HABITAT ACTION PLAN FOR EUTROPHIC AND MESOTROPHIC STANDING WATERS

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Current Status

Areas of standing water such as ponds, lakes, flooded gravel pits and reservoirs are classified according to the amount of plant nutrients such as phosphorous and nitrogen present in them. Eutrophic (nutrient rich) waters are most typical of lowland Britain, as they tend to accumulate soluble and sediment-borne nutrients from surface and ground water flowing in from higher areas.

Mesotrophic waters have a lower nutrient status, and potentially have the highest biodiversity of any pond or lake type. Many formerly mesotrophic ponds and lakes have become artificially eutrophic due to the run-off of fertilisers from farm land, and there are few, if any, mesotrophic areas left in the County. There is some potential for restoration, however, and as the problem of nutrient run-off is addressed, the water quality of many of these areas is already improving. For the purposes of this action plan these habitats have been treated collectively. Canals and water filled ditches are dealt with under separate habitat action plans.

There are relatively few natural standing waters in Nottinghamshire, although a significant number of natural ponds and oxbows occur along the Trent floodplain. As in most lowland areas, many lakes and ponds have disappeared due to drainage and reclamation for agriculture. The introduction of piped water supplies for livestock led to a general neglect of ponds previously maintained for drinking water, whilst under-drainage of fields and in-filling of wetland and open water habitats has been widespread.

Nevertheless, new water bodies have been created as a result of gravel extraction and mining subsidence whilst borrow pits formed during excavations for railway embankments represent a significant habitat resource. Furthermore, many new ponds and lakes have been dug in gardens, urban areas and the wider countryside for conservation and amenity purposes.

Standing waters are important for a variety of reasons. Large expanses of open water, such as Attenborough Gravel Pits, are significant water bird habitats all year round, providing breeding, feeding and winter roosting areas for a large number of species. Particularly important are water bodies which act as staging posts for migratory birds. The margins of lakes and ponds are often an important habitat for aquatic invertebrates. Early stages in the process of plant colonisation are important for insects such as dragonflies and water beetles whilst the later stages, where silt has accumulated, provide habitat for detritus feeders such as snails and crustaceans. Standing waters can be important feeding areas for bats, being some of the first areas where flying insects assemble in spring. Fish are predominantly coarse species, although some lakes are now stocked with trout.

Smaller water features such as garden ponds can be of considerable value for wildlife, especially if there are no fish to eat the eggs or tadpoles of amphibians. Temporary standing water in flood plains and seasonal ponds can be important for many species, particularly a range of specialist invertebrates.

Threats

The main factors currently affecting the County's standing water bodies are:

- On-going fertiliser run-off. While high nutrient levels can be natural and beneficial to a number of species, excessive nutrients encourage the prolific growth of algae which leads to the death of fish, plants and invertebrates.

- Pollution from organic matter, silt, hydrocarbons and heavy metals from farmland, road and urban run-off as well as point sources such as industrial accidents.

- Lowered water levels, caused by over abstraction from ground or surface water. This may exacerbate nutrient enrichment, cause marginal vegetation to deteriorate and lead to the drying out of shallow ponds and lakes.

- Changes in surrounding land use, leading to the loss of adjacent habitats. Many animals depend on a range of habitats at certain stages in their life cycles, while a buffer zone of grassland, woodland or wetland around a pond will help absorb pollution.

- The restoration of silted up ponds by dredging. Many ponds will naturally fill in over time, and different stages in this process are of value to specialist plants and animals. The need for dredging must be weighed against the existing wildlife interest.

- Drainage. Standing waters fed by surface runoff will suffer if this is diverted away from them by drainage systems, usually to a flowing watercourse.

- The in-filling of water bodies for agricultural improvement or development.

- Recreational uses such as angling, boating and water skiing, which can cause disturbance to water birds and damage to marginal plant and animal life if not carried out in a sensitive way.

- The introduction of inappropriate numbers and species of fish, which can change the whole food web and character of a water body.

- The release of non-native plants and animals such as Himalayan balsam, mink and signal crayfish can be very damaging to aquatic habitats and species.

Current Initiatives - Examples

- National Habitat Action Plans for Eutrophic and Mesotrophic Standing Waters have been prepared.

- Many private landowners manage areas of standing water, and have a major part to play in their conservation.

- A partnership of organisations is involved in the Trent Floodplain Initiative to protect and restore habitats along the whole of the Trent Valley.

- A number of water bodies in Nottinghamshire are designated as SSSIs, including Attenborough Gravel Pits. Daneshill Gravel Pit is a Local Nature Reserve.

- A number of sites are protected and managed around the County by groups such as Nottinghamshire Wildlife Trust, RSPB and the Forestry Commission.

- The restoration of gravel pit workings for nature conservation is taking place in several parts of the County. Examples are Langford Lowfields, where the RSPB and Tarmac are collaborating, Besthorpe gravel pits where Redland Aggregates are working with the NWT, and Lound along the River Idle, where the NWT, Tarmac and ARC are working towards an extensive restoration for nature conservation.

- A key objective of the Countryside Stewardship Scheme in Nottinghamshire includes the establishment or retention of a variety of wetland features, including an option for pond management. These can be incorporated into whole farm initiatives.

- The release of most non-native animals and some plants is prohibited under the Wildlife and Countryside Act 1981.

TARGETS

The baseline data for Eutrophic and mesotrophic standing waters was collated after the group meeting by English Nature, based on a desktop aerial photograph survey of known sites (see table below for details).

Falling under the UK Broad Habitat type of Standing Open Water and Canal, this is a local habitat classification to incorporate both Eutrophic and Mesotrophic standing waters (Canals are covered in the Notts LBAP in a different HAP). However this local habitat spans 2 UK Priority Habitat equivalents, that of Eutrophic Standing Waters and Mesotrophic Lakes. Areas of standing water such as ponds, lakes, flooded gravel pits and reservoirs are classified according to the amount of plant nutrients in them. Eutrophic (nutrient rich) waters are typical in lowland Britain, mesotrophic waters have a lower nutrient status, and potentially have the highest biodiversity of any pond or lake type.

Target Type	Target Text	Units	2005 Baseline	2010 Target	2015 Target
Maintain Extent	Maintain the extent of all existing eutrophic and mesotrophic standing waters.	Ha	894	894	894
Achieve Condition	Maintain and improve by management existing eutrophic and mesotrophic standing waters.	Ha	393 (44%, existing habitat in favourable condition)	447 (50% of total habitat resource)	671 (75% of 2005 baseline resource)
Restoration	Improve the condition of relict habitat so that it qualifies as eutrophic and mesotrophic standing waters.	Ha			
Expansion	Encourage the re-establishment and increase the area of eutrophic and mesotrophic standing waters.	No. of ponds		150	150

Eutrophic Standing Water Bodies counted (not including ponds)

Eutrophic standing water	Area (ha)
Attenborough	132
Holme Pierrepoint complex	80
Hoveringham	114.5
North of Newark	97.5
Besthorpe	24.7
Langford	
Collingham	8.1
Girton	57.1
Kings Mill reservoir	21.6

Clumber Lake	32
Rainworth Lake	4.6
Gunthorpe	24.8
Newstead Lakes	15.3
Bestwood CP	6
Moorgreen Res	19.7
South of Dunham on Trent	8.8
Lound complex	168.5
Langold Lake	10.2
Carlton Lake	2.3
Welbeck Lakes	61.1
Cuckney Dam	3.3
Nether Langwith	2.2
Total	**894.3**

PROPOSED ACTIONS

Policy and legislation

1. Ensure the incorporation of relevant (inter-)national law, policies and guidance into all plans and policies relating to the protection, enhancement and management of eutrophic and mesotrophic standing water habitat.

ACTION: Government Agencies, Local Authorities, NGO's.

2. Through planning control or other land use consultation processes, allow no further loss of areas of eutrophic and mesotrophic standing water habitat and seek opportunities to enhance existing areas and create new areas through approved development.

ACTION: Government Agencies, Local Authorities, NGO's.

3. Ensure agri-environment, forestry and other funding schemes include appropriate management options and design measures to suit local nature conservation needs.

ACTION: Government Agencies.

Site safeguard and management

4. Review the extent of SSSI coverage of standing water habitat and consider notifying further sites as necessary.

ACTION: Government Agencies.

5. Designate SINCs and declare Local Nature Reserves on appropriate areas of habitat or instigate other appropriate measures for their protection.

ACTION: Government Agencies, Local Authorities, NGO's.

6. Promote the uptake of positive management with owners of SSSIs, LNRs, SINCs and any other areas of eutrophic and mesotrophic standing water habitat.

ACTION: Government Agencies, Local Authorities, NGO's.

7. Carry out appropriate habitat management on sites controlled by BAP partners.

ACTION: Government Agencies, Local Authorities, NGO's.

8. Ensure sites containing eutrophic and mesotrophic standing water habitat have appropriate management plans that are working towards improving site management and condition

ACTION: Government Agencies, Local Authorities, NGO's.

9. Acquire land to ensure good habitat management or to create habitat.

ACTION: NGO's.

Advisory

10. Provide formal or informal training in management techniques for eutrophic and mesotrophic standing water habitat to land managers, site wardens, volunteers, etc.

ACTION: Government Agencies, Local Authorities, NGO's.

11. Establish demonstration sites or projects to demonstrate/publicise good habitat management techniques.

ACTION: Government Agencies, Local Authorities, NGO's.

Future research and monitoring

12. Establish and maintain a monitoring programme (a site register) to determine progress towards county HAP targets.

ACTION: Government Agencies, Local Authorities, NGO's.
13. Ensure that areas of eutrophic and mesotrophic standing water habitat are periodically resurveyed to establish extent and condition. Update resulting habitat inventory every 5 years and revise targets and HAPs if necessary.

ACTION: Government Agencies, Local Authorities, NGO's.

Communications and publicity

14. Improve public awareness and appreciation of eutrophic and mesotrophic standing water habitat by providing appropriate interpretation, education and access (where appropriate).

ACTION: Government Agencies, Local Authorities, NGO's.

15. Improve awareness of the value of, and appropriate management techniques for eutrophic and mesotrophic standing water habitat among site owners and occupiers.

ACTION: Government Agencies, Local Authorities, NGO's.

What You Can Do

- If you own or manage an area of standing water, consider how you can maximise its value for wildlife. FWAG, BTCV or Nottinghamshire Wildlife Trust may provide advice.

- In areas where there is little existing wildlife value, create a pond. Funding for this could be available for agricultural land and advice can be given by FWAG, FRCA and NWT.

- Create a wildlife pond in your garden or school field. Many books are available on making ponds wildlife friendly.

Species List

The following are examples of species of conservation concern (Appendix A) which are likely to benefit from this action plan:

- Water vole
- Bats
- Black-necked grebe
- Gadwall
- Shoveler
- Teal
- Kingfisher
- Sand martin
- Great crested newt
- Common frog
- Common toad
- Rush wainscot moth
- Red-eyed damselfly
- Fen pondweed
- Watercress