

# 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.

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

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Designation date

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Site Reference Number

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

Designated: 07 November 1991

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## 3. Country:

UK (Wales)

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## 4. Name of the Ramsar site:

Llyn Tegid

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

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

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## 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):**

52 53 04 N                      03 37 28 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: Bala

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

**Administrative region:** Gwynedd

**10. Elevation (average and/or max. & min.) (metres):** **11. Area (hectares):** 478.08

Min.      158

Max.      159

Mean      159

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

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.

**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

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.

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**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

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**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, 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) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/colwyn_bay.html">www.metoffice.com/climate/uk/averages/19712000/sites/colwyn_bay.html</a> ) 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

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**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).

No information available

**18. 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

**19. Wetland types:**

Inland wetland

Code	Name	% Area
O	Freshwater lakes: permanent	100

**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.

This site is mainly open water with *Luronium natans*, *Elatine hexandra* and *Limosella aquatica*.  
Topogeneous fen/swamp.

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.**

S1831 *Luronium natans* Floating water-plantain (Habitats Directive Annex II species)

**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.**

*Coregonus lavaretus*

**Invertebrates.**

*Myxas glutinosa* (UK Biodiversity Action Plan species).

**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  
Archaeological/historical site  
Environmental education/ interpretation  
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)	+	
Local authority, municipality etc.	+	
Private		+

**25. 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		+

**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?
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

**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)	+	
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.

**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.

**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.

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

**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.**

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.

**32. 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

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

**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**

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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