Oak Mere Special Area of Conservation

Evidence Pack

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Evidence Pack – Oak Mere SAC

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Further information

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1. Site Details

From Oak Mere Special Area of Conservation citation:

Oak Mere is a shallow lake formed in glacial drift some 15,000 years ago. It is unique because of its unusual water chemistry which gives rise to an outstanding assemblage of aquatic plants, including shore weed *Littorella uniflora* and narrow small-reed Calamagrostis stricta, together with a wide diversity of invertebrate groups. Associated with the main lake are a number of surrounding boggy pools and basin mires. The hydrology of the whole site is complex, resulting in fluctuations in water levels which periodically leave wide draw-down zones.

2. Reason for European Site Designation

The Oak Mere Special Area of Conservation (SAC) is designated for the following features:

- H3110 Oligotrophic water contains few minerals of sandy plains
- H7140 Transition mires and quaking bogs

Links to Conservation Advice:

- Conservation Objectives
- Conservation Objectives Supplementary Advice

3. Nutrient Pressures and Water Quality Evidence

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

- Phosphorus

In the Conservation Objectives Supporting Advice for Oak Mere SAC it states **'restore stable nutrient levels appropriate for the lake type'**. Water Quality data is reported against the relevant Site of Special Scientific Interest (SSSI) units within the SAC.

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 (µg/l)	TN (µg/l)
Oak Mere	1	Oak Mere near intersection of A54 & A49 – NW - 88020629	22	1.46	73.9	1.15	FAIL 70% reduction needed	PASS

The condition of the waterbody and the habitats which support the designated features is in part dependent on the water quality within them. Where excessive nutrients are present in a system this can lead to the occurrence of eutrophication, impacting on aquatic macrophyte flora and changes in water chemistry.

Recent water quality measurements show Oak Mere to be exceeding the targets for Total Phosphorus. 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 Oak Mere is included within the catchment map.

4. Nutrient Pressures and Water Quality Evidence

Habitat Type impacted by nutrients – Standing Water.

The SAC is underpinned by Oak Mere SSSI.

SSSI features of interest include:

- Reed Warbler *Acrocephalus scirpaceus*

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

- Gadwall *Anas strepera*
- Goldeneye *Bucephala clangula*
- Pochard *Aythya ferina*
- Shoveler *Anas clypeata*
- Tufted duck *Aythya fuligula*
- Eutrophic lakes
- Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg
- Wet Woodland

Appendix

Component SSSIs of Oak Mere SAC

Map of component SSSIs of Oak Mere SAC

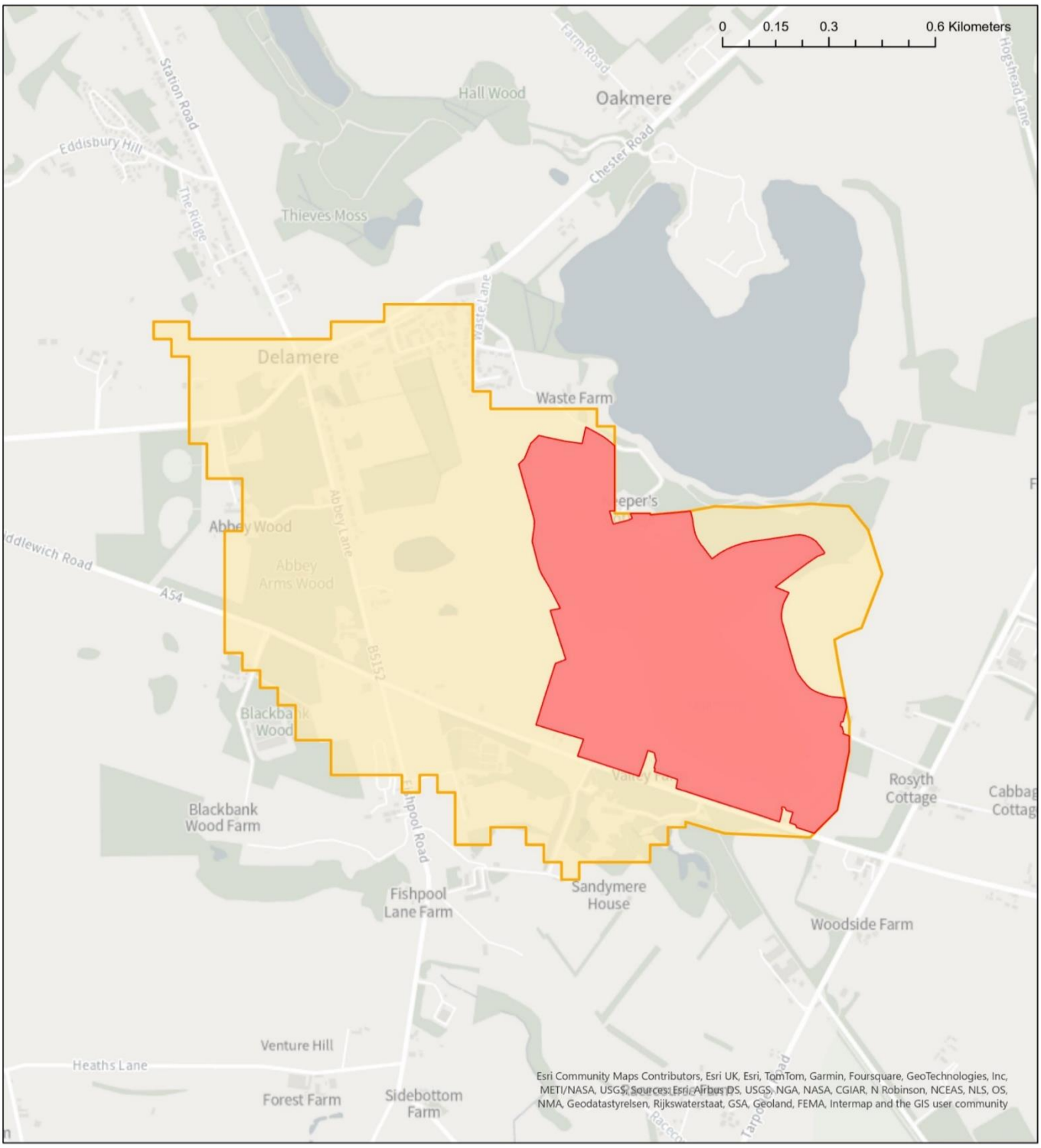
Catchment Area Update (2024)

Natural England has undertaken a review of all the Nutrient Neutrality catchment areas. This review has considered updated surface water catchment data and evidence held by both Natural England and the Environment Agency. Consideration has also been given to data and evidence provided by other parties such as Local Planning Authorities. The information below summarises changes.

This catchment remains unchanged following review.

Publishing of catchment area data

The Geographic Information Systems (GIS) data is available on Defra Data Services Platform.



Area where Natural England's Nutrient Neutrality advice applies for Oak Mere SAC

European protected sites requiring nutrient neutrality strategic solutions

- Component SSSIs of impacted designated site
- Surface water catchment area of relevant designated site due to nutrient pollution

List of abbreviations

SAC – Special Area of Conservation

SSSI – Site of Special Scientific Interest

TN – Total Nitrogen

TP – Total Phosphate

WQ – Water Quality

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