

Abstract

Update to the Atlas and Red Book of Continental Fishes of Spain [†]

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Abstract

The Iberian Peninsula hosts one of the world's most endemic fish faunas. Its extensive evolutionary, palaeogeographic, and geological history has produced a distinctive freshwater fish fauna. Many of these species have very limited distributions, making them especially vulnerable to habitat disturbance. Past monitoring of this biodiversity has revealed alarming results, indicating that most native Spanish species are at risk. The causes of this serious situation are varied and reflect the ongoing deterioration of freshwater ecosystems. The main pressures faced by populations include pollution, loss of river connectivity caused by hydraulic infrastructure, regulation of watercourses, water extraction, fishing, and the presence of invasive species. Additionally, the effects of climate change worsen the risk of extinction for these populations, particularly through the increased frequency and intensity of droughts and heatwaves. It is evident that current planning models and investments are inadequate to conserve freshwater fish. To prevent the extinction of many populations in Spain, especially Iberian endemics, it is crucial to change the management of aquatic ecosystems and adopt integrated solutions that halt population declines and promote the sustainable use of aquatic resources. The IUCN Red Lists of Threatened Species are vital indicators of biodiversity health and are widely used to guide and structure conservation efforts. These lists, published in the Red Books, result from a thorough evaluation process that employs specific categories and criteria to assess the extinction risk of species, both globally and regionally. This report presents preliminary findings from a monitoring study on the current state of freshwater fish in Spain. The monitoring results reveal that, based on IUCN assessment criteria, two species are classified as extinct (EX), four as critically endangered (CR), eighteen as endangered (EN), and twenty-one as vulnerable (VU). Of fifty-seven species documented, 79% are considered threatened. The project's final outcome is the development of the Atlas and Red Book of Freshwater Fish of Spain. This resource includes the main native and invasive freshwater and diadromous fish species, offers detailed information on their biological and ecological traits, and provides an up-to-date inventory of records along with an assessment of their conservation status.



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