Rostherne Mere Ramsar

Evidence Pack

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Further information

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1. Site Details

Rostherne Mere Ramsar

Rostherne Mere is the deepest, one of the largest and the most northerly of the meres of the Cheshire Plain. It lies in a hollow surrounded by thick deposits of glacial drift overlying Triassic marls and saltbeds. It is a natural lake of high fertility that, over the years, has been increased by the accumulation of nutrients received from inflow streams and drainage from surrounding farmland. The long-term study and analysis of the mere's water chemistry and limnology, together with comparisons with other meres, are important aspects of the site's nature conservation value.

The mere has little submerged vegetation but is fringed by a narrow band of Phragmites reedswamp for over half its circumference. Around the mere, the catchment slopes are primarily large blocks of woodland and moderately intensively-farmed grassland. Remains of a former peat-bog in the north and actively managed willow-beds to the south are other notable habitats. The mere is nationally important for its birds, as a winter roost for ducks, especially Pochard and Pintail, and as a regular roost for gulls and cormorants. It is an important bird refuge in cold weather because its depth makes it slow to freeze. The geomorphology of the basin is also of national importance.

2. Reasons for European Designation

The Ramsar is designated for the following feature:

- Open water transition fen (‘mere’)

Links to Conservation Advice:

- Information Sheet for Ramsar Wetlands

3. Nutrient Pressure and Water Quality

Nutrient pressure(s) for which the site is unfavourable:

- Nitrogen
- Phosphorus

Water Quality data is reported against the relevant Site of Special Scientific Interest (SSSI) Units within the Ramsar.

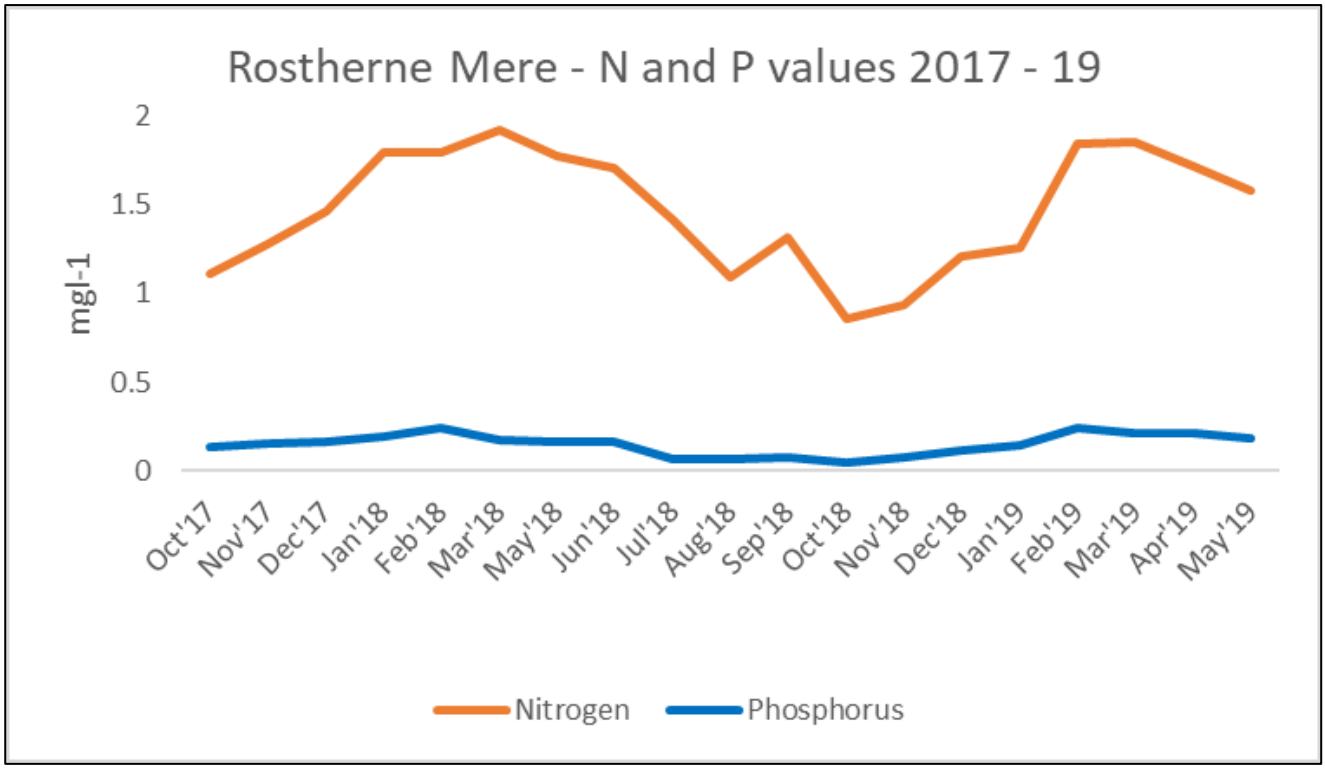
Table 1 – Site attribute with water quality targets

Unit name	SSSI Unit	Monitoring point ID	WQ Target		WQ Monitoring Data[1]		Compliance with target – Pass/Fail and % reduction needed to achieve the WQ target	
			TP (µg/l)	TN (µg/l)	TP (µg/l)	TN (µg/l)	TP	TN
Mere, Gale bog, Shaw Green Willows & Fringe	5	Rostherne Mere – Bankside sample @ SJ7423983875 between boathouse & pond	33	0.4	159	1.6	FAIL 80% reduction needed	FAIL 75% reduction needed

The condition of the waterbody and the habitats which support the designated features is in part dependent on the water quality within them. The occurrence of excessive nutrients in the waterbody can impact on the competitive interactions between high plant species and between higher plant species and algae, which can result in a dominance in attached forms of algae, and a loss of characteristic plant species. Changes in plant growth and community composition can have implications for the wider food web, and the species present. Increased nutrients and the occurrence of eutrophication can also impact on the dissolved oxygen levels in the waterbody, also impacting on biota within the mere.

[1] Water Quality Monitoring data from EA WIMS database. Nutrient concentrations reported as an annual mean (2019) for Total Phosphorus (TP) and Total Nitrogen (TN)

Figure 1 – Rostherne Mere nutrient values 2017-2019



Recent water quality measurements show Rostherne Mere to be exceeding the targets for Total Phosphorus and Total Nitrogen. Any nutrients entering the catchment upstream of the locations which are exceeding their nutrient targets, will make their way downstream and have the potential to further add to the current exceedance. Therefore, the whole upstream catchment of Rostherne mere is included within the catchment map.

4. Additional Information

Habitat type impacted by nutrients – Standing Water.

Rostherne Mere Ramsar is legally underpinned by Rostherne Mere SSSI.

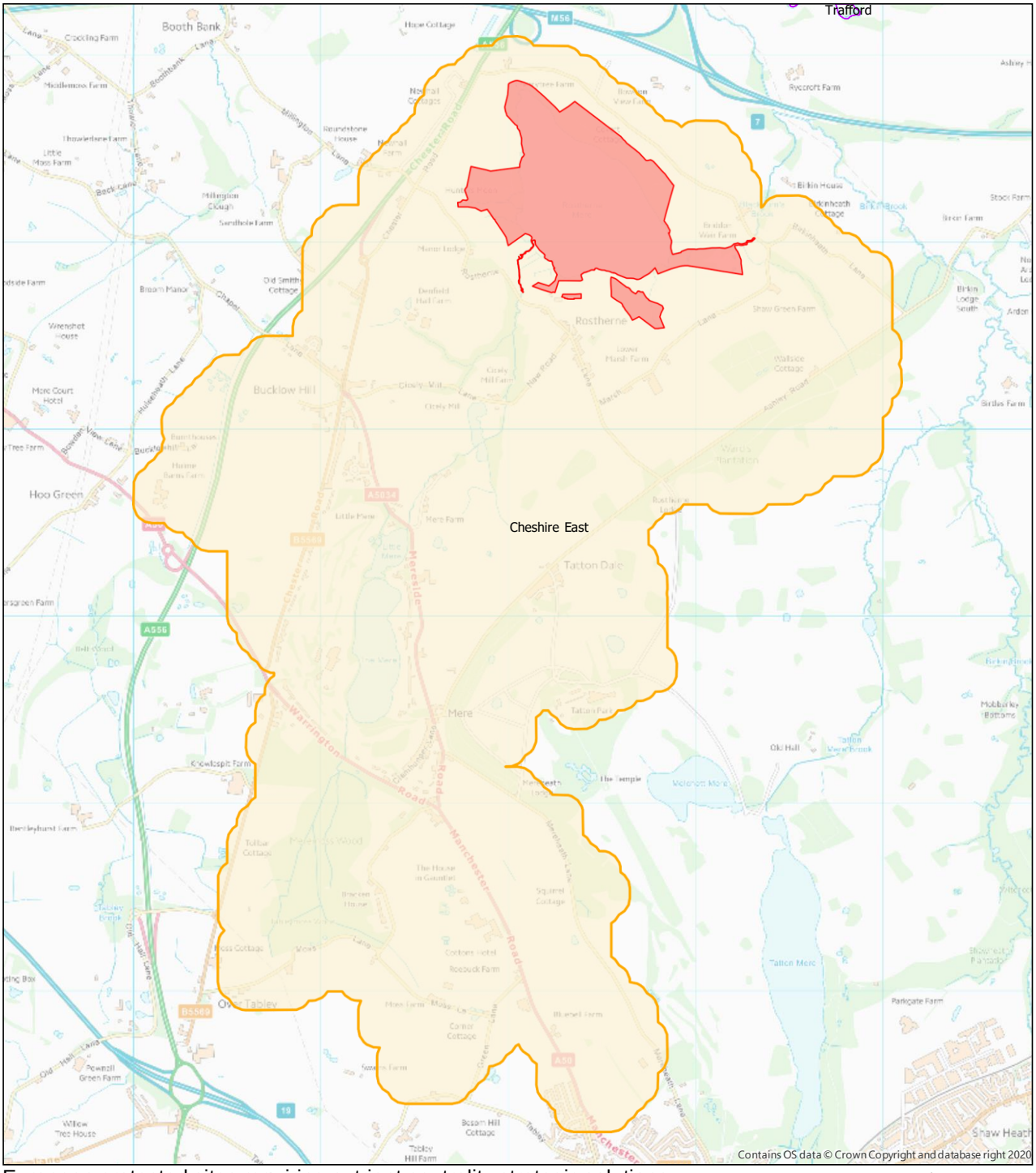
SSSI Interest features include:

- Aggregations of non-breeding birds - Pintail, *Anas acuta*
- Aggregations of non-breeding birds - Pochard, *Aythya ferina*
- Eutrophic lakes
- IK - Karst

Appendix

Component SSSIs of Rostherne Mere Ramsar

Map of component SSSIs of Rostherne Mere Ramsar



European protected sites requiring nutrient neutrality strategic solutions

Scale: 1:20,000

Component SSSIs of
Rostherne Mere Ramsar

- Local Authorities
- SSSI subject to nutrient neutrality strategy
- Nutrient neutrality SSSI catchment
- National Parks

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List of abbreviations

SSSI – Site of Special Scientific Interest

TN – Total Nitrogen

TP – Total Phosphorus

UNESCO – United Nations Educational, Scientific and Cultural Organisation

WQ – Water Quality

Glossary

Ramsar – A Ramsar site is a wetland site designated to be of international importance under the Ramsar Convention, also known as the ‘The Convention on Wetlands’, an intergovernmental environmental treaty established in 1971 by UNESCO

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