

Evidence

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Characterisation and classification of non-SSSI groundwater dependent wetlands Project summary SC120029

The Environment Agency, in collaboration with Natural England and Natural Resources Wales, has undertaken a scoping study to develop a methodology to assess the risk of damage to non-statutory/non-designated groundwater dependent wetlands. The methodology will be of interest to regulators and statutory conservation organisations, Wildlife Trusts, Biological Record Centres and wildlife non-governmental organisations.

We need to assess whether groundwater is causing damage to any groundwater dependent wetlands¹ in order to protect and improve water, land and biodiversity. Where there are chemical pressures from the groundwater body upon the wetland we may achieve this for example by catchment management measures to reduce diffuse pollution. The method used to date to assess whether a site is at risk of significant damage has focused on Sites of Special Scientific Interest (SSSIs). In this study the method is extended so that it can be applied to non-SSSI groundwater dependent wetland areas at an appropriate point in the future.

This study was carried out in consultation with the Biological Record Centres, who hold a wealth of information and data. However, the data was collected for different purposes originally, so the availability and format of data required to assess chemical pressure on wetlands varies between Biological Record Centres. In order to use the data effectively we need to have specified methods and compare to other sources of data, for example species records.

The report makes recommendations on how to interpret the available data to assess groundwater dependency, chemical pollution pressure and site condition.

The approach taken to assigning **groundwater dependency** to sites will depend upon the data available. Where available, National Vegetation Classification (NVC) data should be used, as it is currently². However, in the absence of NVC data, Phase 1 habitat survey data can be used. If no NVC or Phase 1 data are available, Biodiversity Action Plan priority habitat inventories and species inventories can be used to identify wetland areas.

The assessment of **chemical pollution pressure** (nitrates) uses an approach of assigning a threshold value for the concentration of nitrates which specific habitats (e.g. wet grassland) can tolerate³. The suggested approach for assigning a nitrate threshold to non-SSSI sites is based on the percentage of arable and improved grassland within a 2 km buffer of a site.

Site condition data are required in the determination of whether a site is significantly damaged. However, it is not generally possible, at this time, to assign a condition to non-SSSI groundwater dependent sites. As a result it is suggested that if sites are assessed as being exposed to high pressure with a high connectivity to the groundwater body they should be subject to site-specific assessment to determine their condition.

The next step following this scoping study will be to trial the method. It would be simplest to trial the method in Wales due to the existence of Phase 1 habitat survey data over most of the country.

It is recommended that the methodology is applied on a prioritised basis to those non-statutory/non-designated sites that contain internationally important habitats.

It is suggested that the focus of future analyses of the risk of significant damage to non-SSSI groundwater dependent wetlands should be on County Wildlife Sites and Local Nature Reserves since these generally have some data available.

The report will assist Wildlife Trusts, Biological Record Centres and other wildlife non-governmental organisations to prioritise and target data collection and data availability during the next Water Framework Directive river basin cycle, especially for priority sites.

¹ [Water Framework Directive UK Technical Advisory Group, 2012. Guidance on groundwater chemical classification.](#)

² [Water Framework Directive UK Technical Advisory Group, 2004. Risk assessment of groundwater-dependent terrestrial ecosystems \(updated 2009\).](#)

³ [Water Framework Directive UK Technical Advisory Group, 2013. Groundwater-dependent terrestrial ecosystem threshold values.](#)



This summary relates to information from the following project:

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Project manager: Andrew Onobrakpeya, Evidence Directorate

Research Collaborator: Mark Whiteman, Natalie Phillips (Environment Agency), Iain Diack, Anna Wetherell, (Natural England), Dr Peter Jones, Natural Resources Wales

Research Contractor: Dr Andrew Brooks, Mike Carey, Gavin Montgomery, AMEC Environment & Infrastructure UK Ltd, Canon Court North, Abbey Lawn, Abbey Foregate, Shrewsbury, Shropshire, SY2 5DE

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