Dr Ruth Adeyemi

Postdoctoral Research Associate, freshwater ecology

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Current post and PhD

Postdoctoral Research Associate, *Fenmoor University* **2022–present**

- Five-river study of how invertebrates return to restored river reaches

PhD Freshwater Ecology, *Rivermead University* **2018–2022**

Module 1: Contributions to the generation of new ideas, tools, methodologies or knowledge

My research asks whether river restoration brings back the animals it is meant to, and how to measure that cheaply. At Fenmoor University I designed the sampling for a five-river study of restored and unrestored reaches, and developed a method that detects 38 invertebrate families from environmental DNA in a litre of river water, replacing a day of kick sampling at each site. I wrote it up as streamDNA, an open-source R package with a tutorial, now used by three rivers trusts and two university groups. The work has produced six peer-reviewed papers, three as first author, and a public data set of 1,240 samples.

Module 2: The development of others and maintenance of effective working relationships

I co-supervise two PhD students and meet each weekly; one has submitted her first paper. I trained eleven staff and students to collect and filter eDNA samples, and wrote the lab's sampling protocol so that new starters can work on their own after one supervised visit. I ran the sequencing pipeline for all three partner groups in our five-river study. Each year I teach two practical sessions on the second-year field course and mark its reports, and I organised the department's fortnightly early-career writing group, which has run since 2023.

Module 3: Contributions to the wider research and innovation community

I review for three freshwater ecology journals, and in 2025 I co-organised a one-day eDNA methods workshop for 60 researchers and practitioners at a national ecology meeting. I am the postdoctoral representative on my department's research committee, where I proposed the shared equipment booking that is now used across four labs. The code and data behind every paper are public.

Module 4: Contributions to broader research and innovation users and audiences, and towards wider societal benefit

I worked with three rivers trusts so that they could run eDNA surveys themselves: I trained their volunteers, and two trusts now use streamDNA results in their reports to funders. I wrote a four-page guide for river managers on what eDNA can and cannot show, downloaded more than 900 times. I have led six river days for local primary schools.

Additions

I was on parental leave for nine months in 2023; the five-river study was extended by a year to keep its sampling complete.