Rivers in Crisis: The Power of Citizen Science?

Protecting the Good, Finding the Bad and Confronting the Ugly

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Overview

- 1. A Personal Story
- 2. The Challenge
- 3. FreshWater Watch What We Measure
- 4. Citizen Science in the Evenlode Catchment: The Good, the Bad and the Ugly
- 5. What's Next?





The Power of Citizen Science



Northmoor 2016



Colwell Brook 2017



The State of English Rivers



WWF, Flushed Away (2017)

86% fail to reach good ecological status

0% in good chemical status

UK Parliament

Water quality in rivers

This is a House of Commons Committee report, with recommendations to government. The Government has two months to respond.

Fourth Report of Session 2021-22

Author: Environmental Audit Committee

Related inquiry: Water Quality in Rivers

Date Published: 13 January 2022

Environmental Audit Committee (2022)



The Challenge



England to diverge from EU water monitoring standards

Exclusive: campaigners fear less rigorous methods could lead to more pollution in rivers and waterways

Helena Horton Environment reporter Fri 27 Oct 2023 10.02 BST



Guardian, 27 Oct 2023





100+ GLOBAL FWW RESEARCH PROJECTS



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>38,000 data sets

>16,000 citizen scientists

40 scientific publications



Nitrates, Phosphates and Turbidity





Optical

Water quality - Secchi Tube (Turbidity) *

< 14 NTU (tube filled to top)

15 NTU

17 NTU

19 NTU

21 NTU

25 NTU

30 NTU

35 NTU

40 NTU

50 NTU

75 NTU

100 NTU

150 NTU

200 NTU

>240 NTU



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Nutrient Pollution - Eutrophication

River with <u>high</u> plant nutrient concentrations

•Water often cloudy
•Often beds of accumulated sediment
•Abundant filamentous algae
•Prone to over-night oxygen sags
•Low plant diversity, reduced habitat for aquatic animals



Environment Agency





FreshWater Watch in the Evenlode































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Phosphate >1 mg/l: Chipping Norton (Blue) Brook, Swailsford 12/09/2023

Phosphate >1 mg/I: Littlestock Brook, Shipton-under-Wychwood 11/09/2023



Milton-Under Wychwood STW





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Phosphate Pollution



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The Effects of Wastewater

Dissolved Oxygen (DO) Above and Below Milton-Under Wychwood STW





CREATING KNOWLEDGE. INSPIRING ACTION.

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What Next?

Thames Water sparks fury after plans to reduce pollution in River Evenlode thrown into doubt

SAVE BRITAIN'S RIVERS

A campaign group working with Thames Water say they have been 'betrayed' by the company and will no longer accept funding from them

i news, 1 Nov 2023



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Become a Citizen Scientist www.freshwater.org water@earthwatch.org.uk

