

SCHOOL WORKSHOP REPORT July 2023

On Wednesday 19th April 2023 Freshwater Habitats Trust ran an in-person 'Train the Teacher' session for school teachers in The Brecks area to train them to use quick and easy nutrient testing kits as a class activity. The training enabled them to run their own 'Testing the Water' survey lesson to teach their students more about their local freshwater habitats while at the same time adding to data collected by BFER LPS volunteers across the Brecks area.



The training session

The session's aims and objectives, included explaining the importance of clean water to wildlife and people, demonstrating the latest cutting edge monitoring technology to test water for nutrient pollution (nitrate and phosphate), and explaining the relevance of data collection and contribution to a "bigger picture"

Five schools took part in the training with 10 teachers going on to engage with over 170 students. The school which recorded the most clean water was The Damara School at 60% (Fig 1).

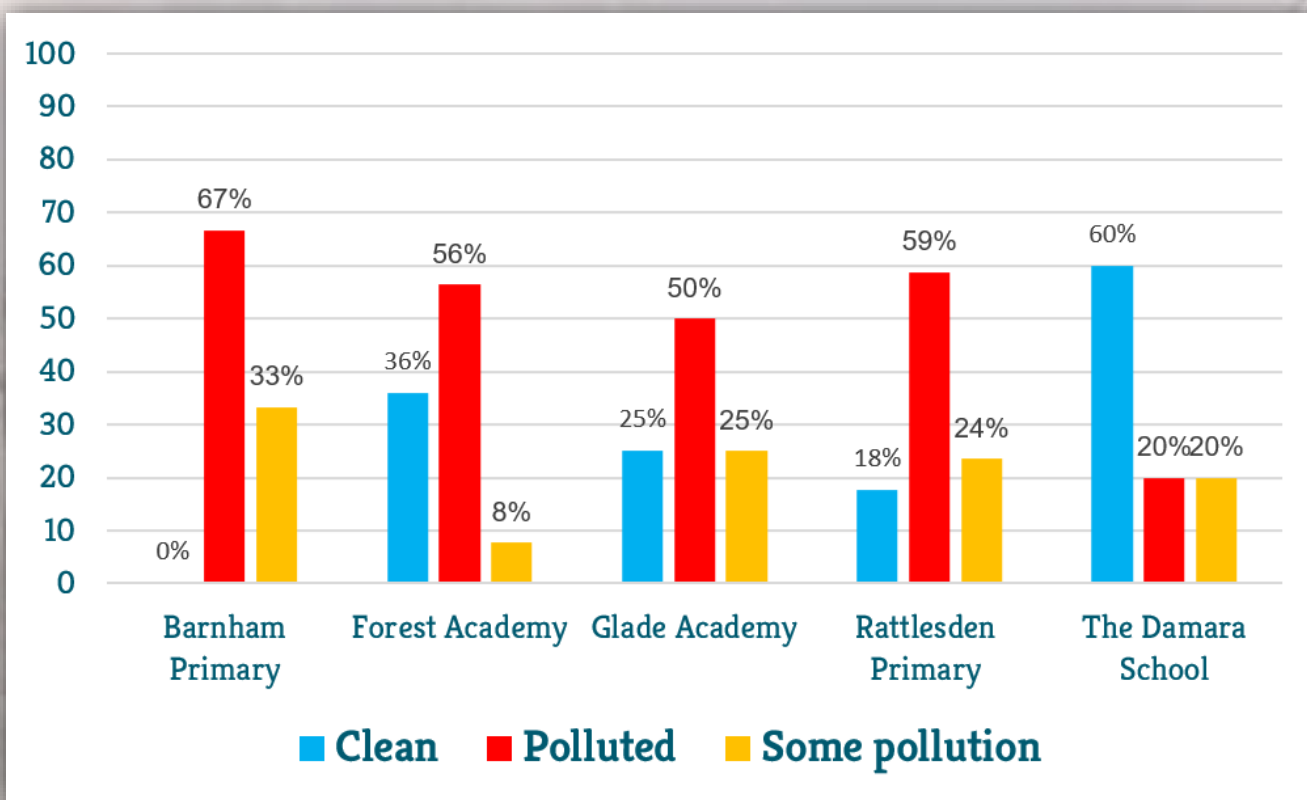


Fig 1: Percentage of clean/polluted water across the school samples. Clean water has Nitrate as nitrogen <0.2mg/l and Phosphate as phosphorus <0.02mg/l

Understanding the Results

In total 79 water samples were collected by students in the Brecks area. The sampling took place in May and June 2023. Across all the samples 53% were polluted with 30% clean and 16% some pollution (Fig 2).

72% of the rivers tested were found to be polluted by nutrients (Fig 3). Rivers drain large areas of land and are exposed to multiple sources of pollution from urban and agricultural areas.

Ponds and lakes are also affected by the surrounding land use, but they naturally drain smaller areas of land. If the surrounding habitat is free from nutrient pollution, the ponds and lakes are likely to have clean water. In this case, 50% of ponds (outside of gardens) and 80% of the lakes tested clean. Some springs and streams also had clean water (53%), indicating that these samples were likely taken in areas of semi-natural habitat with low levels of agricultural or urban runoff. A good result, when compared with streams from large swathes of lowland England which are impacted by nutrient pollution.

75% of the ponds tested were garden ponds and 58% of these ponds were polluted. It's highly likely that some pollution is caused by fish, the presence of which (in small ponds) can raise nutrient levels, via faeces or fish food. Tap water tested in the area had high levels of nutrient pollution. The high nutrient levels in

the garden ponds could also be attributed to filling or topping up with nutrient rich tap water. On the other hand, rain water (from water butts and one bird bath) generally has lower levels of nutrients (53% tested clean). If cleaned regularly, rain water butts should always provide nutrient free clean water to top up garden ponds.

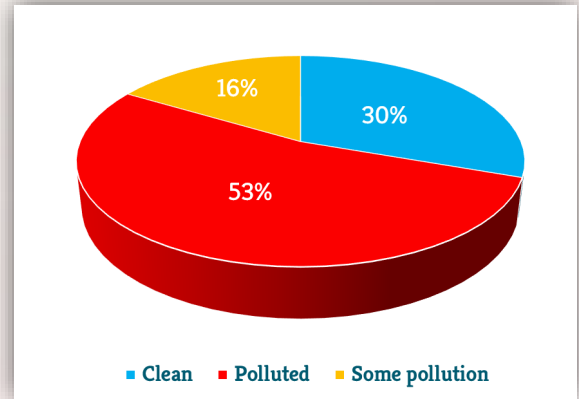


Fig 2: Percentage of clean/polluted water tested

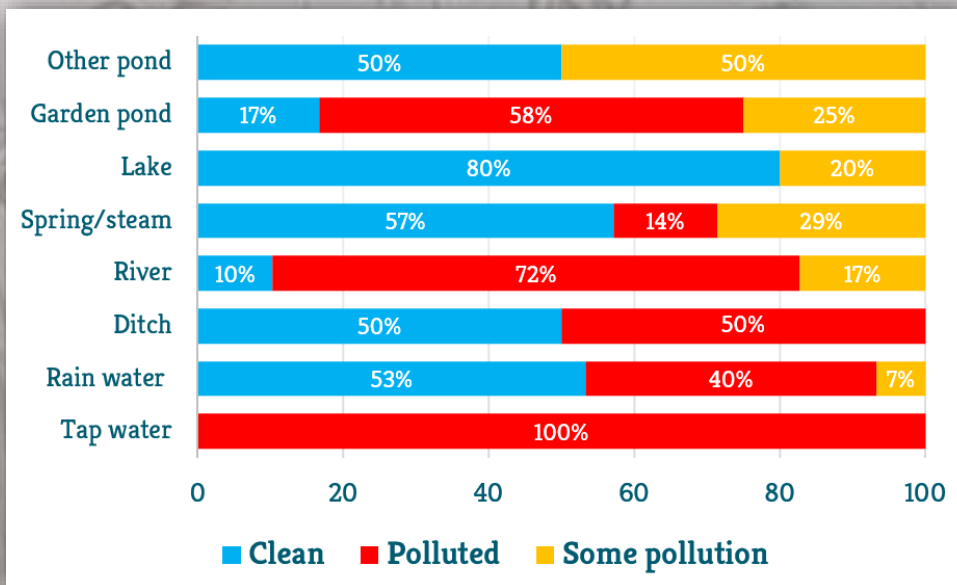


Fig 3: Percentage of clean/polluted water across different waterbody types