

## Eutrophic standing waters

*Eutrophic standing waters have high levels of plant nutrients, often supporting algal blooms in mid summer and dark, anaerobic silts rich in organic matter. In their natural state, these waters have high biodiversity with plankton, submerged vegetation, numerous species of invertebrates and fish. Many natural bodies of open water in Suffolk are eutrophic or mesotrophic/eutrophic (medium rich in nutrients). The shallow lakes and ditch systems of the Broads are some of the richest areas for scarce plants in England.*



### 1 Definition

The national action plan covers natural and man made still waters such as gravel pits, reservoirs and lakes but it excludes small pools, field ponds and brackish waters. There are no accurate estimates of the amount of this habitat in the UK but it is likely to be around 1785 sq.km.

As an addition to the national action plan this Local BAP includes small ponds as well as large areas of open water. Actions with respect to ponds cannot strictly be reported as part of the process of the HAP. Eutrophic standing waters are important for certain priority BAP species eg Great crested newt, otter, water vole and rare snails as well as local character species eg. water shrew.

### 2 Current status

#### 2.1 Suffolk

In the Suffolk Broads, there are large water bodies (Fritton Lake, Flixton Decoy and Oulton Broad). Elsewhere in the county there are a number of lakes and meres which are of considerable wildlife value eg Redgrave, Culford and Great Livermere. Framlingham Mere has recently undergone restoration after silting up and Thorpeness Meare is a boating lake.

The construction of artificial areas of open water has been very significant within Suffolk. The largest of these is Alton Water reservoir which is host to large numbers of wintering wildfowl.

There have been many excavations for gravel in river valleys and when flooded these are often used for fishing and water sports eg Weybread and Gipping valley pits although Lackford Lakes SSSI are gravel workings specifically restored with wildlife in mind.

Suffolk is said to have a very high density of ponds and according to the recent OS digital pond location gazetteer commissioned by the Suffolk Ponds Group, the estimate is 22,635 ponds. These have been considered to be stronghold for the Great crested newt, a priority species. Many landowners have taken advantage of grant aid and management advice available from Suffolk County Council for the restoration and creation of ponds over the past decade. Wildlife often thrives in isolated water bodies as they are cut off from main water courses which are much more likely to suffer from pollution or degradation.

## 2.2 Natural Areas

East Anglian Chalk, The Fens, The Brecklands, East Anglian Plain, Suffolk Coast and Heaths, The Broads.

## 3 Current factors affecting the habitat in Suffolk

- Water quality is affected by agricultural and urban run-off and sewage effluent which has not been phosphate stripped; organic and inorganic fertilizers and the atmospheric deposition of nitrogen can cause nutrient enrichment of the water, with consequent damage to plant and animal communities.
- Use of standing waters for recreation and sporting purposes causes detrimental impacts e.g. disturbance to wildfowl & trampling of vegetation; stirring up of sediments by the action of boats destroys aquatic plants and contributes to enrichment.
- Succession/lack of management plays an important role where there is no

longer a viable reason for landowners to keep ponds. Grant aid schemes do not cover all ponds and there is often no incentive to pay the remainder of the cost involved.

- Infilling still occurs due to farming and development. Ponds are not valued highly and are often seen as expendable.
- The introduction of non native plants and animals including fish affect the biodiversity of this habitat by establishing inappropriate waterside habitat. Some types of recreational fishing may lead to the loss of natural populations and may affect plant and invertebrate communities.
- A substantial change in water supply and throughput e.g. due to water abstraction, alters the character of water bodies. A rise in temperature will produce wide ranging effects e.g. acceleration of plant growth.

## 4 Current action

### 4.1 Legal status

- Some eutrophic waters are designated as SSSIs or CWS in Suffolk. Part of the Broadland SPA falls within Suffolk.
- ESAs include measures designed to benefit water courses and other water features and Suffolk has three; The Broads, The Suffolk River Valleys and The Brecks. Other agri-environment schemes which can benefit eutrophic water courses are Habitat Schemes, Countryside Stewardship and Wildlife Enhancement Schemes.
- The introduction of fish and fish spawn into inland waters, apart from fish farms, is subject to written consent from the Environment Agency (EA).
- A Nitrate Vulnerable Zone (NVZ) has been identified for the Waveney catchment under the EC Nitrates Directive and a NVZ Action Programme is being undertaken by the Environment Agency. The EC Water Framework Directive (yet to be

finalised) will require that measures are taken to ensure the ecological status of surface waters.

3 *Restore 50% of Tier 2 sites damaged by human activity to favourable condition by 2020.*

4 *Ensure no further deterioration in water quality & wildlife of Tier 3 resource. This means no net loss.*

5 *Set up a pilot community pond initiative involving a network of volunteer wardens.*

#### 4.2 **Management, research and guidance**

- The Suffolk Ponds Group commissioned Ordnance Survey to summarise a list of features labelled “pond” from digital maps. Unpublished work by Jim Foster and Rosie Norton in Sibton and Peasenhall parishes has shown that some ponds listed by the OS were infilled over a decade ago so the OS 3 yearly revision programme is not fully recording changes to ponds. Further ground surveys of ponds is needed to compare with mapped ponds.
- The Environment Agency will be implementing a national strategy for the control of eutrophication at a local level through Local Environment Action Plans.
- English Nature, the Broads Authority and the Environment Agency have commissioned a recent survey of the flora & invertebrate fauna of grazing marshes & ditches in the Waveney Valley.
- EN has published an agenda for the sustainable management of freshwaters.
- BA is developing an angling strategy for the Broads.

### 5 **Action plan objectives and targets**

1 *Await national classification by EA by 2002 of eutrophic water bodies in Suffolk into three tiers according to naturalness, biodiversity and restoration potential. (The exact criteria for these categories have yet to be agreed and the total number of sites falling into each tier confirmed).*

2 *Ensure protection & continuation of favourable condition of eutrophic standing waters classified in Suffolk as Tier 1 by 2005.*



## 6 Proposed action with key local partners

ACTION	KEY LOCAL PARTNERS	TIMETABLE				
		2000	2001	2002	2003	2004
<b>A. Policy and Legislation</b>						
Establish list of sites in Suffolk comprising Tiers 1 & 2	EA, EN	*	*	*	*	
Establish site specific plans to achieve appropriate water quality and assign priorities; issues raised to be addressed through LEAPs	EA, DETR, EN	*	*	*	*	*
Promote buffer strips in agri-environment schemes	MAFF, EA	*	*	*	*	*
Ensure forestry grant schemes & felling licences take full account of the need to safeguard water quality & features	FC	*	*	*	*	*
Promote legislation on the control of sale and release of exotic plant & animal species	DETR, BA,EN		*			
Set targets for acceptable Phosphate levels in the Broads area	BA,EN,EA		*			
<b>B. Site safeguard and management</b>						
Aim to maintain condition of all Tier 1 eutrophic standing waters and to improve condition of Tier 2 sites.	EA, MAFF					*
Prepare & where possible implement site management plans for eutrophic standing waters notified as SSSIs	EN	*	*	*	*	*
Maintain or introduce appropriate fishery management. Where appropriate institute restorative measures such as phosphorous control, biomanipulation and species reintroduction	BA, EA, EN		*	*	*	*
Prepare catchment management plans for Tier 2 sites not designated SSSI	EA					*
Ensure local planning mechanisms take account of wildlife interest of all eutrophic waters: there should be no net loss of this habitat	LAs, EA, BA, EN	*	*	*	*	*
Continue LCG and 5b programmes of grant aid for restoration and creation of ponds	SCC	*	*	*	*	*



ACTION	KEY LOCAL PARTNERS	TIMETABLE				
		2000	2001	2002	2003	2004
Support pond wardens in of pilot community project stimulating community action aimed at restoring ponds	SPG		*	*		
<b>D. Advisory</b> Provide advice for managers and users of eutrophic waters to promote appropriate management	FWAG, EN, SWT, BA, LAs, MAFF		*			
Encourage pond wardens of pilot community project to gather and disseminate information and advice about the condition and management needs of ponds within their parishes.	SALC, SPG		*	*		
Promote best practice in farming and encourage farmers to prepare and implement Farm Waste Management Plans in catchments of vulnerable eutrophic standing waters	MAFF, FWAG		*	*	*	*
Develop guidelines for best practice in fishery management	EA		*			
<b>E. Future research and monitoring</b> Apply systems for testing water quality classification of lakes to all Tier 1 and 2 eutrophic water bodies	EA		*	*	*	*
Promote research into the role and transport of phosphorus and nitrogen in freshwaters and into the quantification of risks posed by diffuse-source pollution, including atmospheric nitrogen	EA, MAFF		*	*	*	*
Continue experimental work on remedial action for nutrient-enriched standing waters and monitor results of procedures already taken	BA	*	*	*	*	*
Investigate the impact of introduced species on eutrophic standing waters and develop strategies to mitigate their effects	EA, MAFF	*	*	*	*	*
Promote research into the likely effects of climate change and sea level rise on eutrophic standing waters	EA	*	*	*	*	*
Promote further research into the role of non-point source pollution and how	EA		*	*	*	*

to quantify and control this



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<b>F. Communications and publicity</b>						
Promote the interchange of information between Suffolk and European countries on management techniques, conservation and research relevant to eutrophic waters eg TEN Interreg II project, NORcoast projects	SCC, EN, BA, SWT	*	*	*	*	*
Ensure information on well-studied eutrophic standing waters is made readily available	BA, EA, EN		*	*	*	*
Publish good management practice targeting site managers and policy makers	EA, EN, FWAG		*			
Pursue community pond project	SALC, SPG	*				
Publicise control of release to the wild of non-native plant & animal aquatic species	BA, EA	*	*	*	*	*
Develop use of suitable waters for educational purposes and as interpretive centres, in order to increase public awareness of the value of eutrophic standing water	BA, LAs, SWT		*	*	*	*