



PONDS, LAKES & RESERVOIRS

1. INTRODUCTION

Local 'standing water bodies' (as opposed to flowing 'water courses') come in a great variety of sizes and configurations and include small ponds and pools, larger lakes and more artificial reservoirs. Most have a man-made origin either as ornamental features (e.g. Coombe Pool), for water storage (e.g. reservoirs at Draycote and Shustoke), as a supply of water for stock (many field ponds), as flood defence features (e.g. balancing pools at places like Claybrookes Marsh) or as the flooded bottoms of worked-out gravel pits and quarries. Some of the best ones (e.g. Alvecote Pools, Wyken Slough and Stoke Floods) have also developed accidentally following subsidence of land overlying coal mines.



© Warwickshire Wildlife Trust

Most local water bodies are classified as 'eutrophic' because they are relatively nutrient rich (especially in phosphorus and nitrates – see UKBAP for technical definition) with a tendency for large populations of algae to form in mid-summer which often makes the water green. This also leads to the formation of dark, anaerobic mud on their beds and a tendency to silt up quite quickly. This enrichment can result from farm run-off, road run-off and other sources of enriched water flowing into a water body (including the tap water you put in your garden pond!) and also polluted rain water. At low levels, such pollution may not affect the ecological diversity (mildly eutrophic water bodies are typically very diverse), but at higher levels it results in acute 'eutrophication' creating stagnant water bodies of much lower diversity, with a tendency to produce toxic blue-green algal blooms in hot summers and sometimes characterised by death of aquatic vegetation and surrounding shrubs.

The water body itself, where not too polluted can support a large array of fully aquatic and emergent plants, including 'macrophytes' like water lilies, pondweeds, reeds, and reed-maces plus microscopic algae. Animals using the water body include fish, a wide range of waterfowl (e.g. ducks, swans, grebes, gallinules), herons, herptiles (frogs, newts, grass snake), many types of insect (notably dragonflies, midges, water beetles) and other invertebrates such as water snails, leeches and crustaceans (e.g. crayfish and smaller isopods). Some of these can require very specific parts of a water body or other specific conditions related to water depth, water quality, water body size, water level fluctuations (summer draw-down can benefit many species), plant abundances, the presence/absence of fish or other predators and low levels of disturbance.

The margins of water bodies are very important, and sometimes the most diverse part of a water body. At the best examples, they are characterised by broad fringes of varied emergent and other marginal vegetation (including carr) and plentiful exposed wet mud. Many species of invertebrate have their larval stage located here, and many wetland birds nest in the cover of lake edges, both at ground level (e.g. wildfowl) or higher up (e.g. warblers and herons).

This action plan covers natural and man-made still waters such as non-garden ponds, lakes, reservoirs and restored gravel pits and overlaps with a number of other habitat action plans that cover wetland habitats. A few local water bodies may not be eutrophic e.g. Coleshill Pool.

2. OUR OBJECTIVES & TARGETS	Target
A. Maintain the extent of and improve the condition of existing water bodies above 0.1ha by appropriate management	by 2010
B. Promote the maintenance of extent, improvement of condition and expansion of buffer zones and sympathetic land use around water bodies	2006-2015
C. To increase the extent of the habitat by creating 10ha of new open water, targeting particularly areas that link existing wetland habitats. .	by 2010
D. Raise awareness of the value and importance of water bodies through environmental education, advice and interpretation.	2006-2015

ASSOCIATED HABITAT PLANS

- Rivers & Streams
- Canals
- Quarries & Gravel Pits
- Reedbeds
- Fen & Swamp
- Parks & Public Open Spaces
- Scrub & Carr
- Woodlands

ASSOCIATED SPECIES PLANS

- Water Vole
- White-clawed Crayfish
- Great Crested Newt
- Otter
- Bittern
- Lapwing
- Snipe
- Bats

3. NATIONAL BAP OBJECTIVES & TARGETS:

- for UKHAP Eutrophic Standing Waters
 - 1: *Maintain the condition of all important sites currently judged as in favourable condition. Revised*
 - 2: *By 2005 initiate action to restore to favourable condition (typical plant and animal communities present) other important sites that have been damaged by human activity. Revised*
 - 3: *Ensure that no further deterioration occurs in the water quality and wildlife of the remaining sites. Revised*
- A separate National BAP '**Ponds**' is included in the new list of priority habitats published in 2007.

4. CURRENT STATUS

The precise number of water bodies within the sub region is unknown, though the HBA records about 1500ha of standing water and gives a figure of 6615 separate water bodies of at least 1.6m². Draycote Water is the largest, at 84200m². Other large examples include the flooded gravel workings of the Tame and Blythe Valley (e.g. Dosthill Lakes and the pools at Kingsbury Water Park, Middleton Hall and Packington Park) and the lakes of Brandon Marsh, other reservoirs such as Shustoke and Olton, ornamental lakes at sites like Coombe, Packington and Arbury Park, and subsidence pools at Alvecote, Wyken Slough and Stoke Floods. These collectively contain the bulk of standing freshwater in the subregion and have some regionally important bird populations that specifically require large, undisturbed water bodies, either for breeding, over-wintering or both.

4.1 Legal and Policy Status

Some water bodies such as Alvecote Pools, Coombe Pool, Brandon Marsh, Coleshill Pool and those at Middleton Hall and Ufton Fields are protected by SSSI status. Here, the factors leading to eutrophication need to be controlled as potentially damaging activities. The Middle Tame and Blythe Valleys have been identified as a Biodiversity Enhancement Area (BEA) in the Government's Regional Spatial Strategy for the West Midlands. Ensor's Pool in Nuneaton is both a SSSI and an internationally designated SAC in recognition of its important population of white-clawed crayfish.

The Environment Agency has a duty to promote the conservation of flora and fauna associated with water. The EA has less direct influence on off-line water bodies, but work is being carried out on main rivers to eliminate the sources of excessive nutrients.

Local authorities and British Waterways also have statutory duties towards nature conservation, and some water bodies are within sites under their control, such as some SINC's and LNRs. These bodies also have some responsibility for pollution control.

4.2 Current Factors Affecting The Habitat

- **Enrichment caused by nitrates or phosphates** primarily in sewage or fertiliser run-off.
- **Other Pollution** from organic matter, silt, heavy metals and domestic litter.
- **Lowering of water levels** caused by over abstraction of surface or ground water, or by drainage (though natural, seasonal fluctuations can be beneficial).
- **Desiccation** as a result of climate change.
- **Urbanisation and in-filling** of ponds, water-filled quarries, etc.
- **Poor management of recreational activities** such as boating, fishing and bank-side activities leading to bank erosion, damage to water-side habitats, etc.
- **Changes in surrounding land-use** that alter the water table, change the pollution load or degrade or remove valuable adjacent habitat.
- **Stocking with certain fish**, e.g. carp and bream which uproot plants whilst feeding, increasing the turbidity of the water and depleting food resources

for wildlife. Important species such as great crested newt can be eliminated by fish predation.

- **Excessive bird levels** especially Canada geese and gulls can cause eutrophication through their droppings. Food given to them by humans can also contribute to eutrophication and attract brown rats, causing problems with egg predation. Canada geese and other feral wildfowl also damage and reduce marginal vegetation through trampling and compete with native wildfowl for nest sites. Cormorants can reduce fish stock and damage heronries.

5. CURRENT LOCAL ACTION

- Warwickshire Amphibian & Reptile Team – 2006 Pond Survey to check all past records for great crested newts.
- Warwickshire Wildlife Trust is running a ‘Pondtastic’ project to survey ponds on its 55 nature reserves to look at water quality, presence of great crested newts and white-clawed crayfish, links to wider conservation corridors, etc. and use the findings to inform the site management plans. This project will include the provision of training for volunteers.
- Warwickshire Wildlife Trust is undertaking ongoing habitat enhancement of ponds on some of its reserves working with Nature Force, its volunteer work party. Recent work includes reed pulling in the pond at Ryton Wood to ensure the retention of open water within the woodland, to provide a mosaic of habitat.
- Warwickshire Wildlife Trust pond creation at Eathorpe Nature Reserve
- Enhancement of the Nook, an 8ha site in Bedworth recently secured on a long term lease by the Borough Council, included dredging, planting of 2200 native trees, reed bed creation for nesting birds, mud flats, seasonal flooding / grass areas for invertebrates and bund creation to improve the site for water voles. All done in close conjunction with ‘Friends of Group’ and the local community.
- Ongoing mineral extraction is creating new water bodies e.g. RMC operations at Salford Priors, Marsh Lane Bird Reserve near Meriden
- New business parks and other developments are increasingly incorporating pools within their landscaping
- DEFRA (RDS) Environmental Stewardship offers funding for the creation of ponds and larger water bodies, and some new ones have already been created (e.g. farmland near Mappleborough Green)
- Detailed bird recording is long established at many key sites e.g. Brandon Marsh, Draycote, Tame and Blythe Valley sites, Coombe and Seeswood Pool

6. PROPOSED LOCAL ACTIONS (some dates amended – Core Steering Group – Feb 2008)

ACTION	Lead	Partners	By	Meets objective
Policy & Legislation				
PL1 Ensure that all relevant habitat policy is included in Local Planning Documents (see ODPM Planning Policy Statement PPS9).	LBAPSG	LAs	2006-2015	A
PL2. Ensure that any site meeting the relevant criteria is considered for designation as an SSSI.	NE		2006-2015	A
PL3. Ensure that any site meeting the relevant criteria is considered for designation as a SINC.	WSP		2008	A
PL4. Produce “Best Practice” guidelines for incorporating SUDS and the development of buffer zones around key sites. Make available to developers and planners.	EA	WWT LAs	2008	B
Site / Species Safeguard & Management				
SM1. Encourage appropriate management of all SINC water bodies to maintain condition or improve to good condition.	WSP	STW EA BW WWT NE	2008	A
SM2. Produce water level management plans for the benefit of wildlife on SSSIs.	NE	BW EA LAs	2006-2015	A
SM3. Identify areas for potential pond creation to expand the extent of the habitat.	HBA	LOs WWT	2007-2015	C
SM4. Seek funding to restore open water bodies in appropriate areas for wildlife and communities.	WWT	LAs BW EA MCs LOs RSPB	2010	A, C
SM5. Seek funding to create open water bodies in appropriate areas for wildlife and communities to expand the extent of the habitat.	WWT	LAs BW EA MCs LOs RSPB	2010	A, C
SM6. Promote best practices in farming and encourage the implementation of Farm Waste Management Plans.	NE	FWAG	2006-2015	A
SM7. Encourage landowners to restore where appropriate all pools, eg. by using	FWAG	NE	2006-2015	A

agri-environment schemes.				
SM8. Encourage landowners to manage sympathetically all pools, eg. by using agri-environment schemes, to maintain condition or improve to good condition.	FWAG	NE	2006-2015	A
SM9. Promote sustainable fisheries.	EA	LOs FCs BW	2006-2015	D
SM10. Actively recommend measures to increase the extent of connectivity and maintain options to expand area of habitat.	LBAPSG	WCC LAs NE WWT	2008-2015	C
Advisory				
A1. Promote the inclusion of Best Practice management guidelines into Local Development Frameworks and relevant strategies.	LBAPSG	WWT LAs	2006-2015	D
Research & Monitoring				
RM1. Identify and create an inventory of all water bodies in Warwickshire.	HBA	WM WWT	2008	A
RM2. Continue 'Canada Geese Monitoring' and, following a review of the results, implement appropriate measures where required to resolve problems of eutrophication and loss of bank side vegetation, e.g. at Coombe Country Park	LBAPSG	LAs WM CPs WWT	by 2010	A, B
RM3. Seek to monitor the management of this habitat, to maintain condition or improve to good condition, throughout the sub region.	HBA	WM WWT	2006-2015	A
RM4. Seek to monitor the restoration of this habitat throughout the sub region.	HBA	WM WWT	2006-2015	A
RM5. Seek to monitor the expansion of this habitat throughout the sub region.	HBA	WM WWT	2006-2015	A
RM6. Use the HBA to identify opportunities to provide habitat links between existing wetlands, supported by agri-environment schemes.	NE	FWAG WWT LAs HBA	2006-2015	B,

Communication, Publicity & Education				
CP1. Encourage the provision of interpretation on the wildlife importance of standing water at all sites with managed public access.	LBAPSG	LOs WWT LAs STW	2010	D
CP2. Encourage the development of educational materials for schools.	LBAPSG	EA LAs WWT	by 2008	D

Abbreviations: BW - British Waterways, CP – Country Park, DV – Developer, EA – Environment Agency, NE – Natural England, FC – Fishing Club, FWAG – Farming & Wildlife Advisory Group, HBA – Habitat Biodiversity Audit, LA – Local Authority, LBAPSG – Local Biodiversity Action Plan Steering Group, LO – Landowner, MC – Mineral Company, RSPB – Royal Society for the Protection of Birds, STW – Severn Trent Water, WM – Warwickshire Museum, WSP – Wildlife Sites Project, WWT – Warwickshire Wildlife Trust.

7. REFERENCES

8. FURTHER INFORMATION (see separate **Links** web page for links to web sites)

UK Biodiversity Action Plan no. 23

Herpetofauna Conservation Trust
Amphibian & Reptile Groups UK
FROGlife

Warwickshire Amphibian & Reptile Team
National Pond Monitoring Network
Flora Locale – the Knowledge Zone

Pond Conservation Trust - for a Parish Pond Survey Recorders Pack, tel. 01865 483249 or email: info@pondconservation.org.uk

RSPB - *Ponds for Wildlife* leaflet. Tel. 01967 680551

Natural England (2005) *Garden ponds and boggy areas: havens for wildlife*. Free booklet. Tel. 01733 455101 or email: enquiries@naturalengland.org.uk

Pond Survey Training Courses run by the NPMN in August 2006 – to find out more, contact Anita Weatherby. Tel. 01865 483189 or email: ajweatherby@brookes.ac.uk

Pond Conservation (2007) *The Pond Book - A guide to the management and creation of ponds*. £17.00 within the UK, £22.00 to Europe (includes postage and packing). payable to Pond Conservation. Book Orders, Pond Conservation, School of Life Sciences, Brookes University, Gipsy Lane, Oxford OX3 0BP..

Steel, J. (2002) *Wildlife Ponds*

Natural World (Spring, 2005) *Wildlife Pond Tips*

Olsen, Lars-Henrik. (2001) *Small Freshwater Creatures*. OUP.

Bardsley, L. (2005) . *The Wildlife Pond Handbook*. New Holland

9. CONTACT

Ruth Moffatt, Warwickshire LBAP Co-ordinator, Warwickshire Field Services, The Butts, WARWICK CV34 4SS. Tel. 01926 412197, email: ruthmoffatt@warwickshire.gov.uk