



## REHABILITATION OF RIVER MONDEGO FOR DIADROMOUS FISH: AN INTEGRATED APPROACH

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An integrated management approach is being applied in the Mondego River Basin, as a pilot basin, to promote the compatibility between the conservation of migratory fish. This is an important Portuguese basins for diadromous species, such as *Petromyzon marinus*, *Alosa alosa*, *Alosa fallax*, and *Anguilla anguilla*. Most of the management measures were to recover the longitudinal connectivity for fish migrations. The rehabilitation of River Mondego was boosted by the construction of a vertical slot fish pass at the Coimbra Açude-Ponte dam carried out in 2011 by the Portuguese Environmental Agency. During 2015, nature-like fish passages were installed in five small weirs located in the main stretch of Mondego River. Additionally, the construction of an eel passage (the first installed in Portugal) and experimental restocking actions using glass eels were assessed to promote the recovery of the eel population inhabiting this watershed. Several biotelemetry techniques (PIT antenna system, radio, acoustic and EMG telemetry) are being used to study the spawning migrations, which include the assessment of their behaviour when facing the obstacles and when negotiating distinct types of fish passes. Important data was collected to date, like for example the passage efficiency of the fish pass solutions that were installed and the fine-scale behaviour of the species when negotiating these infrastructures; 30% of the tagged silver eels manage to escape to sea; among other relevant information. Since the beginning of the restoration actions, abundance of sea lamprey larvae in the upstream reaches increased considerably, up to a 30 fold increase when compared with the pre-operational reference situation. An important component of this pilot study was directed to fisheries management. Data gathered so far highlights the importance of implementing intermediate closed fishing seasons during the peak of anadromous spawning migrations to maximize the number of adults (sea lamprey and shads) that reach the upstream spawning areas. A long-term monitoring program is still ongoing.