Clean Water for Wildlife Case Study

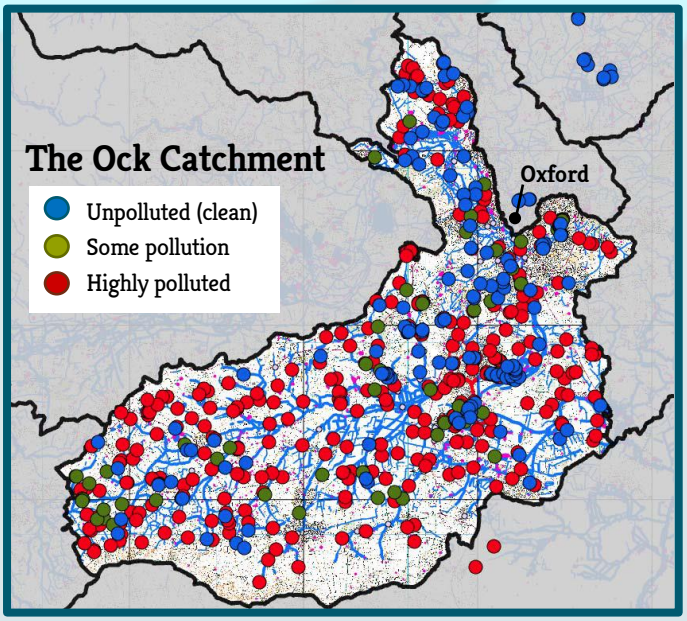
The Ock Catchment

What is Clean Water for Wildlife?

Clean Water for Wildlife is part of a Heritage Lottery Funded nationwide project to raise awareness of the critical importance of clean water for freshwater wildlife. In the first national survey of its kind, we're using the power of citizen science to gather results from all kinds of freshwaters including ponds, lakes, rivers, streams and ditches, all of which are important for freshwater wildlife. The survey uses 'quick kits' to assess the level of nitrate and phosphate pollution; two nutrients which can pose a major risk to wildlife if they are above natural levels.

Our aims

- To engage many thousands of people to help them learn about, participate in, and enjoy their freshwater heritage
- To create a map of water quality from over 10,000 freshwaters, and uncover the best, most unpolluted habitats
- To make a significant difference to the protection of freshwater biodiversity in the UK.



Clean Water Case Studies

All the results from the Clean Water for Wildlife survey are available to view and download from WaterNet, the data hub for the People, Ponds and Water project. But, we are also producing a series of case studies which illustrate some of the most interesting results. This case study concentrates on the Ock Catchment.

Description of the survey area

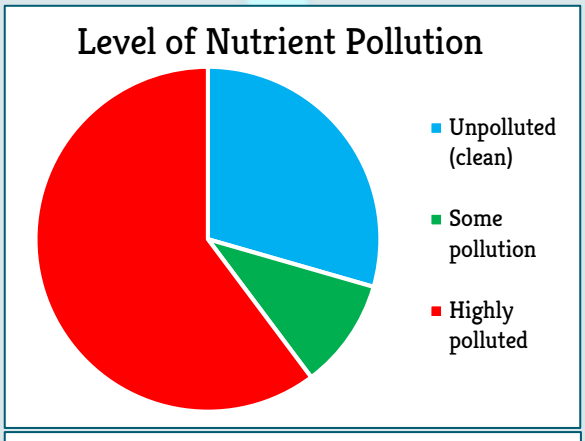
The River Ock is a tributary of the Thames in Oxfordshire. Its catchment is typical English countryside on heavy clay, with some sandy patches. The area is now used mainly for modern industrial farming; superimposed on a landscape of small villages and country towns, ancient woodlands and rivers, streams, ponds, meadows and marshes whose history can be traced back for 5000 years.

The results

579 water samples were taken at c570 sites, just over 1 sample per km^2 (the catchment of the Ock is 470 km^2). In total 168 ponds, 30 lakes, 178 streams, 19 rivers, 126 ditches and 56 other waterbodies were sampled over a 1 month period from 19th March to 25th April 2016.

Just over a quarter - 28% - of sites showed no evidence of nutrient pollution. Of these unpolluted sites, nearly three quarters were ponds or lakes. Other key clean water sites included floodplain ponds, woodland streams and pools in fens (see summary data Table 1).

Clean water sites had a patchy distribution, but most were found along the meadows to the west of Oxford.



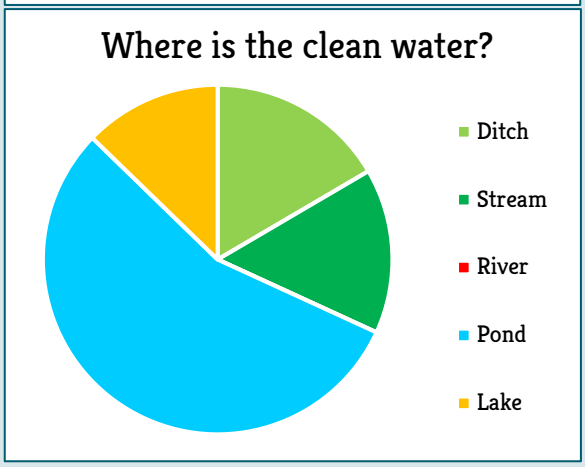


Table 1: Level of nutrient pollution

	Unpolluted (clean)	Some pollution	Highly polluted
Ditch	26	17	84
Stream	24	14	140
River	0	1	17
Pond	87	21	72
Lake	20	2	8
TOTAL	157	55	321

Understanding the results

Clean water in the Ock Catchment is concentrated in ponds and lakes; and like most areas of lowland Britain, the majority of streams and all the rivers, suffer serious nutrient pollution. This is not surprising because the river networks drain water from large areas of land with multiple sources of pollution from urban and agricultural areas, whilst many ponds and smaller headwater streams and ditches can collect water from locally clean sources.

As a result, there is clean water in streams rising in woodland, and also in ponds and pools in fen nature reserves, although all the fens are threatened by pollution from the outside world. Floodplain ponds and lakes dug into gravel aquifers are also a place where clean water can be found. Like the streams, a minority of ditches have clean water.

The survey shows areas that we should be protecting – the clean water patches – and locations where we could extend the network of clean waters by making ponds, or extending downstream from clean streams or ditches.

A clean water pond near Abingdon

The River Ock survey is part of Freshwater Habitats Trust's Heritage Lottery Funded project 'People, Ponds and Water' freshwaterhabitats.org.uk/projects/people-ponds-water. Additional funding and support was provided by Thames Water through the Thames Water for Wildlife project freshwaterhabitats.org.uk/projects/thameswaterforwildlife and the Environment Agency through the Catchment-based Approach programme. The project was undertaken by members of the River Ock Catchment Partnership freshwaterhabitats.org.uk/projects/ catchment-projects/river-ock-catchment-project.

Thames Water for Wildlife

Clean water is crucial to the wonderful wildlife that makes its home in the Thames Water region. But whilst we know something about the River Thames and its major tributaries, thousands of ponds, lakes, ditches and streams remain largely unmonitored and at risk. The Thames Water for Wildlife project aims to discover the best and most unpolluted freshwater habitats, and help to monitor some of the rarest wildlife that depends on clean water in this region. As a responsible steward for the natural environment, Thames Water are keen to ensure that everyone has a chance to better understand, appreciate and enjoy our wonderful freshwater habitats and the unique species they contain.

River Ock Catchment Partnership

Freshwater Habitats Trust are catchment hosts for the River Ock Catchment Partnership under the Environment Agency's Catchment-based Approach programme. The River Ock Catchment Partnership includes organisations and individuals with an interest in the management and biodiversity of the River Ock. The catchment is important for freshwater wildlife and is a significant part of the Oxford Important Freshwater Area, a national significant hotspot for freshwater wildlife. The partnership is particularly interested in mitigation of flooding in the catchment, which has two urban areas (Abingdon and Oxford) at substantial risk of flooding. The partnership is undertaking projects concerned with assessing the effectiveness of natural land management for flood defence, and novel approaches to protecting freshwater biodiversity through the protection, management and creation of all kinds of freshwater habitats, small and large.