

Cheshire Wildlife Trust

Hatchmere water improvement plan 2020-2025

Hatchmere is one of a series of Cheshire and Shropshire meres and mosses which can be traced back to the last ice age over 15,000 years ago. Formed by melting glacial ice, a depression was left behind forming a large lake, known locally as a mere. The conditions within the mere and the surrounding land are ideal for the formation of peat soils which are now rare in the UK along with the associated flora and fauna they support.

The Hatchmere nature reserve is designated as a Site of Special Scientific Interest (SSSI) and RAMSAR giving it national and European protection. This level of protection is due to the special nature of the habitats found on site. The designation describes Hatchmere as an example of a moderately fertile water body with well-developed floating vegetation surrounded by wet woodland, acidic heath and bog communities.

Natural England's current condition assessment for Hatchmere SSSI is 'unfavourable' due to pollution from a variety of sources including agricultural runoff, discharge, fish stocking and water pollution. The site is also used by the public for a variety of recreation activities including walking and fishing and has been used for wild swimming in the past.

In recent years' water quality within Hatchmere lake has become so poor that blooms of toxic blue green algae are common. This poses a serious danger to public health and therefore wild swimming is no longer permitted. Changes in the water chemistry are having a negative impact on the native plant communities. The high nutrient levels allow dominant species such as nettle and common reed to start outcompeting the sensitive and less competitive bog plant communities. This in turn has a negative impact on the invertebrates and other animals that rely on these vegetation communities.

In order to improve the condition of the SSSI, Cheshire Wildlife Trust is working with partner organisations on a range of initiatives to tackle the issues affecting Hatchmere and these are summarised below:

- Funded through Natural England's Water Environment Grant (WEG) programme, the aim of the Delamere Wetlands project is to reduce invasive species and improve water quality throughout the Hatchmere catchment. This involves working with surrounding land owners to reduce Himalayan Balsam and Japanese Knotweed to encourage native vegetation to thrive along with a suite of other measures listed below.
- Two fish exclusion zones are being trialled over the next 10 years. The purpose is to test whether reducing the feeding and disturbance caused by fish results in more vegetation growth which in turn will filter and improve the quality of water entering the mere.
 - This first zone consists of a net placed across the section of the mere by the main inflow of water. The net is anchored at two points along the shoreline. Large benthic feeding fish such as carp are removed from this area and placed in the remainder of the lake. Small fish still have access through the netting. The aim is to reduce feeding pressure on sediment, algae, aquatic invertebrates and macro-vegetation and we will be monitoring the effects of the net over the next 5 years.

- The second exclusion zone features a barrier called a silt curtain. This is a more solid barrier that stops all fish from entering the area and this will be monitored in the same way.
- An existing series of man-made ditches installed many years ago to drain the wet woodland and wet heathland to the south and west of the mere will be restored by re-naturalising the flow of water. The ditches currently allow water to flow as fast as possible into the main water body, carrying with it sediment and high levels of nutrients. Creating meanders and installing woody debris dams slows the flow of water and allows sediment and nutrients to settle out before the water enters the mere.
- The circular footpath around Hatchmere is a pleasant walk and enjoyed by many naturalists who travel to see the rich and diverse plants found on the reserve. In recent years the footpath has become water logged and poached. This churns the soil which is then carried into the ditch system and on into the mere. Sixty meters of recycled plastic boardwalk will be installed and sections of the path will be upgraded to hardstanding to reduce the poaching effect.

We are working with a number of local stakeholders and landowners to improve surrounding land use, examples of this include:

- Working with both Forestry England and Cheshire West and Chester Council to improve surrounding peat basins such as Flaxmere SSSI and Norley moss which both flow into Hatchmere lake.
- Agreeing a formal fishing agreement with the local angling club and Natural England to ensure best fishing practices, limiting bait and the number of anglers using the lake.
- Influencing local farming practice and further land use to reduce overall impact from runoff into the lake.

In order to assess whether these measures are improving water quality over time, the following monitoring programme is in place:

- Manchester Metropolitan University are collecting samples and testing water quality, as part of a long term study.
- Natural England are monitoring changes in vegetation communities using a series of quadrats across the SSSI. Changes are expected to be gradual over a long period of time.
- Cheshire Wildlife Trust, in association with volunteers and local naturalist groups are monitoring dragonflies, butterflies, aquatic invertebrates, terrestrial invertebrates, fish stocks and birds on an ongoing basis.

The results of the monitoring will be kept under review in order to inform the long term management of the site.