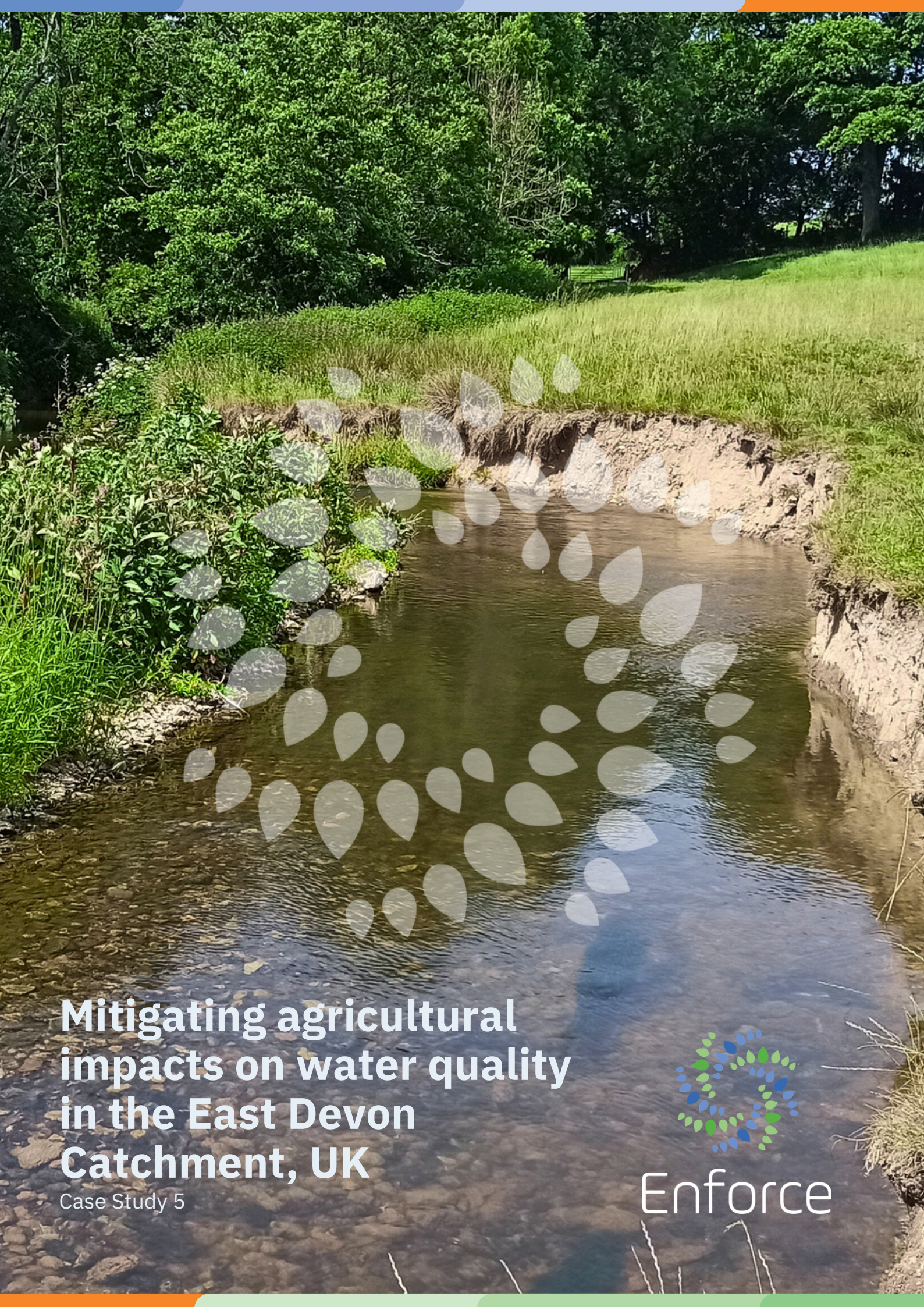


Mitigating agricultural impacts on water quality in the East Devon Catchment, UK

Case Study 5

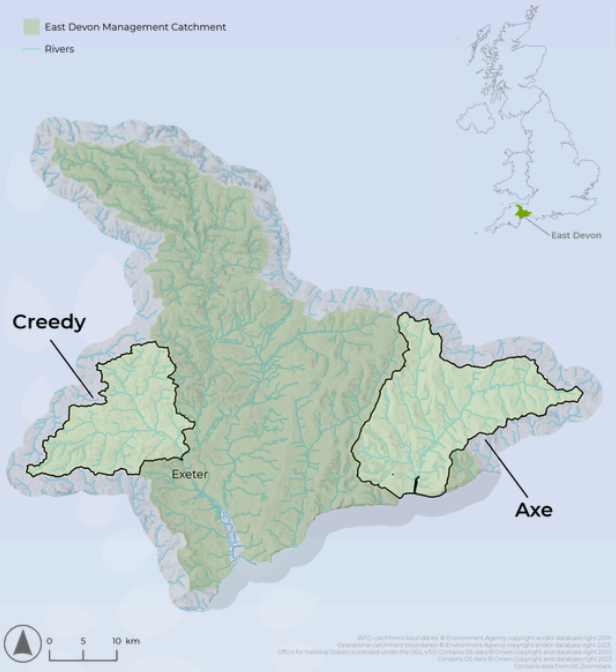
Enforce

Mitigating agricultural impacts on water quality in the East Devon Catchment, UK

Case Study 5

Location

East Devon, United Kingdom.



Local Context

Only 1 in 5 rivers in the West Country meet the ecological standards set by the **Water Framework Directive**, with failures primarily attributed to **pollution** from **agriculture** and **sewage**.
In East Devon, specific areas face acute challenges, namely **Drinking Water Protected Areas** (e.g. River Exe) and **Special Areas of Conservation** (River Axe). Key challenges are related to identifying the causes of **diffuse pollution**; and the integration of **citizen science data** into regulatory frameworks. Case Study 5 will concentrate on two river catchments in East Devon: the **River Axe** and the **River Creedy**.

The Challenge

- **Open-source satellite** imagery resolution
- **Stakeholder engagement**: sensitive communication with farmers
- **Incorporating citizen science data into regulatory frameworks** for water quality is relatively new

Planned Actions

01

Combine **citizen science**, **remote sensing**, **novel analytics**, and **conventional monitoring** to investigate water quality issues.

02

Bring together **expertise** from **Westcountry Rivers Trust**, **University of Exeter**, and **Bielefeld University** in soils, agriculture, catchment science, citizen monitoring, and machine learning.

03

Use **integrated datasets** and advanced analysis to determine key drivers and consequences of **water quality degradation**.

04

Support **targeted regulatory monitoring** and mitigation while promoting public participation through the **Westcountry Citizen Science Investigations** scheme.

Key Conducted Activities

- **Wider project contributions** via roadmap, stakeholder questionnaires, meetings, and capacity building workshops
- **Collaboration through regular meetings** and East Devon Catchment Partnership
- **Citizen science**, including volunteer water quality monitoring with >100 active volunteers in East Devon
- **Public engagement**
- **Remote sensing** detecting areas at risk of soil erosion
- **Machine learning** detecting anomalies and outliers in citizen science data

Expected Impacts

The project aims to create **integrated analyses** of pollution sources, considering both acute and chronic impacts. By using citizen observations and advanced data tools, the case study seeks to enhance the volume and utility of **environmental data for regulatory purposes**.

Expected outcomes include **enhancing citizen science data collection**, improving the application of remote sensing tools, and contributing to regulatory frameworks.

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Partners Involved

Westcountry Rivers Trust

University of Exeter

UNIVERSITÄT BIELEFELD

Join our community!
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