

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:**Joint Nature Conservation Committee**

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

Designated: 07 November 1991 / updated 12 May 2005

3. Country:

UK (Wales)

4. Name of the Ramsar site:

Llyn Tegid

5. Map of site included:Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.**a) hard copy** (required for inclusion of site in the Ramsar List): yes -or- no **b) digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

52 53 04 N

03 37 28 W

7. 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: Bala

Llyn Tegid lies 24 km north-east of Dolgellau, north Wales.

Administrative region: Gwynedd

8. Elevation (average and/or max. & min.) (metres):

Min. 158

Max. 159

Mean 159

9. Area (hectares): 481.91

(2005 calculation, no boundary change)

10. Overview:

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

Llyn Tegid is the largest natural lake in Wales. The lake bed is owned by Snowdonia National Park Authority although the water is the property of the Environment Agency. It is important for its internationally rare plant species, particularly floating water plantain *Luronium natans* and its unique fish fauna, including the endemic whitefish or gwyniad, *Coregonus lavaretus*. The glutinous snail *Myxas glutinosa* was considered to have been lost from this locality, as it had not been found in Llyn Tegid since 1953. However it was rediscovered in the lake in summer 1998.

11. 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

Secretariat comment: The RIS provides information requiring the application of Criterion 7. This needs to be included in the next update.

12. Justification for the application of each Criterion listed in 11. 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

Largest natural lake in Wales, lying deep in a formerly glaciated trough.

Ramsar criterion 2

Plant species growing in or beside the lake are mudwort *Limosa aquatica*, six-stamened waterwort *Elatine hexandra*, water sedge *Carex aquatilis* and floating water plantain *Luronium natans*, all of which are scarce in Britain. The latter species is regarded as vulnerable on a global scale. This site is also one of only six sites in Britain for the whitefish or gwyniad *Coregonus lavaretus*; the Welsh population of this fish is genetically distinct. Llyn Tegid is also an unusual habitat for the normally riverine fish grayling *Thymallus thymallus*. The Nationally Rare glutinous snail *Myxas glutinosa* has been rediscovered in the shallow gravels of the lake shore.

13. 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

14. 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, mud, gravel |
| Geomorphology and landscape | upland, valley |
| Nutrient status | mesotrophic |
| pH | circumneutral |

| | |
|-----------------------------------|---|
| Salinity | fresh |
| Soil | mainly organic |
| Water permanence | usually permanent |
| Summary of main climatic features | Annual averages (Colwyn Bay, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/colwyn_bay.html) Max. daily temperature: 13.3° C Min. daily temperature: 6.9° C Days of air frost: 22.5 Rainfall: 788.1 mm Hrs. of sunshine: 1499.1 |

General description of the Physical Features:

No information available

15. 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).

No information available

16. Hydrological values:

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

Flood water storage / desynchronisation of flood peaks, Water supply

17. Wetland types

Inland wetland

| Code | Name | % Area |
|------|-----------------------------|--------|
| O | Freshwater lakes: permanent | 100 |

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

This site is mainly open water with *Luronium natans*, *Elatine hexandra* and *Limosella aquatica*.
Topogeneous fen/swamp.**19. 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.**S1831 *Luronium natans* Floating water-plantain (Habitats Directive Annex II species)**20. 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.***Species Information****Nationally important species occurring on the site.**

Fish.

Coregonus lavaretus

Invertebrates.

Myxas glutinosa (UK Biodiversity Action Plan species).

21. Social and 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
- Archaeological/historical site
- Environmental education/ interpretation
- Non-consumptive recreation
- Scientific research
- Sport fishing
- Tourism

22. Land tenure/ownership:

| Ownership category | On-site | Off-site |
|-------------------------------------|---------|----------|
| Non-governmental organisation (NGO) | + | |
| Local authority, municipality etc. | + | |
| Private | | + |

23. Current land (including water) use:

| Activity | On-site | Off-site |
|--------------------------------|---------|----------|
| Nature conservation | + | |
| Tourism | + | |
| Recreation | + | |
| Commercial forestry | | + |
| Fishing: recreational/sport | + | |
| Permanent pastoral agriculture | + | |
| Sewage treatment/disposal | + | |
| Flood control | | + |
| Domestic water supply | | + |

24. Factors 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? |
|-------------------------|--------------------|--|---------|----------|---------------|
| | | | | | |
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|--|---|--|---|--|---|
| Pollution – domestic sewage | 1 | Point source pollution from sewage outfall accounts for less than 10% of the total phosphate & nitrate in-put. Intermittent & seasonal blue-green algal blooms. Some improvements to sewage treatment works. | + | | |
| Pollution – pesticides/agricultural runoff | 1 | Diffuse pollution continues to contribute to the eutrophication of the lake waters. Phosphate & nitrate levels in the lake are fairly constant. | + | | + |
| | | | | | |

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

25. 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) | + | |
| Site management statement/plan implemented | + | |
| Special Area of Conservation (SAC) | + | |

26. Conservation measures proposed but not yet implemented:

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

No information available

27. Current scientific research and facilities:

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

Flora.

Study of algal blooms - Environment Agency.

Translocation of gwyniad to another lake to maintain genetic stock: project commenced 2004, organised by Countryside Council for Wales (CCW), Environment Agency (EA) and Centre for Ecology & Hydrology (CEH).

Gwyniad survey 2003 (CCW).

Macrophyte survey of tributaries 2003 (CCW).

Catchment management project in preparation by CCW, EA & University of Bangor 2004.

28. Current conservation education:

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

Leaflet produced; symposium of environmental history of the lake was held November 1997 - the proceedings were published in 2003 (Duigan *et al.* 2003).

29. 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.

Llyn Tegid is an important recreational resource supporting local tourism. Sailing, fishing and other water sports are all important. In general these activities are not detrimental, although increased visitors to the area may add to sewage inputs.

30. Jurisdiction:

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

Head, Countryside Division, Welsh Assembly Government, Cathays Park, Cardiff, CF1 3NQ

31. 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 Safeguard Officer, International Designations, Countryside Council for Wales, Maes-y-Ffynnon, Penrhosgarnedd, Bangor, Gwynedd, LL57 2DW

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Site-relevant references

- Bennion, H, Shilland, E & Appleby, PG (1997) *A study of recent environmental change at Llyn Tegid (Lake Bala), Wales*. Report to the Environment Agency. University College London, Environmental Change Research Centre (ECRC Research Report, No. 36)
- Duigan, CA, Gritten, R & Millband, H (eds.) (2003) *Llyn Tegid symposium: the ecology, conservation and environmental history of the largest natural lake in Wales: a meeting organised by Countryside Council for Wales, Environment Agency Wales, Snowdonia National Park Authority and Gwynedd Council, Plas Tan y Bwlch, Maentwrog, 20th November 1997. Proceedings*. University of Liverpool, Liverpool
- Environment Agency Wales, Countryside Council For Wales, Forestry Commission, Gwynedd County Council, Farmers Union of Wales & National Farmers Union (1999) *A strategy and action plan for the sustainable use of Llyn Tegid*. Environment Agency, Cardiff
- Fowles, A (1994) *Invertebrates of Wales: a review of important sites and species*. Joint Nature Conservation Committee, Peterborough
- Holyoak, DT & Willing, MJ (1998) Status and ecology of the glutinous snail *Myxas glutinosa* at Llyn Tegid. *CCW Science Report*, No. 338
- Jones, PS, Stevens, DP, Blackstock, TH, Burrows, CR & Howe, EA (eds.) (2003) *Priority habitats of Wales: a technical guide*. Countryside Council for Wales, Bangor
- 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
- 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.)
- Willing, M (2004) *Condition assessment of the glutinous snail Myxas glutinosa in Llyn Tegid, 2002*. Countryside Council for Wales, Bangor
- Winfield, IJ, Fletcher, JM & James, JB (2003) Gwyniad translocation project: Phase One – a condition assessment of the potential donor population in Llyn Tegid. *CCW Contract Science Report*, No. 597
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