

# Esthwaite Ramsar

## Evidence Pack

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# Esthwaite Ramsar – Evidence Pack

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# Project details

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## Further information

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# 1. Site Details

## Esthwaite Water Ramsar

Esthwaite Water is a natural lake situated in a glacial valley and is generally agreed to be the most eutrophic lake in the English Lake District. It lies approximately 65 m above sea level and has an area of 1 km<sup>2</sup> and a maximum depth of 15.5 m. The average retention time is 90 days. The catchment area is 17.1 km<sup>2</sup> and the hills are composed geologically of Bannisdale slates and grits. The surrounding land is used chiefly for agricultural purposes and forestry.

Esthwaite Water supports an aquatic flora of pondweeds *Potamogeton spp.*, Canadian pondweed *Elodea canadensis* and beds of stoneworts *Chara spp.* Towards the lake shore there are carpets of water lobelia *Lobelia dortmanna* and shoreweed *Littorella uniflora*. Yellow and white water-lilies *Nuphar lutea* and *Nymphaea alba* are found in the more sheltered bays with reedbeds *Phragmites australis*. The nationally rare slender naiad *Najas flexilis* has been found in deeper water at the southern end of the lake. At the northern end of the lake there is an extensive area of hydrosere dominated by reedbeds, sedge swamp and willow or alder carr. Sedges include bottle sedge *Carex rostrata*, tufted sedge *C. elata*, greater tussock sedge *C. paniculata* and the nationally scarce elongated sedge *C. elongata*. Tall herbs in this wetland include meadowsweet *Filipendula ulmaria*, common valerian *Valeriana officinalis* and angelica *Angelica sylvestris*.

## 2. Reason for European Site Designation

Esthwaite Water Ramsar is designate for the following features:

- Mesotrophic Lake
- Slender naiad *Najas flexilis*
- Wetland invertebrate assemblage
- Wetland plant assemblage

Esthwaite water qualifies as a Ramsar Site under Criterion 1a because it is a particularly good example of a mesotrophic lake and under Criterion 2a because it contains nationally rare plant and other restricted species.

Links to Conservation Advice:

- [JNCC Ramsar Conservation Advice](#)

### 3. Nutrient Pressures and Water Quality Evidence

The nutrient pressure(s) for which the site is unfavourable for:

- Phosphorus

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

**Table 1 – Site attribute with water quality targets**

Unit Name	SSSI Unit	Monitoring Point ID	WQ Target	WQ Monitoring Data <sup>1</sup>	Compliance with target – Pass/Fail and % reduction needed to achieve the WQ Target
			TP (µg/l)	TP (µg/l)	TP (µg/l)
Lake	1	Cunsey Beck at EES Bridge – NW 88004551	15	29	FAIL 48% 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. 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 Esthwaite Water 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 Esthwaite water is included within the catchment map.

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<sup>1</sup> Water Quality Monitoring data from EA WIMS database. Nutrient concentrations reported for Total Phosphorus (TP) are the 2019 annual mean.

## 4. Additional Information

Habitat Type impacted by nutrients – Standing Water.

The Special Area of Conservation (SAC) is underpinned by Esthwaite Water SSSI.

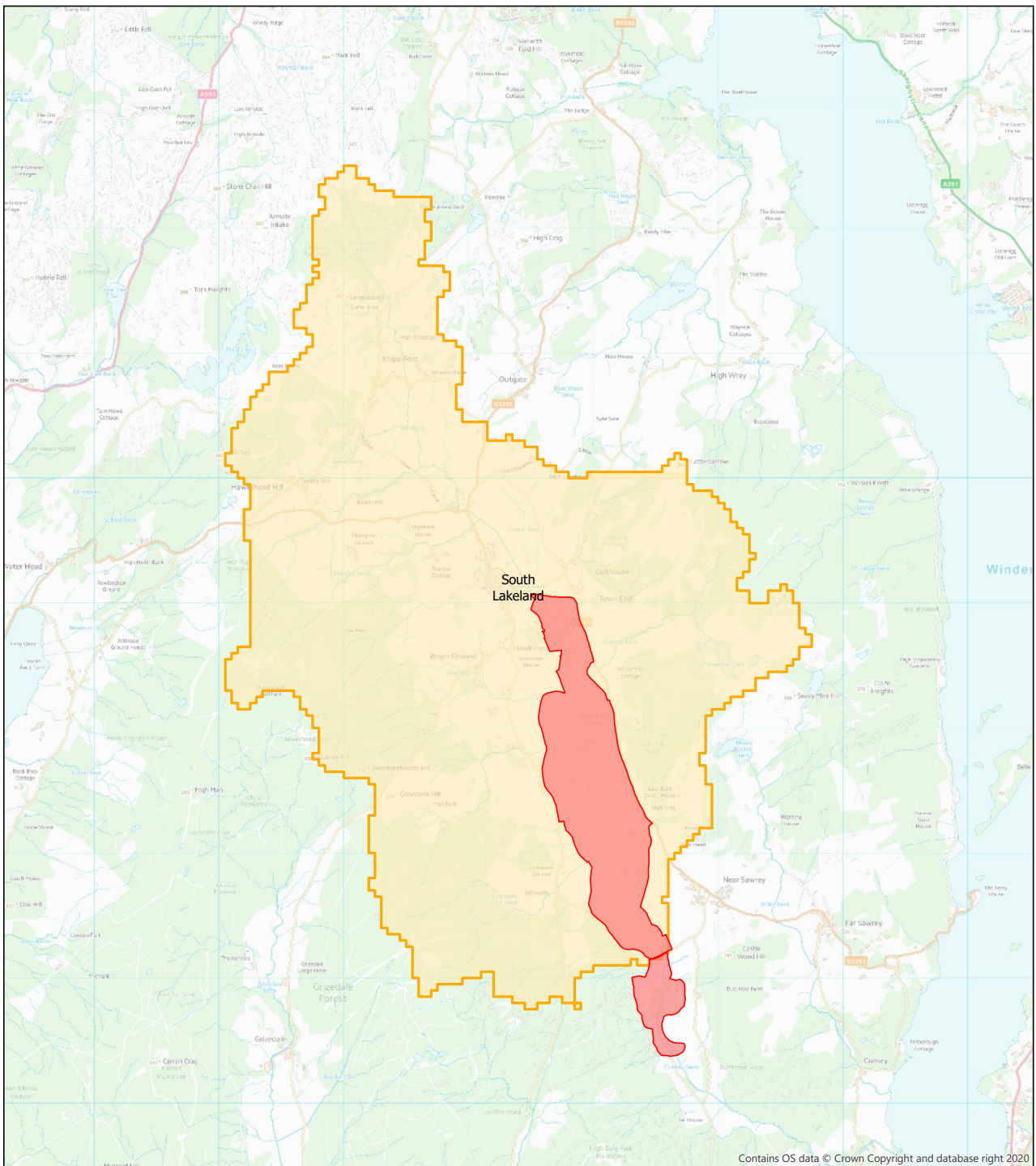
SSSI features of interest include:

- Assemblages of breeding birds – lowland open waters and their margins
- Lowland mire grassland and rush pasture
- Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg
- Mesotrophic Lakes
- Population of Schedule 8 plant – *Najas flexilis*, Slender Naiad
- Wet Woodland

# Appendix 1

## Annex 1 Map of component SSSIs of Esthwaite Ramsar





European protected sites requiring nutrient neutrality strategic solutions

Scale: 1:30,000

### Component SSSIs of Esthwaite Water Ramsar

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

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# List of abbreviations

**SAC** – Special Area of Conservation

**SSSI** – Site of Special Scientific Interest

**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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