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## PRESS RELEASE

# CSIC evaluates the risk posed by the presence of phytosanitary products in Doñana and Tablas de Daimiel

- The study, the most comprehensive to date conducted in Protected Areas of Spain, has revealed the widespread presence of pesticides, some of them banned since 2009, in both National Parks
- The compounds detected have an important environmental impact and may pose a high risk to aquatic ecosystems.



*Pesticides prohibited since 2009 by the European Union for agricultural use have been found both in water and sediment samples. Picture: Pixabay*

**Seville, 22<sup>nd</sup> July 2024.** Doñana National Park has been suffering serious drought problems for more than a decade. However, not only the quantity of water is worrying, but also its quality. This has been reflected in



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a study carried out by researchers from the [Spanish National Research Council \(CSIC\)](#), which has detected the widespread presence of pesticides in both National Park of Doñana and Tablas de Daimiel. This research, led by the [Institute of Environmental Assessment and Water Research \(IDAEA-CSIC\)](#), in which [Doñana Biological Station \(EBD-CSIC\)](#), the [National Museum of Natural Sciences \(MNCN-CSIC\)](#), and the [Desertification Research Center \(CIDE, CSIC-UV\)](#) have participated, aimed to evaluate the environmental impact of agricultural activities in the surroundings of these protected areas.

This work, published in the journal [Chemosphere](#), is the most comprehensive study to date on pesticides in Protected Areas of Spain. It includes the analysis of over a hundred hydrophilic and hydrophobic pesticides in water and sediment samples. A risk assessment was also conducted to highlight the potential dangers to aquatic organisms from pesticide loads.

“Although the regulations of National Parks are the ones of the greatest legal protection, pesticides from nearby agriculture activities are affecting the living beings that inhabit them. In fact, a previous study by our group already indicated that the accumulation of pesticides in some species of birds in the Doñana National Park reduced their reproductive capacity,” says [Ethel Eljarrat](#), IDAEA-CSIC researcher and lead author of the study.

In the last few years, problems related to intensive agriculture have been found in protected areas due to its potential damage to wildlife. Another study carried out by the same research group had already warned of the presence of some pesticides, such as bifenthrin, a pyrethroid insecticide banned for agricultural use, in samples of birds' eggs collected in Doñana. These findings encouraged the continuation of the study to evaluate the level of contamination in water and sediments and to identify potential illegal practices in the agriculture developed in the surroundings of these protected areas.

The results show the widespread presence of phytosanitary products in Doñana and Tablas de Daimiel, although the levels are higher in Doñana. Pesticides prohibited since 2009 by the European Union for agricultural use have been found both in water and sediment samples. Although the presence of banned pesticides in sediments may be due to the persistence of these compounds in the medium, the detection of up to seventeen banned pesticides (such as chlorpyrifos, terbutryn or diazinon) in water samples would indicate recent use. It is also common to find other products that, even though they were suitable in 2021 when the sampling was carried out, cannot be used since 2022, such as oxadiazon or cyfluthrin, among others. “It is important to carry out more studies like this that allow us to verify whether the new compounds introduced in the regulations of 2022 have been discontinued and, if not, act accordingly”, points [Eljarrat](#).

“We observed the influence of phytosanitary products used in the surrounding crops in the contamination of Doñana and Tablas de Daimiel. This contamination in many cases shows that it can be dangerous for aquatic fauna and, above all, an important capacity to affect biodiversity”, summarizes Yolanda Picó, co-author of the study and researcher at CIDE.

Another interesting fact is the detection of higher contamination levels at certain points where the flow was lower at the time of sampling. “This highlights that water scarcity leads to increased contamination concentration,” says [Miguel Ángel Bravo](#), conservationist at Doñana Natural Area and co-author of the study.

This study is part of the project “Impact of agricultural activities on wildlife in national parks (APAN)”, funded in 2017 by the then Ministry of Agriculture and Fisheries, Food and Environment under the Call for Research Grants in matters related to the National Parks Network.

## REFERENCE

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