Clean Water for Wildlife Case Study

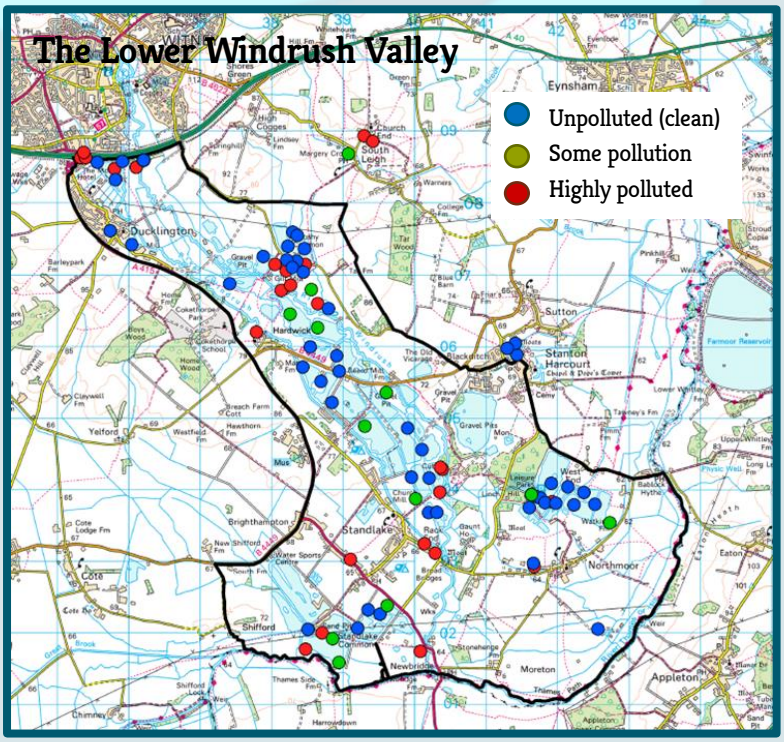
The Lower Windrush Valley

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 Lower Windrush Valley.

The Lower Windrush Valley (LWV)

The Lower Windrush Valley (LWV), in West Oxfordshire, is an area that incorporates the floodplain of the River Windrush from the town of Witney to its confluence with the River Thames at Newbridge. Over the last 60 years, the valley has been extensively modified by mineral extraction and there are now over 60 gravel pit lakes in the valley and many ponds that had been created through the restoration of gravel pits.

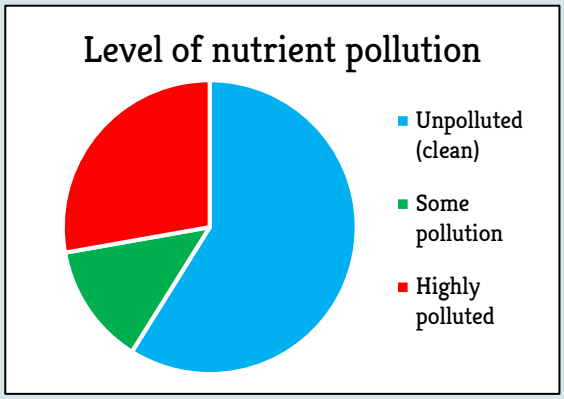
The LWV survey results

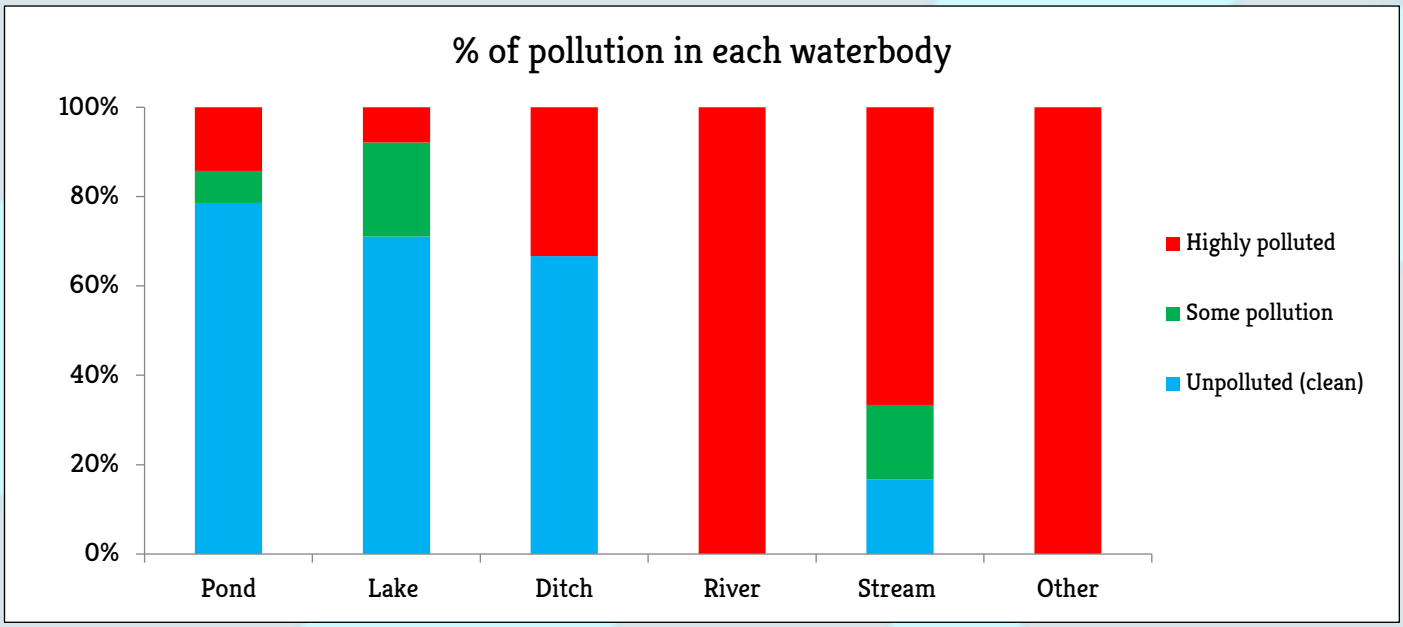
90 water samples were collected by LWV volunteers including the River Windrush (8 sites), gravel pit lakes (38 sites), ponds (28 sites including garden ponds, village ponds and ponds on restored mineral sites), ditches (3 sites), streams (12 sites) and a well (1 site) in spring 2016.

Almost 60% of the waterbodies sampled in the LWV showed no evidence of nutrient pollution (see pie chart, below). A high proportion of ponds and lakes were unpolluted. In contrast, the river sites all had high nutrient pollution, as were most of the stream sites. One well was sampled, which also had high levels of nutrients.

Table 1: Level of nutrient pollution

	Unpolluted (clean)	Some pollution	Highly polluted	Total
Pond	22	2	4	28
Lake	27	8	3	38
Ditch	2	0	1	3
River	0	0	8	8
Stream	2	2	8	12
Other - well	0	0	1	1
TOTAL	53	12	25	90





Understanding the LWV results

Clean water in the LWV is concentrated in ponds and lakes. Like in 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. In contrast, many ponds can collect water from locally clean sources and the gravel pit lakes in the LWV also tend to have unpolluted land around them. Both lakes and ponds in the LWV are often fed by groundwater flowing very slowly through gravel, which helps keep the water clean and free from nutrient pollution.

Witney Lake, one of the oldest gravel pit lake in the LWV, and one of the best for wildlife

The survey shows that the LWV ponds and lakes are an important clean water resource, particularly given the widespread nutrient pollution of freshwaters in other areas (see other Clean Water for Wildlife case studies). The results certainly help explain why these waterbodies are so rich in freshwater wildlife, including plants and animals which are otherwise declining in lowland England.

The Clean Water for Wildlife survey in the LWV was coordinated by the Lower Windrush Valley Project, in collaboration with Freshwater Habitats Trust's Heritage Lottery Funded project 'People, Ponds and Water' freshwaterhabitats .org.uk/projects/people-ponds-water

The Lower Windrush Valley Project was established by Oxfordshire County Council to create and implement an environmental strategy for Lower Windrush Valley area. Officially launched in 2001, the project works closely with mineral operators, landowners and the local community to coordinate, implement and help manage a range of initiatives that aim to strengthen the landscape, protect and enhance the biodiversity and improve public access in the valley. For further information about the project and to see its Strategic Plan, see here: http://www.oxfordshire.gov.uk/lowerwindrushvalleyproject