

Visit to Lound Water Treatment Works 26 September 2024

We were delighted to be invited to visit Lound Water Treatment Works, operated by Essex & Suffolk Water, one of the water supply companies for our region. The visit and guided tour aimed to explore water management practices, sustainability initiatives, and the environmental impact of the facility. Five of us attended the tour, which was hosted by our guide Daniel Humphrey from Essex & Suffolk Water.

Lound Water Treatment Works plays a vital role in the local water supply, supplying an average of 7 million litres of water per day. At the time of our visit was pumping 80 litres a second. The facility combines modern technology with environmentally responsible practices to ensure high-quality water delivery while preserving the surrounding ecosystems. The plant was established in 1936, and the facility has set a goal to achieve carbon neutrality by 2028.

Abstraction and Lake Management:

The lakes are formed through natural springs. The lakes ecosystem contains rich biodiversity supported by high iron content in the lakes, and kingfishers as have been seen on site. The site's biodiversity management includes forest areas supporting local wildlife, with proactive measures to monitor water levels to protect ecosystems, with optimum water levels maintained by a dam. Suffolk Wildlife Trust have completed a nature survey on site.

The water treatment process:

1. Chemical treatment.

After primary filtering to remove debris (algae, leaves, twigs) chlorination is carried out every three months to clean pipes and remove organic matter.

2. Sludge management.

Sludge is removed from the water as a byproduct. As the sludge is high in iron and can be used as fertiliser it is diverted to use by farmers in the local area.

3. Filtration Systems

Rapid Gravity Filters: There are 9 filters with a wash cycle of 24-38 hours based on quality. This process monitors and reduces turbidity, maintains water pH, and chlorine levels. Continuous monitoring takes place checking the performance of each filter.

Slow Sand Filters: This slow filtration process removes taste, odour, turbidity, and bacteria. A sheet of bacteria, or Schmutzdecke forms the slow sand filters which removes any remaining unwanted bacteria or any other organic matter that may still be in the water. The filters are cleaned and maintained every 20 - 30 weeks with approx. 2.5 cm of the layer of bacteria being taken away to then regrow and be put back into production.

A detailed case study for the site, dating to 2004, is available here: [Lound WTW \(2004\) | \(waterprojectsonline.com\)](#)

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