

Pond Conservation: The Water Habitats Trust
Supplementary notes on the proposed Priority Habitat/HAP for
Ponds of High Ecological Quality “Form A”

This section is intended to supplement and explain annotations made on the accompanying Form A.

Pond Conservation has conducted an extensive consultation process on the original draft Habitat Action Plan for Ponds of High Ecological Quality (PHEQs), including a workshop held at Oxford Brookes University in January 2005. The list of delegates and consultees is appended at the end of this document.

The consultation process revealed strong support for the importance of ponds as a Priority Habitat, and for the value of a pond HAP. Many useful suggestions have been made for objectives, targets and practical implementation, and a revised draft HAP can be made available should it be decided that a new HAP for Ponds of High Ecological Quality is an appropriate way forward.

Relevant conclusions from the consultation process have been incorporated in the notes below. They included the scope of definition of Ponds of High Ecological quality, the need for consideration of ponds at the landscape level, and the need for criteria for Ponds of High Ecological Quality to differ from those for SSSI designation.

Notes

1. This is derived from the definition used by Pond Conservation which has been widely adopted in the United Kingdom (e.g. Defra Countryside Survey, Water Framework Directive)
2. The criteria for selection have been modified to more closely reflect the criteria in BAP Review Guidance document. Specifically:
 - A new criterion has been added “*Ponds of high conservation importance*” to conform with Habitats Directive requirements.
 - The original RDB and BAP criterion has been similarly modified to a single criterion “*Species of high conservation importance*”.
 - The first four criteria in the original document have been rationalised into a single criterion “*Exceptional assemblages of key biotic groups*”.
3. The definition of exceptional species richness is based on information from the National Pond Survey (NPS), which described the biota of minimally impaired ponds in semi-natural landscapes in Britain. The species richness criteria proposed here are equivalent to the top 5% most species-rich sites of the NPS. Species richness estimates should be derived from surveys using standard National Pond Survey wetland plant survey techniques and a standard NPS three minute invertebrate hand net sample.
4. Potential additional criteria for consideration.

Through consultation we have received strong suggestions for recognising the landscape level importance of certain ponds. Some landscapes (e.g. New Forest, southern Cheshire, Wester Ross) are characterised by exceptional densities or networks of ponds or lochans for natural or cultural reasons, and this could be a supporting criterion for identification of ponds (or complexes of ponds) as PHEQs. In other cases, (such as Anglesey Fens SAC), protected sites could be sustained and strengthened by active pond creation of PHEQs around the designated kernel.

Also through consultation, certain types of ponds have been identified as of special rarity or importance. Examples proposed include oxbows, pingos, dune and heathland ponds, some brackish coastal ponds, turloughs and fluctuating meres. Some of these are currently included within existing Priority Habitats.

High quality ponds occur in a variety of terrestrial Priority Habitats (e.g. Lowland Heathland, Lowland Dry Acid Grassland, Coastal Sand Dunes, Lowland Wood Pasture and Parkland, Native Pine Woodlands). In most such terrestrial landscapes ponds will be readily distinguishable from other terrestrial habitats. The benefit of identifying ponds in these habitats is that ponds typically require quite different management and protection measures to the associated terrestrial habitat. Usually the terrestrial Priority Habitat will have few specific measures relating to ponds in the Habitat Action Plan (of the examples given above only Coastal Sand Dunes has significant water management measures and these are concerned only with water table levels). Thus, although the heathland, grassland, dune system or woodland may be generally well-managed, ponds in that habitat may be largely overlooked, dealt with only incidentally or even mismanaged.

In river systems, grey areas ('is this a pond, or part of a riverine Priority Habitat?') are likely to be rare. At present, the only riverine Priority Habitat is Chalk Rivers which have few oxbows or other associated ponds. The new proposed Priority Habitat 'Active Shingle Rivers' may include rivers with associated pond systems. However, the special interest features of associated ponds are likely to have different management requirements to those of Active Shingle Rivers in which the main requirement is to ensure that the river system retains its natural dynamism in order to maintain exposed riverine sediments.

In all other cases, the river with which the high quality pond is associated would not be a Priority Habitat; thus the pond would be a Priority Habitat and the river system might need to be managed to take account of this fact. This process is, in fact, already occurring in some river restoration schemes. These often have the potential to damage high value ponds through reconnecting former channel sections to main river channels (whether natural oxbows or cutoffs artificially created by river channelisation).

A very small number of ponds have already been identified as Priority Habitats under the heading of Aquifer Fed Naturally Fluctuating Water Bodies. It would not be necessary to reclassify these as Ponds of High Ecological Quality / Conservation Value. Similarly, Brackish Lagoons are already identified as Priority Habitat and should not be reclassified as Priority Habitat ponds.

5. See for example

Williams P, Whitfield M., Biggs J., Bray S., Fox G., Nicolet P. and Sear D. 2003 Comparative biodiversity of rivers, streams, ditches and ponds in an agricultural landscape in Southern England. *Biological Conservation* 115:329-341.

Davies, B. R. (2005) Towards a strategic approach to the protection of aquatic biodiversity. PhD Thesis, Oxford Brookes University.

6. Target 2 of the Defra PSA is to: *Care for our living heritage and preserve natural diversity by reversing the long term decline in the number of farmland birds by 2020, as measured annually against underlying trends.* There are 20 farmland bird species included in the index used to assess success in the PSA. Several of these are believed to require areas of wet ground or water bodies, primarily to provide aquatic insects as a source of food. Current research, funded by Defra, and being undertaken jointly by RSPB, Pond Conservation and the University of Reading, is investigating the most effective ways of 'wetting-up' farmland by recreating ditches and ponds to provide food resources for key farmland species.

Supplementary notes following JNCC's initial queries on submission

February 2006

Supp Note 1: Name of the proposed priority habitat

Ecological quality is, here, used in the sense commonly applied in the assessment of the status of freshwaters referring to the condition of all aspects of the freshwater environment (i.e. biota, physical and chemical environment, processes), specifically how similar a site is biologically to its minimally impaired reference condition.

Most ponds of high ecological quality will also be of high conservation value. However, ecological quality is not entirely synonymous with conservation value: some sites with rare species can be quite degraded and, conversely, sites of high ecological quality do not always have rarities. In the context of the current criteria (which have changed slightly from early versions that included a quality assessment criterion using PSYM), a better alternative would be 'Ponds of High/(Significant/Considerable) Conservation Value/(Importance)'.

With respect to LBAPS, Pond Conservation think that most people would engage enthusiastically with a HAP dealing with Ponds of High Ecological Quality / Conservation Value. This is because the wide distribution of the habitat means that most LBAPS will have such ponds to deal with. Of course they should also deal with lower quality ponds, but that process is not prevented by the proposed HAP. The objective of the HAP should be first to focus on the most critical objective of maintaining a very scarce resource: high quality ponds.

Note: The original suggestion for a simple 'Ponds' priority habitat was rejected as being too inclusive, even though similar HAPs exist (e.g. 'Fens') that are equally as sweeping and make no reference to quality in their title.

Supp Note 2: Species of high conservation importance

The intention of this criterion is that ponds supporting any species of conservation concern should be given the protection afforded by Priority Habitat status. In contrast to more extensive terrestrial or aquatic habitats (which may support multi-species assemblages of conservation concern because of their *large area*) most individual high conservation value ponds do not support large numbers of Red Data Book or BAP species. In the National Pond Survey invertebrate dataset, which is a sample of the highest quality ponds and in which the highest numbers of RDB species might be expected, of those ponds with RDB species, 91% had either one or two RDB species. *However*, as a *combined* resource the number of RDBs supported by ponds is considerable. For example, nationally, the number of RDB invertebrate species found in minimally impaired ponds considerably exceeds the number found in minimally impaired rivers¹. For this reason, this criterion (species of high conservation importance) refers to all occurrences of species of conservation concern and not to assemblages. This is taken into account in the estimates of the likely numbers of ponds to be covered by the proposed Priority Habitat.

Supp Note Note 3: Estimate of number of ponds likely to be involved?

The estimate given is based partly on Countryside Survey data on the total number of ponds in Great Britain (c.385,000 excluding garden ponds) and Lowland Pond Survey estimates of the proportion of ponds which would meet the proposed criteria. Currently about 500 ponds of high conservation value are listed on the National Ponds Database (www.pondnetwork.org.uk).

¹Biggs J, Williams P, Whitfield M, Nicolet P, Weatherby A (2005). 15 years of pond assessment in Britain: results and lessons learned from the work of Pond Conservation. *Aquatic Conservation-Marine and Freshwater Ecosystems*, 15: 693-714.

Counts of pond numbers derived from Hughes *et al.* (2004)² (see table below) are likely to be significant underestimates. This is because the database which these authors used was derived from 1:50,000 OS maps which show a total of about 43,000 waterbodies (lakes and ponds), representing about 10% of the total 397,000 waterbodies in Great Britain estimated by the Countryside Survey.

Country	No. of Ponds (<1ha)	No. High Quality Ponds (5% of total)
England	10,738	537
Scotland	17,727	886
N Ireland	1,069	53
Wales	894	45
Isle of Man	26	1

Supp Note Note 4: Further information on how readily the proposed habitat has been/can be identified on the ground, if an inventory has been/can be developed, and how it might be monitored.

Distribution: Data on the distribution of high quality ponds is currently being collated on the National Ponds Database (see below) and is derived from a range of national and regional surveys (e.g. Defra Countryside Survey and Lowland Pond Survey, PCs National Pond Survey of high quality sites, PondLife survey of Cheshire ponds).

Identification on the ground: To identify ponds listed on Annex 1 of the Habitats Directive or supporting rare plants standard NVC or plant assemblage survey techniques can be used. For species of conservation importance standard methods for specific groups (e.g. dragonflies, amphibians) can be used. Typically a simple species inventory which detects the occurrence of the species of interest will be adequate to identify high conservation value ponds. To identify ponds on the grounds of exceptional assemblage richness standard National Pond Survey methods, which allow reliable comparisons to be made with national datasets, need to be used.

Monitoring - The National Pond Monitoring Network (NPMN):

The main objective of the NPMN is to stimulate, co-ordinate and undertake pond survey work to provide information needed to further pond conservation, including the number and condition of high quality ponds. The NPMN provides the survey and monitoring infrastructure needed for the proposed pond Priority Habitat including the National Ponds Database, provision of training in standard survey methods and development of a collaborative network of partner organisations.

Currently the NPMN has three specific survey/monitoring objectives:

- (1) to establish a representative national monitoring programme for all ponds as part of the Countryside Survey (CS). A feasibility study for a pond survey in CS2007 has recently been commissioned by CEH/Defra and it is anticipated that a full pond survey will be included in CS2007.
- (2) to stimulate, co-ordinate and undertake targeted survey and monitoring of high quality ponds. PC is currently planning to repeat the National Pond Survey study of high quality ponds undertaken between 1990 and 1995. The NPMN is also working closely with the National Amphibian and Reptile Recording Scheme which is planning a new national survey of amphibians and reptiles starting in 2007.

²Hughes M, Hornby DD, Bennion H, Kernan M, Hilton J, Phillips G and Thomas R (2004). The development of a GIS-based inventory of standing waters in Great Britain together with a risk-based prioritisation protocol. *Water, Air and Soil Pollution: Focus* 4, 73-84.

- (3) to develop a national inventory of ponds. Development of the national inventory of ponds combines on-going work adding existing pond datasets to the NPMN database, many of which include high quality sites (e.g. the mid 1990s PondLife Biodiversity Survey of c.1000 ponds in Cheshire and Lancashire), and new projects to further develop the pond inventory. Examples of new projects include a pilot programme in Lancashire led by Pond Conservation linked to the LBAP in which volunteers record ponds to help find new ponds of conservation importance, a survey by Cumbria Wildlife Trust, FBA and others of Lake District tarns and targeted surveys of high quality temporary ponds in southern England by Sussex University. In addition discussions are underway with English Nature and the National Biodiversity Network (NBN) for developing the technology to deliver freshwater habitat boundaries as polygons with attribute data through the NBN Gateway in anticipation of the need for an inventory for pond Priority Habitats.

The approach taken in monitoring of known sites will depend on the criterion for which the site qualifies as a Priority Habitat and also on the number of sites of a particular type. Thus for very rare species occurring in small numbers of ponds (e.g. *Triops cancriformis*) it is likely that all sites will be visited on a cyclical basis. For ponds types (e.g. those identified under Annex 1 of the Habitats Directive) or species (e.g. stoneworts) which occur more widely in the landscape targeted surveys covering a stratified sample of sites will be required. These are currently planned or in progress for key groups/pond types. At a national level, the Countryside Survey will give a broad indication of trends in numbers of high quality ponds. There are also discussions currently in progress for the inclusion of c.500 ponds of high biodiversity importance under the Water Framework Directive which will require regular monitoring.

Supp Note Note 5: How much of the proposed habitat is within protected sites?

At present the number of ponds of high conservation value/ecological quality in designated sites, and particularly the extent to which these are designated features, is not accurately known. However, obtaining this information should be a relatively straightforward process for the Country Conservation Agencies if ponds of high conservation value/ecological quality are given Priority Habitat status.

Sections from 2001 submission (Table 3) not now included in Form A

Habitats which are functionally critical

Ponds are vital habitats for all amphibian species, some of which (e.g. toad: Carrier JA, Beebee TJC (2003). Recent, substantial, and unexplained declines of the common toad *Bufo bufo* in lowland England. *Biological Conservation*, 111: 395-399) are in unexplained decline. They are extensively used by species that do not spend all their life in water, e.g. grass snakes and bats for feeding, birds and mammals for drinking. They form stepping stones and isolated patches of benign habitat for many species, especially if associated with wetland vegetation. In many parts of the country, ponds and their margins are an important form of wetland habitat and so have particular importance for maintaining and facilitating dispersion of wetland species.

CONSERVATION GAIN

Issues

- Ponds as a habitat are not adequately covered by wildlife legislation. They fall through the SSSI network - they are hardly mentioned in the *SSSI Selection Guidelines*.
- In practice ponds are not protected against development in current planning law unless home to WCA species, especially great crested newts. The new PPS 9 “Biodiversity and Geological Conservation” requires regional spatial strategies to include targets for restoration and re-creation of priority habitats and monitoring. Recognition of ponds as a priority habitat will greatly increase the ability of the planning system to promote active pond conservation through prevention of development, mitigation measures, and promotion of pond creation, through for example Sustainable Urban Drainage Schemes.
- Pond species cannot be supported by surrounding terrestrial habitat and often are not found in larger water bodies (lakes, canals) that are given specific treatment in the SSSI series.
- The Environment Agency (and water resources legislation) does not currently deal adequately with pond conservation.
- Existing HAPs and SAPs currently protect only a small proportion of high-quality ponds. Only a small proportion of species of conservation concern found in ponds have SAPs. So, for example, the National Pond Survey shows that 89% of the ponds supporting a Red Data Book plant or animal species do not support BAP species and so are not covered by existing SAPs. Large numbers of high-quality ponds lie outside existing priority habitats (e.g. most ponds in the high-density clusters in NW England are primarily in rather intensive agricultural grassland; many ponds in the Weald in southern England are in semi-natural woodland of no particular conservation interest).

Benefits of a HAP

Major conservation benefits would accrue following the implementation of a HAP for Ponds of high ecological quality/conservation value compared to relying on existing LBAPs and SAPs. In particular, a national HAP would:

- Set realistic targets to offset the known losses and provide a strategic framework for the conservation of ponds across the UK. It would send a strong message that ponds are important for biodiversity and should be managed for this interest, and not just for fishing, wildfowl, amenity and landscape.

- Contribute to the delivery of core conservation business in the UK, particularly with respect to the Water Framework Directive, the Habitats Directive, Water Level Management Plans etc. A HAP would also help with better targeting of funds already being spent on ponds in agri-environment schemes.
- Assist in the development of policies which must be determined first at a national level before they can be effectively implemented locally (e.g. policies to reduce diffuse pollution from urban and agricultural landscapes, policies to control the spread of invasive species).
- Ensure that LBAPs are more effectively implemented (e.g. ensuring that LBAPs incorporate measures specifically designed for ponds, rather than less effective generic ‘standing water’ measures). At June 2004, 25% of published LBAPs made specific provision for ponds.
- Assist with the integration of HAPs and SAPs that influence ponds. Some pond species with SAPs have mutually incompatible ecological requirements (e.g. for early, mid or late succession ponds) and the integration of SAP objectives within a greater “vision” is essential.

Compared with many other priority habitats, ponds are easy and inexpensive to create and restore, the rates of return for effort are high, and results are easily measured and monitored. Both the wildlife and political gains will therefore be delivered quickly.

SUGGESTED LEAD AGENCY

Environment Agency and Pond Conservation in joint lead role

List of people/organisations who contributed to consultation on a draft Pond HAP

David Bilton	Biology Department Plymouth University
Craig Blackwell	County Ecologist, Oxon County Council
Jonathan Bramley	Bramley Associates
Jonathan Brickland	British Waterways
Rob Briers	Napier University
John Buckley	Herpetological Conservation Trust
Stewart Clarke	English Nature
Gordon Copp	CEFAS
Caroline Daguét	British Dragonfly Society
Ruth Davis	RSPB
Alastair Driver	Environment Agency
Naomi Ewald	Sussex University
Ian Fozzard	SEPA
Nigel Greenhalgh	PC: Chair of Trustees
Patrick Grillas	Station biologique de la Tour du Valat, France
Tim Halliday	Open University
Keith Hatton	Liverpool University/Ness Botanic Gardens
Tristan Hatton-Ellis	CCW
Rachel Hayward	The Environment Partnership
Anne Heeley	FWAG
Jenny Hilton	House of Lords
Anne Hope	British Waterfowl Association
Jocelyne Hughes	Dept External Studies, Oxford University
Mike Hughes	University College London
Roger Hyde	PC : Trustee, Water Industry
Trevor James	Development Officer: National Biodiversity Network
Ian Johnson	Rural Development Service.
Ingrid Jüttner	National Museums and Galleries of Wales
John Killick	BSBI
Linda King	HOD: BMS Oxford Brookes University
Camilla Lambrick	BBO Wildlife Trust
Phillipa Lloyd	Royal Horticultural Society Rosemoor
Andy McVeigh	Ecologist, Bucks County Council
Kerry Murton	Cardiff University
Jonathan Newman	Centre for Aquatic Plant Management
Mark O'Connell	Wildfowl and Wetlands Trust
Rob Oldham	De Montfort University
Margaret Palmer	Buglife
Anne Powell	English Nature, Freshwater Biological Assoc.
John Rodda	Brightwell Environment Group
David Sewell	Durrell Institute, Kent University PhD Student
Matt Shardlow	Buglife
Ian Strachan	JNCC
Stewart Thompson	Oxford Brookes University
Jon Webb	English Nature
Christopher Williams	BTCV, Thames & Chilterns/SE Operations Manager
Dorothy Wright	Herpetological Conservation Trust
Julia Wycherley	Surrey Wildlife Trust