

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

---

## 1. Name and address of the compiler of this form:

### Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

FOR OFFICE USE ONLY.

DD MM YY

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

Designation date

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

Site Reference Number

---

## 2. Date this sheet was completed/updated:

Designated: 28 October 1993

---

## 3. Country:

UK (England)

---

## 4. Name of the Ramsar site:

Malham Tarn

---

## 5. Designation of new Ramsar site or update of existing site:

**This RIS is for:** Updated information on an existing Ramsar site

---

## 6. For RIS updates only, changes to the site since its designation or earlier update:

### a) Site boundary and area:

\*\* Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

### b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

**7. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) **hard copy** (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) *Yes*
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** *yes* ✓ -or- *no* ☐;

b) **Describe briefly the type of boundary delineation applied:**

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

**8. Geographical coordinates (latitude/longitude):**

54 05 46 N                      02 09 44 W

**9. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Skipton

Malham Tarn lies 17 km north-west of Skipton in the Yorkshire Dales.

**Administrative region:** North Yorkshire

**10. Elevation (average and/or max. & min.) (metres):** **11. Area (hectares):** 286.26

Min.     378

Max.     378

Mean     378

**12. General overview of the site:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

A wetland of international importance comprising areas of open water, fen, soligenous fen and raised bog. These habitats hold important communities of rare plant species and wetland invertebrates, and are of types now highly restricted due to drainage and land use changes.

**13. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 2

**14. Justification for the application of each Criterion listed in 13 above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 1

Contains the highest marl lake in Britain, along with acidophilous bog, calcareous fen and soligenous mire.

Ramsar criterion 2

Supports the nationally rare alpine bartisia *Bartsia alpina* and narrow small reed *Calamagrostis stricta* and seven nationally scarce species. Supports five listed British Red Data Book invertebrates including the caddis fly *Agrypnia crassicornis*.

**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

Atlantic

**b) biogeographic regionalisation scheme** (include reference citation):

Council Directive 92/43/EEC

**16. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

|                                   |   |
|-----------------------------------|---|
| Soil & geology                    | acidic, basic, peat, nutrient-poor, sedimentary, sandstone/mudstone, limestone/chalk, maerl   |
| Geomorphology and landscape       | upland  |
| Nutrient status                   | eutrophic, mesotrophic, oligotrophic  |
| pH                                | acidic, alkaline  |
| Salinity                          | fresh   |
| Soil                              | mainly organic  |
| Water permanence                  | usually permanent   |
| Summary of main climatic features | Annual averages (Malham Tarn, 1971–2000)<br>( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/malham_tarn.html">www.metoffice.com/climate/uk/averages/19712000/sites/malham_tarn.html</a> )<br>Max. daily temperature: 10.1° C<br>Min. daily temperature: 4.0° C<br>Days of air frost: 79.1<br>Rainfall: 1518.4 mm<br>Hrs. of sunshine: 1148.8 |

**General description of the Physical Features:**

No information available

**17. Physical features of the catchment area:**

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

Malham Tarn's catchment area covers about 6 km<sup>2</sup>. The Tarn lies largely over Silurian slates covered with thick glacial drift and marl deposits. Surrounding the Tarn is a karstic landscape of Carboniferous limestone.

The inflow to the Tarn consists of a small stream entering at the north-western corner and to a lesser extent small springs that issue from the limestone/shale boundary at the base of the limestone scar ('Great Close') on the eastern shore. There is a single outflow at the southern end of

the Tarn ('Tarn Foot'). The outflow stream flows for only a short distance before sinking into the limestone. The retention time of the Tarn is 11 weeks (Fryer 1991).

To the west is a raised bog, Tarn Moss; a cliff has formed as a result of erosion by the Tarn water subsequent to the raising to the water level in 1771.

**18. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

No special values known, Recharge and discharge of groundwater

**19. Wetland types:**

Inland wetland

| Code  | Name   | % Area |
|-------|--|--------|
| Other | Other  | 47.6   |
| U     | Peatlands (including peat bogs swamps, fens) | 21.7   |
| O     | Freshwater lakes: permanent                  | 21.7   |
| Tp    | Freshwater marshes / pools: permanent        | 7      |
| W     | Shrub-dominated wetlands                     | 1.3    |
| M     | Rivers / streams / creeks: permanent         | 0.7    |

**20. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The Malham Tarn Ramsar site is a wetland of international importance comprising areas of open water, fen raised bog and soligenous mire. The Tarn is a shallow, calcareous lake, which is the highest marl lake in Britain, at 380 m. Associated with the Tarn are habitats demonstrating all the stages of hydrosere development - open water, swamp, fen, and raised bog lying immediately south of the fen. East of the Tarn are two soligenous mires, Ha Mire and the extensive complex of Great Close Mire. These fen systems are highly calcareous with vegetation often encrusted with tufa. Outflows from these mires are tributaries to Gordale Beck, a rich calcareous stream that flows southwards to the boundary of the site.

Ecosystem services

**21. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

**Nationally important species occurring on the site.**

**Higher Plants.**

*Bartsia alpina, Calamagrostis stricta*

**22. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

**Birds**

**Species Information**

**Nationally important species occurring on the site.****Fish.***Cottus gobio***Invertebrates.***Austropotamobius pallipes***23. Social and cultural values:**

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic  
 Environmental education/ interpretation  
 Livestock grazing  
 Non-consumptive recreation  
 Scientific research  
 Sport fishing  
 Tourism

**b)** Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

**24. Land tenure/ownership:**

| Ownership category                  | On-site | Off-site |
|-------------------------------------|---------|----------|
| Non-governmental organisation (NGO) | +       | +        |
| Private                             | +       | +        |

**25. Current land (including water) use:**

| Activity                     | On-site | Off-site |
|------------------------------|---------|----------|
| Nature conservation          | +       | +        |
| Tourism                      | +       | +        |
| Recreation                   | +       | +        |
| Current scientific research  | +       | +        |
| Fishing: recreational/sport  | +       |          |
| Livestock watering hole/pond | +       | +        |

|                                |   |   |
|--------------------------------|---|---|
| Grazing (unspecified)          | + | + |
| Permanent pastoral agriculture | + | + |
| Hay meadows                    | + | + |
| Domestic water supply          |   | + |

**26. Factors (past, present or potential) adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:**

*Explanation of reporting category:*

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

| Adverse Factor Category | Reporting Category | Description of the problem (Newly reported Factors only) | On-Site | Off-Site | Major Impact? |
|-------------------------|--------------------|--|---------|----------|---------------|
| No factors reported     | NA                 |  |         |          |               |
|                         |                    |  |         |          |               |

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

**27. Conservation measures taken:**

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

| Conservation measure  | On-site | Off-site |
|---|---------|----------|
| Site/ Area of Special Scientific Interest (SSSI/ASSI)                 | +       | +        |
| National Nature Reserve (NNR)   | +       |          |
| Land owned by a non-governmental organisation for nature conservation | +       | +        |
| Management agreement  | +       | +        |
| Site management statement/plan implemented                            | +       |          |
| Special Area of Conservation (SAC)                                    | +       |          |

**b) Describe any other current management practices:**

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

**28. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

---

**29. Current scientific research and facilities:**

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

**Environment.**

Climate data is collected by the FSC from the meteorological station on Tarn Close.

**Flora.**

A grab survey of plant species on the bed of the Tarn has been carried out every year since 1994.

Vegetational change: A programme of fixed point photography is underway.

Field Studies Council: Ongoing research programme covering a range of environmental aspects (list available if required).

---

**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:**

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

*Field Studies Council:* Malham Tarn house became a centre of the Field Studies Council in 1947 so there has been a long history of educational use of the site.

*Research:* Since the establishment of the Centre a great deal of research has been carried out by universities, colleges, FSC staff and other individuals.

*Interpretation:* The National Trust has produced a free leaflet. Open days on the NNR, allowing public access to the boardwalk, are held annually. A series of guided walks are held by the National Trust.

---

**31. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

**Activities, Facilities provided and Seasonality.**

Fishing: boat fishing is allowed on the Tarn.

Bird watching: a bird hide is situated on the north shore which is open to visitors at all times.

A large number of people walk along the private roads, public footpaths and bridleways. There is some cycling and horse riding. The north-east shore of the Tarn is a popular picnic spot.

---

**32. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,  
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol,  
BS1 6EB

---

**33. Management authority:**

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,  
Northminster Road, Peterborough, PE1 1UA, UK

---

**34. Bibliographical references:**

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

**Site-relevant references**

Fryer, G (1991) Classic sites: Malham Tarn. *Journal of the Institute of Biology*, **38**(3), 81-83

Holmes PF (1965) The natural history of Malham Tarn. *Field Studies*, **2**(2), 199-223

Huddart, D & Glasser, NF (2002) *Quaternary of northern England*. Joint Nature Conservation Committee, Peterborough (Geological Conservation Review Series, No. 25)

Jones, C (2001) Classic wildlife sites: Malham Tarn National Nature Reserve. *British Wildlife*, **13**(1), 29-37

- McLeod, CR, Yeo, M, Brown, AE, Burn, AJ, Hopkins, JJ & Way, SF (eds.) (2004) *The Habitats Directive: selection of Special Areas of Conservation in the UK*. 2nd edn. Joint Nature Conservation Committee, Peterborough.  
[www.jncc.gov.uk/SACselection](http://www.jncc.gov.uk/SACselection)
- Piggot, ME & Piggot, CD (1959) Stratigraphy and pollen analysis of Malham Tarn and Tarn Moss. *Field Studies*, **1**(1), 1-18
- Ratcliffe, DA (ed.) (1977) *A Nature Conservation Review. The selection of biological sites of national importance to nature conservation in Britain*. Cambridge University Press (for the Natural Environment Research Council and the Nature Conservancy Council), Cambridge (2 vols.)
- Shirt, DB (ed.) (1987) *British Red Data Books: 2. Insects*. Nature Conservancy Council, Peterborough
- Waltham, AC, Simms, MJ, Farrant, AR & Goldie, HS (1997) *Karst and caves of Great Britain*. Chapman & Hall, London, for Joint Nature Conservation Committee, Peterborough (Geological Conservation Review Series, No. 12)

---

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**  
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: [ramsar@ramsar.org](mailto:ramsar@ramsar.org)