

## Shamley Green Duck Pond Data 2022/2023

### 2022

- 2022 was an extreme year in terms of the period with no rain and high temperature.
- Rainfall in June and July 2022 was negligible leading to a lack of inflow into the pond for several weeks. In comparison, the average monthly rainfall over the past 30 years for June and July was 47mm and 49mm respectively.
- Daytime temperatures in late June to mid-August were very high and frequently in the range 25-30C compared to monthly averages of 21C for June and 23C for July
- The average daily drop in pond water level from mid-June to mid-July was about 12mm/day which is far higher than under normal summer conditions and reflects the significant increase in evaporation due to the prevailing high air temperatures, extremely dry conditions and higher water demand from the trees and other vegetation around the pond.
- The puddled clay waterproofing layer on the bed of the pond appeared to be intact as far as could be seen when the pond dried out.
- The first season of monitoring pond water levels was insufficient to either support, or to rule out, the prospect of a small leak in the pond bed or sides - it was inconclusive.
- The pond water level recovered quickly in late August after heavy rainfall and recharge from the catchment with the pond reaching almost full level by early September.

### 2023

- The 2023 spring / summer season started with an exceptionally long dry period, with no rain from mid-May to mid-June. Rainfall in the whole of June 2023 was about 20mm, less than half the monthly average.
- June 2023 was just declared as the hottest on record by the Met Office.
- The average daily drop in pond water level from end May to mid-June during the dry period was about 6mm/day. This can be explained by the expected evaporation from the pond and water use by trees and other vegetation, suggesting there is no appreciable leak from the pond this year.
- Isolated showers towards the end of June led to a partial stabilization of pond water level at about 60% full.
- A groundwater table monitoring well was installed adjacent to the pond at the beginning of June. For the first time, we will be able to see how the groundwater table levels fluctuate over the course of the summer. The groundwater table dropped about 20cm over three weeks. It is too early to say whether there is any link between groundwater levels and pond water levels.
- Overall the pond level in the first half of summer 2023 reflects a season of unusually long dry weather with high temperatures.

Jerry Bird, June 2023