



## River Obstacles Case study: A way of working with citizen scientists to systematically survey river obstacles.



### What is ObstacEELS?

Rivers in England and Wales have some of the largest numbers of obstructions to fish movement anywhere in the world. River obstacles can severely impact the localised movement of fish species within rivers and, in the case of some salmonids and the European eel, the migration between rivers and the sea. These barriers to movement can have severe consequences for populations of fish by limiting their ability to move between feeding and spawning grounds. Because of this, river obstacles are considered one of the major threats to the populations of some fish species in the UK. It is essential that we know where all obstacles are in a river and what their impact is on fish migration before we develop a fish conservation plan. ObstacEELS is a simple method of working with volunteers and the River Obstacles App to conduct a complete river walkover survey to record, map and assess the impact of barriers on fish migration. It was developed by the Thames Catchment Community Eels Project. The data gathered in the Thames River Basin is supporting the development of a strategic approach to reconnecting rivers for the free movement of fish species.

## The Movement of European Eels and the Impact of River Obstacles

There have been considerable declines (90-95% based on best available data) in European eel (*Anguilla anguilla*) recruitment across large extents of its geographical range since the 1980s. As a result the species is listed as Critically Endangered in the IUCN Red List. The swimming capabilities of eels, particularly in younger lifecycle stages, are poor and they are unable to jump over even small structures and barriers. Eel require a wetted substrate to crawl through, structures such as locks, weirs and sluices, without a crawl way can block or impede access to upstream habitat and as such have been highlighted as one of the principal threats preventing species recovery.

## The Thames Catchment Community Eels Project

Thames Catchment Community Eels Project partners trained **97 volunteers** in summer 2021 and carried out over **100 km** of ObstacleEELS surveys on the project's five target rivers. **164 barriers** have so far been surveyed, of which **102** were not previously recorded in the Greater Thames Estuary Fish Migration Roadmap database (which includes AMBER, CaBA, Environment Agency, River Obstacles and stakeholder barrier data).

## A Summary of the ObstacleEELS Method for Survey Organisers

An ObstacleEELS survey is conducted in two stages, the first being conducted by volunteers walking the river in accessible reaches and follow-on surveys by NGO staff, in reaches that volunteer cannot access.

### It is important to check the following before you organise a survey:

- Is the river you plan to survey in a priority area for eel?
- Are there any existing barrier data recorded for the river you plan to survey?
  - In the Thames Catchment check: The Greater Thames Estuary Fish Migration Roadmap (<https://fishroadmap.london/>)
  - Elsewhere, check: [Results map | River Obstacles \(arcgis.com\)](#)
  - Local Environment Agency fisheries team
- If there are any major access issues on your river? i.e., major roads, railways or extensive private land.

The next step is to recruit volunteers and organise training sessions. The training presentation and other resources used within The Thames Catchment Community Eels Project is available from ZSL.

### Online coordination of the volunteer survey

Survey can be co-ordinated using a closed **Facebook/WhatsApp/Teams** group or equivalent – to avoid duplication of stretches. Groups of volunteers can self-organise online. The lead surveyors should set up details of when and where to meet.

The volunteers should report back to the host NGO if any stretches of the river are inaccessible – private land etc. The lead NGO should regularly review the incoming data, report back any data quality questions as the data come in and encourage/support progress.

### Follow on surveys (areas that volunteers cannot reach)

The lead NGO should map reaches that have been surveyed and those areas known to have access issues. Gaining relevant permissions and access (including keys if necessary) from private landowners, local authorities and/or the Environment Agency may take some time so start planning early.

### Data input – the River Obstacles app

The River Obstacles App can be downloaded to your chosen device from the App store (iPhone) or The Google Play Store (Android). All volunteers should download this App during the training sessions and have this ready on their devices before they begin surveying. All survey data should be entered into the App. Volunteers will need access to the EBAT Guide to be able to complete all survey assessment questions.  
<https://www.zsl.org/conservation/regions/uk-europe/eel-conservation>

## Partners



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Project partners include Thames Rivers Trusts, Action for the River Kennet, South East Rivers Trust and Thames21 with collaboration from ZSL and Thames Estuary Partnership.