; Camacho et al., 2022).

This research seeks to build understanding about what is being monitored, how monitoring is carried out and how monitoring information influences local decision-making about Doñana's waters and why. These findings will be compared to criteria of what should monitoring ideally consist of to support integrated management. By learning from the in-depth analysis of the Doñana case study, the research hopes to contribute to the scientific literature about how monitoring induced by European regulations can be better targeted to support local integrated management of social-ecological systems.