

# **Transnational Ecological Network (TEN3)**

## **Little Ouse and Waveney Project**

**May 2006**

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### Issue and Revision Record

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## 1 Project Background

The aim of Transnational Ecological Network III Project TEN 3 was to facilitate the development of ecological networks in the water systems in the North Sea area to benefit agriculture, industry, the local population and visiting tourists as well as biodiversity. Funding was provided for TEN 3 through Interreg IIIB.

The purpose of TEN 3 was to implement the vision developed during TEN1 and TEN2 projects.

The intention was the aims of TEN 3 could be achieved through;

- supporting and implementing interdisciplinary concepts for the revitalisation of water systems
- creating an integrated approach for ecological design
- water management
- spatial planning through the economic development of rural areas to match the development of ecological corridors
- creating links between Natura 2000 and other wildlife sites.

The four main outcomes anticipated from TEN 3 were:

**Knowledge and expertise** that would help evaluate existing techniques, methods and measures for the management of water systems, as well as design ecological corridors and educate planners and decision makers.

**Implementation of projects** that will create ecological corridors in the four different water systems.

**Development of new techniques** that result from carrying out the pilot projects

**Improvement in water management** as a result of the various projects, which would see improved conditions for endangered species like the otter, improved living conditions for people living along the river and the implementation of flood control methods.

The Rivers Waveney and Little Ouse Project is one of four projects that comprise TEN 3. This report considers the Little Ouse and Waveney Project and where appropriate refers to the international aspects of TEN 3.

## 2 Introduction to the Little Ouse and Waveney Project

In 1999/2000 TEN initiated a project on the rivers Little Ouse and Waveney in close co-operation with Norfolk County Council and other regional stakeholders. The initial impetus for this built on earlier and existing conservation schemes within the valley and consisted of workshops held in Diss and Cambridge. A report, *Rivers Waveney and Little Ouse TEN Project*, Mott MacDonald, January 2000 together with GIS data for the area was produced by Jeremy Purseglove of Mott MacDonald. These projects were funded by earlier Interreg monies.

In 2000 a summary report, *A Vision for Wetlands towards Biodiversity-rich Floodplains* was produced by Norfolk County Council based on the previous report prepared by Mott MacDonald. A copy is provided in Appendix A.

The initial budget from Interreg IIIB funding was substantially reduced from £1.25 million (£2.5 million with match funding) to £550 000 (just over £1 million with match funding). This led to the selection of nine specific projects, know collectively as the Little Ouse and Waveney Project, which have now largely been implemented and have been closely audited.

The Intereg IIIB funding was coming to an end when Mott MacDonald was again approached to help assess how successful the Project had been and what the next steps could be for future projects in the river valleys. This would culminate with an international conference at the end of April 2006, where Jeremy Purseglove of Mott MacDonald would present his findings.

In October/November 2005 Jeremy Purseglove and Emma Lunt visited the projects and other developments in the Little Ouse and Waveney valleys to establish their success in achieving the major principles of the original vision, i.e. an improvement in water quality, water quantity, public access, sense of place and community involvement. In addition they sought to establish how successfully a large number of nature conservation and landscape and enhancements had been achieved. An important part of the study was to assess how far these objectives had also been met by other parallel initiatives in the valley and by evolving processes of land use change. A further visit was made to a number of the sites during the TEN conference.

To fully establish the successes of the projects, an assessment has also been made as to how well the project preformed against the 'logical framework' developed as part of the original funding proposal.

The following people have contributed to this report:

- John Jones, Norfolk County Council (NCC),
- Sue Hooton, Suffolk County Council (SCC),
- Mike Bentley, South Norfolk Council,
- John Hiskett, Norfolk Wildlife Trust,
- Brian Eversham, Cambridgeshire Wildlife Trust,

- 
- Colin Hitchman, Rural Development Service (RDS)
  - Dougal McNeill, Rural Development Service
  - Mark Timms, Upper Waveney Valley Project
  - Helen Smith, Little Ouse Headwaters Project (LOHP)
  - Jo Pitt, Little Ouse Headwaters Project
  - Graham Gamble, Environment Agency
  - Chris Gregory, British Trust for Ornithology (BTO),
  - Norman Sills, Royal Society for the Protection of Birds (RSPB)
  - Nick Gibbons, Forestry Commission (FC)
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  - Graham King, Countryside Agency
  - Julia Stansfield, Environment Agency
  - Nick Hesp, Environment Agency
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  - Christan Whiting, Broadland Environmental Services Ltd
  - Philip Watson, Farming and Wildlife Advisory Group
  - Quentin Mair, Farming and Wildlife Advisory Group
  - Stephen Grimshaw, Suffolk County Council

### 3 Assessment of Sub Projects

#### 3.1 Little Ouse between confluence with Great Ouse and Wilton bridge

This section of river contains the remarkable RSPB project at **Lakenheath Fen Nature Reserve**. This had already begun before the TEN project commenced but has progressed spectacularly over the subsequent years with considerable input from TEN funding. 267 ha (approximately 1.25 square miles) of reed bed and open water have been created on what was previously arable land. In addition 25 km of channels have been created (an additional 5 km since the TEN sub-project sheet was published). The grazing meadow of the original 31 ha Botany Bay Site of Special Scientific Interest (SSSI) at the western end of the site has also been restored. There is public access with 10 000 visitors a year in 2005 and a visitor centre is proposed for 2006. Water quality has not been a problem partly due to the cleansing effect of the large new reed beds.

Very thorough monitoring takes place. Bittern have been present since 2002 and were present every month of the year in 2005. It is hoped that they will breed perhaps by 2007. Bearded tits are now breeding for the first time in West Suffolk for 104 years. There were four pairs in 2004 and ten pairs in 2005. Reed warbler has expanded from six pairs in 1996 to 720 pairs in 2005, sedge warblers from four pairs to 174 pairs and reed bunting from four pairs to 132 pairs. Water rail exceeds 20 pairs and six pairs of marsh harrier are now a highly visible feature of the site. Water vole extend over a third of the site and otters are present. The rare marsh carpet moth has returned due to the reappearance of meadow rue.



Photo 1. Lakenheath Fen Reserve



The total cost so far is approximately £400 000 for infrastructure, over £1 Million for land purchase and additional money for salaries of which TEN has contributed £34 000 towards a specific package of £69100 for wet fences at Botany Bay, five pools, three water control units and some land maintenance. Most matched funding has come from The Heritage Lottery Fund and landfill credits distributed by WREN on behalf of WRG Ltd. The project represents exceptionally good value for money for TEN since it has been linked with the RSPB's largest reed bed creation scheme in the UK. In return the RSPB welcomes the kudos from being associated with a European initiative. The only qualifying point may be that without TEN the Lakenheath Fen Reserve would largely have been completed by the RSPB.

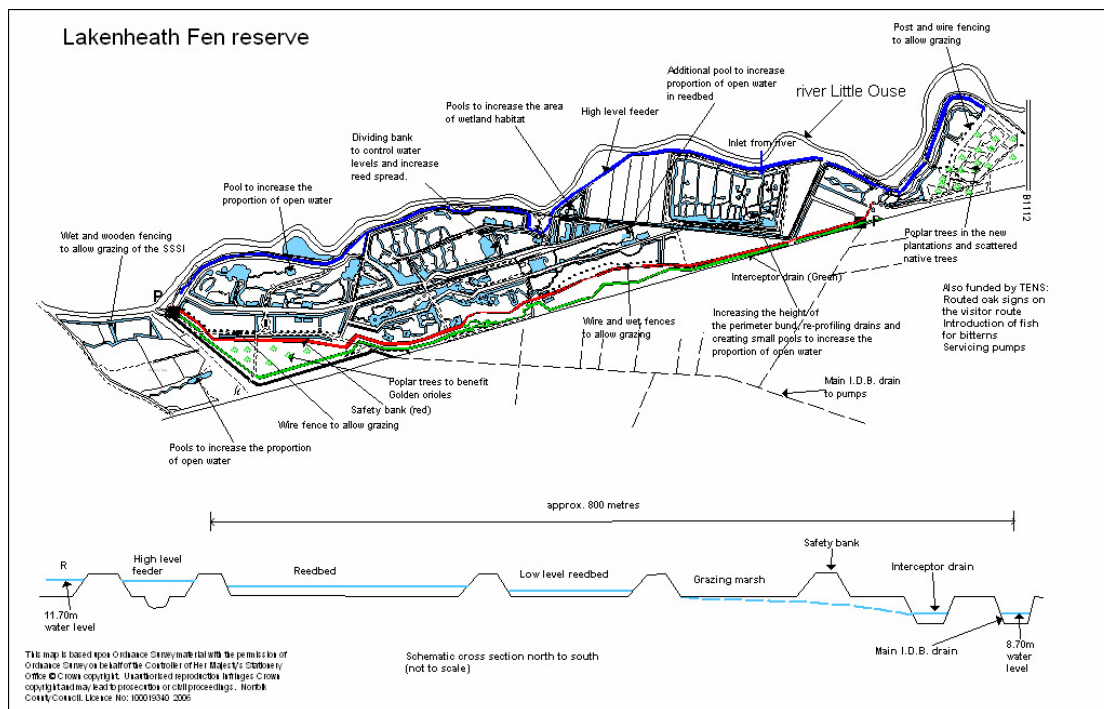


Figure 1. Lakenheath Fen Reserve

RSPB has ambitions to expand Lakenheath Fen to approximately 3000 ha through purchase on the north side of the river. At least one farmer is definitely selling land and positive discussions are being held with others. No farmers have expressed total refusal to sell. Average cost of land is £3000/acre. At this stage it will probably not be possible to expand south of the railway due to objections from the US airbase at Lakenheath in relation to possible bird strikes.

The original vision also explored the possibility of long term major habitat recreation on arable fenland downstream of Lakenheath especially in the region of the extinct Red Mere. There have been no changes in this area except for stewardship at High Fen Farm south of the railway from the RSPB site where arable has been converted to sheep grazing. Major wetland opportunities are limited on that particular site by the proximity of Lakenheath airbase.

There may now be opportunities for the south (left bank) side of the Little Ouse downstream of Lakenheath as part of Cambridgeshire Wildlife Trust's increasing initiatives on wetland creation. The Trust has recently expressed interest in this opportunity and would like to be involved in the future progress of TEN. Because the river bends sharply north in Cambridgeshire, any potential conflict with the Lakenheath airbase should be avoided.

The dramatic recent successes of neighbouring habitat creation schemes in the wider Fens area gives an encouraging picture of the possibilities of major fen re-creation in the overall region. These include discussions by Norfolk Wildlife Trust to create compensatory habitat within the area of the Southery Internal Drainage Board (IDB), the 'Wicken Vision' in which the National Trust has more than doubled the original fen area to 775 acres since 1998 and the Great Fen Project where a consortium of the Cambridgeshire Wildlife Trust, Huntingdonshire District Council, English Nature (EN) and the Environment Agency (EA) are creating a 3700 ha wetland near Woodwalton Fen.

### **3.2 Little Ouse between Hockwold and Brandon**

Proposals were identified for channel restoration and wetland extension between the river and the railway in the original vision. However nothing has happened here although land use change may be worth investigating.

### **3.3 Little Ouse between Brandon and Thetford**

This is the section part owned by the Crown Estates which is largely managed by the Forestry Commission (FC). The only TEN project associated with the FC was identified at **Frogshall Carr** well upstream of this section at Garboldisham. Here 7 ha of poplar were to be removed by the FC in order to restore good relict fen and carr woodland. However it has not been possible for FC to guarantee to complete the scheme by the deadline of December 2005 due to problems of market for the wood and access to the plantation. FC has therefore had to pull out of the TEN project. However FC has every intention of completing the project at its own cost during the winter of 2005-2006.

In addition FC has done a very great deal in terms of conservation enhancement along its main section of river downstream of Frogshall Carr in the past five years. All the low lying area between river and bottoms of slope on either side is known by the FC as the Forest Nature Reserve (FNR). The major aspiration for this entire stretch is to make the riverside land damper and to remove poplar and pine where and when appropriate over a long-term programme. Large blocks of poplar and pine were removed from the right bank of the river upstream of Santon Downham in 2001 and subsequently and one of these areas is now grazed with highland cattle. Throughout the entire forestry holding 300 ha of heathland has been restored with support from the Heritage Lottery Fund (HLF) at a cost of £970 000 and part of this lies within the study area, notably 12 ha within the river valley at Santon Warren. A bat hibernaculum has been built at Two Mile Bottom with grant aid from Suffolk County Council, Forest Heath District Council, WREN and the Environment Agency. In 2001 new ponds were created beside the river below Warren Wood. At the Horse Meadows (part of the Thetford Golf Course and Marsh SSSI) which lies on the left bank of the river immediately downstream of the A11 near Thetford, £90 000 has been secured from FC's 2006 budget to restore the SSSI to favourable condition. This will involve fencing, grazing, repairing weirs, scrub clearance and reinstating ditches and ponds. In this way, although on the face of it the FC sub-project is one of the few TEN projects which was never implemented, TEN has in fact got very good value for money since a wide range of initiatives have materialised and Frogshall Carr will be implemented anyway without TEN funding.

While the removal of plantations is relatively straightforward and should be completed along the total riverside over the next 20-30 years (alongside the conservation desirability of retaining some old wood), the raising of water levels is linked to wider plans for navigation along this section of the Little Ouse. This is being promoted by the Keystone Partnership and would involve weirs and locks which are likely to improve water levels throughout the FNR. If this highly expensive project (estimated £7-10million) does not materialise there are possible opportunities for FC and EA to put in low flint weirs similar to the one which feeds the restored meander on the BTO land at Thetford. The control to prevent flooding Thetford upstream would be the existing Abbey Heath weir near Horse Meadow which would give a one metre head to play with. However this would still need to be hydrologically modelled to establish whether isolated properties such as Little Lodge Farm and Santon House are not affected.

Since FC manage most of the land there are relatively few opportunities for other landowner initiatives but even here they confirm that there are environmentally sympathetic farmers such as the landowner adjacent to Frogshall Carr who had also never heard of TEN.

### 3.4 Thetford

The sub-project selected by TEN in this section was the **Nunnery Lakes** Project on the reserve owned by the BTO. In 1993-1994 the Environment Agency had carried out a highly imaginative scheme involving the restoration of an extensive meander on the reserve. In 2001 part of the bank holding in this meander burst resulting in an over-deep pond where wet meadow for breeding waders would have been more appropriate. TEN funded two schemes on the site: the restoration of this bank and the creation of a new scrape in front of an existing hide. TEN provided £9 000, which was matched with £8 000 from the Environment Agency. This has been a success especially the scrape where there are now one pair of breeding redshank, one pair of ringed plover and three to four pairs of lapwing. Kingfisher is evident and otters are increasing as they are throughout Norfolk, so much so that they have had to be fenced out of nearby fisheries by the anglers. Stone curlew breed in a nearby arable field.



Photo 2. & 3. Breached meander before and after repair, Nunnery Lakes

The site is much visited and extensively used by schools and local people. Ongoing management is needed and grazing will probably be introduced in 2006. The adjacent Anglian Water pumping station to which recent extensions have been completed appears very severe and would benefit from screening by a substantial hedge.

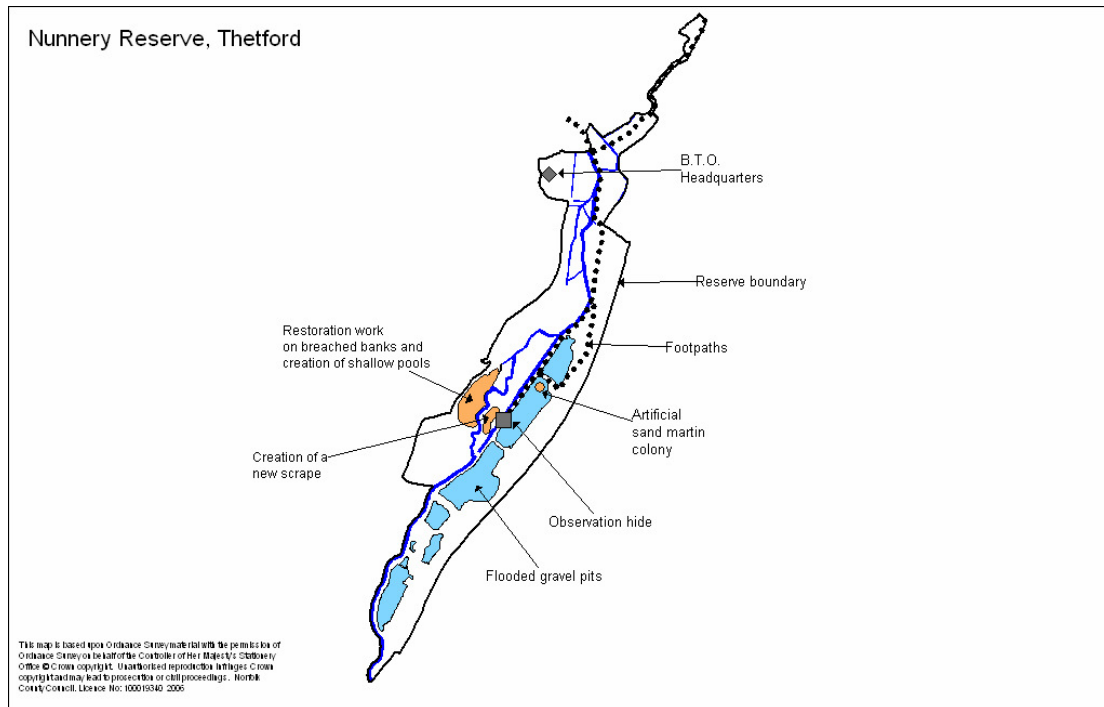


Figure 2. Nunnery Reserve, Thetford

Recommendations in the original vision for this section, notably for landscape enhancement in the public open space of the Priory Water Meadows in Thetford have not happened. However a new balancing pond in the housing estate next to the BTO reserve is now a well-established reed bed supporting reed warblers. There must be many such small examples of planning gain along the river system.

### 3.5 Little Ouse from Hopton to Garboldisham

The main sub-project in this section apart from Frogshall Carr (see above) was enhancement to **Knettishall Heath Country Park**. TEN contributed £5 000 which was matched with £5 000 from Suffolk County Council to supply a borehole and linking pipe in order to pump water onto a meadow and establish dams to feeder ditches around the meadow. This meadow is now being grazed with 12 sheep and four cattle and the aim is to further raise water levels by an additional dam on a ditch outfall in order to achieve grazing for lapwing and redshank. Lapwing bred in 2001 in an exceptionally wet year and it is likely that with further management they will return. Frogs and smooth newts have increased and great-crested newts appeared in 2003 notably in a now flooded pingo.

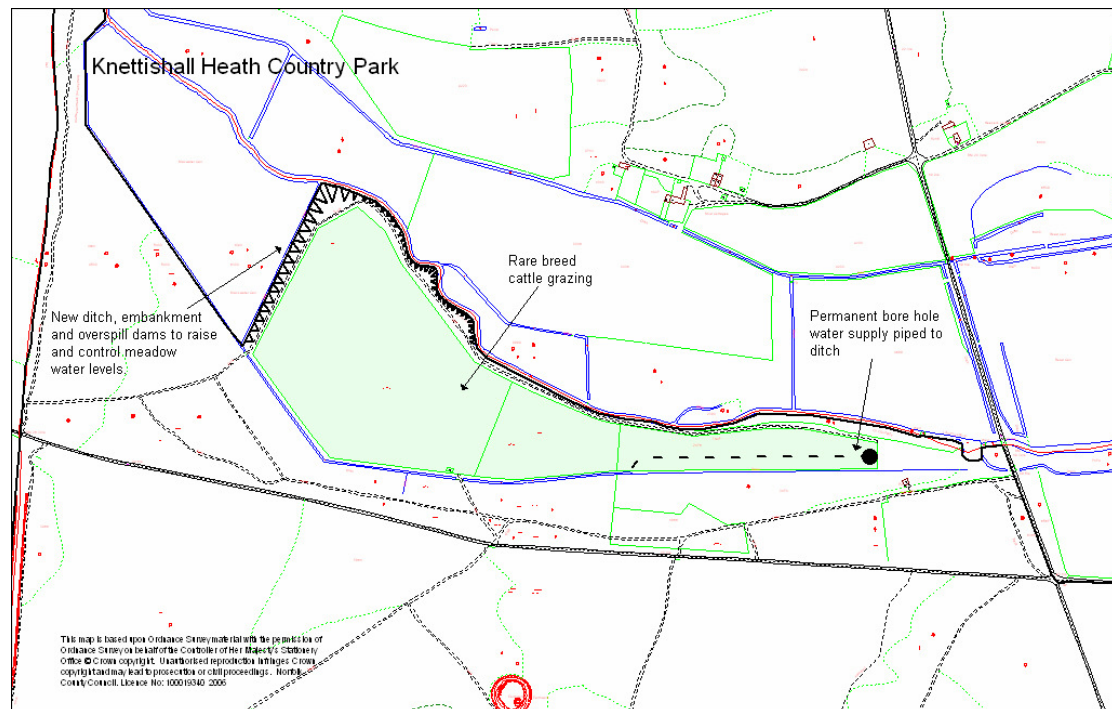


Figure 3. Knettishall Country Park

The site is exceptionally well visited with a paying car park and an additional short term car park for local people. Events are frequently organised. Footpaths are designed to provide views of the meadow.

The farmer on the other side of the river is sympathetic to conservation and the possibility of purchasing an adjacent field of marginal agricultural value would be a very attractive one.

This project has been good value for money and shows how a relatively modest input can with time and patience achieve real benefits for both habitats and people.

There appear to have been few other independent initiatives in this section apart from work on Market Weston Fen although river restoration work near Rushford, where the Suffolk Wildlife Trust worked with sympathetic landowners in the 1990s, indicates the potential.

### 3.6 Headwaters of Little Ouse and Waveney between B111 bridge at Smallworth and Diss

This section of the two rivers was given top priority for attention in the original vision which stated 'this is perhaps the reach of the river most in need of help and also most lacking in support'. It is therefore heartening to revisit the project and discover that with £75 000 invested from TEN and an outstanding pilot project well underway on the most vexed section that this priority has been adhered to. The **Little Ouse Headwaters Project (LOHP)** was set up by local residents in 2002 emerging from the Blo' Norton Fen Conservation Group and Hinderclay Fen Volunteers which were present at the time of the original vision. It is a registered charity run entirely by volunteers from the local parishes, with 120 paying members and a policy of employing local contractors whenever possible. Much of the land where work has been carried out is leased from the local Poores' Trusts. The area covered is a slice of the Headwaters section between Redgrave and Lopham Fen to the east and the road between Blo'Norton and Thelnetham to the west. With the Angles Way long distance footpath running through it, this promotes public access, including guided walks, as well as nature and landscape conservation. While there is some inevitable resistance to change especially in the current agricultural climate, the LOHP's philosophy of working 'bottom-up' is clearly paying dividends already and sets a standard for many other conservation schemes. In this way it is an excellent model for the community-led conservation projects increasingly promoted by Interreg IIc.



Photo 4. Community involvement, The Frith (LOHP)

While it will clearly take a long time since many small landowners are reluctant to sell land in this particular part of the valley, the piecing together of individual damaged parcels of fen and wet pasture is already underway. In time this should create a system recognised as equal in ecological importance to the famous Redgrave and Lopham Fen National Nature Reserve which lies adjacent. Four years ago many parcels were dominated by dense woodland or derelict with agricultural rubbish and dominated by nettles. Now the Frith is grazed by sheep and some grassland/heathland is starting to emerge while the Lows are also grazed and support typical fen species including early marsh orchid and meadow rue. Blo' Norton Fen SSSI/SAC (Special Area of Conservation) which had no regular management until 1996/1997 has had a third to a half of its central woodland removed and is partially mown for its *Cladium* and mixed fen community. The adjacent Betty's Fen was purchased two years ago and fen and open water are being returned to it. Thelnetham Fen SSSI, one of the best habitats in the valley is well managed by the Suffolk Wildlife Trust. A water level management plan for Thelnetham and Blo' Norton is underway and could lead to improvements in overall river management. Hinderclay Fen, which was de-scheduled as an SSSI in 1983, is now being managed back to the level where it should be re-scheduled. In between lay many parcels of private land. It would be wonderful to restore meanders to some of them as we know existed from the historic Faden map of 1797. However, in the meantime higher water levels resulting partly from borehole closure are making them increasingly non-viable for arable use and rushes are returning in some places.

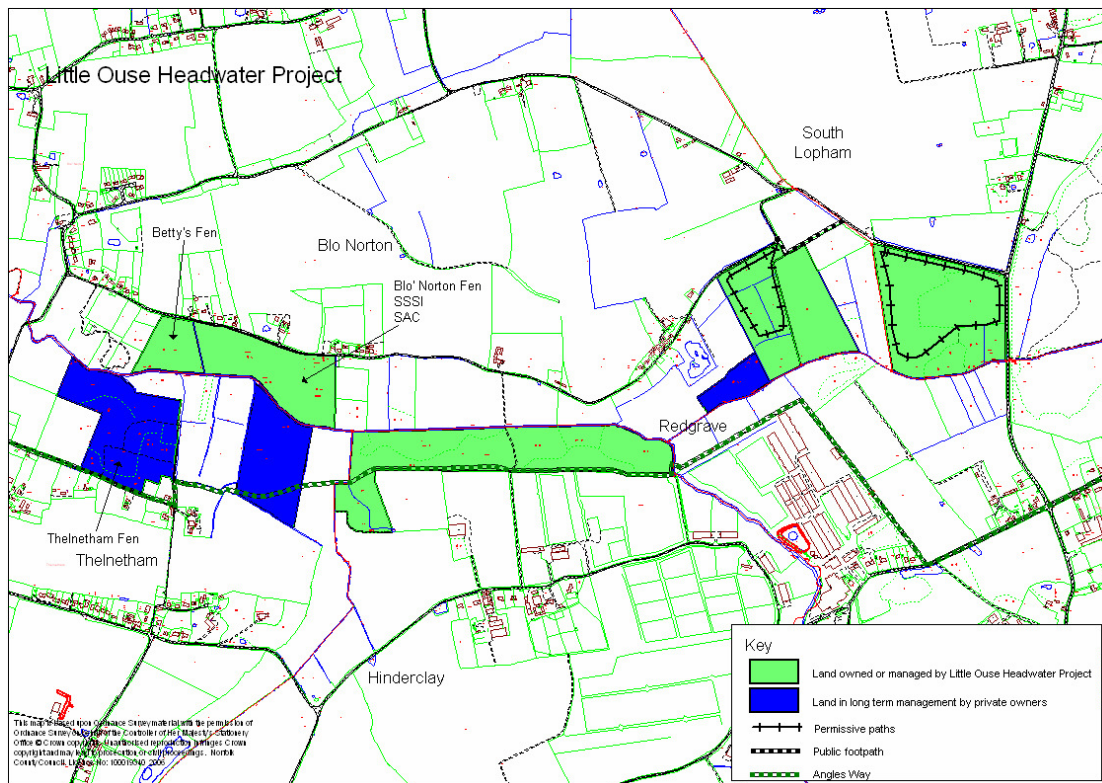


Figure 4. Little Ouse Headwaters Project



In early spring a new bridge linking Thelnetham Fen (an SWT reserve and, slightly more distantly Hinderclay Fen in Suffolk with Blo'Norton Fen on the Norfolk side) arrived at site. The bridge was formal opened in April by councillors from both Norfolk and Suffolk County Council and local residents and is symbolic in TEN terms because it links Norfolk and Suffolk. In public access terms the bridge is important because it allows many more options for circular walks around the valley, linking the Angles Way long distance path through the Suffolk Fens to the footpaths in Norfolk.



Photo 5. Habitat management, Hinderclay Fen (LOHP)

Huge problems remain. The original vision identified two linked problems for this part of the catchment: water quantity and water quality. Since the closing of the controversial Redgrave borehole in 1999, water quantity is improving to both the Little Ouse and Waveney catchments. However water quality remains at D and E. In 1999 outdoor pigs was a major problem on the sandy soil draining down to the fen. These have largely gone from the immediate catchment, but have been replaced by an expansion of outdoor reared ducks and geese. There is also always the risk that more pig farming could return, depending on the economic circumstances, especially when the conservation leases expire. There is no regular water quality monitoring within the specific headwaters areas. The Botesdale Beck, which drains through the poultry land and is the true head of the Little Ouse is still heavily trapezoidal and clearly polluted. Adjacent to it, in the heart of the fen system, is land on which dredgings were continually placed in the past, and which is now dominated by hemlock and nettle. Clearly the Environment Agency now has an important part to play. Finally there is of course the rest of the headwaters system in this section including the section of river adjacent to Blo' Norton Hall which was described as a potential candidate for meander restoration in the original vision.

In addition to the LOHP there is of course the success story of Redgrave and Lopham Fen and Roydon Fen which over the past five years have benefited from the closure of the borehole and proactive management by Suffolk Wildlife Trust. An additional peat scrape was cut in 2002 on Roydon Fen making a total of five scrapes. Lang fen was also acquired in order to clear willow growth and manage it for acid grassland. A sluice was installed at the south east corner of Lang Fen to raise water levels. Some consequences of improved management and water levels at Redgrave and Lopham are the return of butterwort to the fen in 2000 together with the increase of sphagnum, marsh fern and bog pimpernel. There are now 70 specimens of butterwort where there were none in 1999. Teal, shoveler and gadwall have increased very substantially and bearded tit is now breeding. The fen-raft spider is not however showing notable signs of improvement.

At Redgrave and Lopham Fen at the upstream limit of the Waveney, whilst carrying out weed cutting operations, the Environment Agency in partnership with Suffolk Wildlife Trust undertook works to improve the river banks for water voles. The side channels in this area support a high number of water voles and water shrews, but the river itself was fairly uninhabited. Banks were re-profiled and mink trapping extended. Water vole have successfully colonised the new re-profiled banks and the vegetation is more diverse.

Bressingham Fen is very heavily scrubbed up and would greatly benefit from better management. However the site belongs to a Poor's Trust and is currently let to a shooting syndicate. The Waveney Valley Project approached the Parish Council and Trust in 2003 and failed to secure agreement to management changes. However it may be that in the long term the situation could be retrievable especially since discussions are currently underway in relation to habitat enhancement between an adjacent landowner and Norfolk Wildlife Trust. At Dash's Farm there have been agreements with the landowner to improve river frontage meadows. Thrandeston Marsh south of Palgrave is now kept very wet and there has been reversion from arable on one field beside the Thrandeston Beck.

### **3.7 Waveney between Diss and Harleston**

This transitional section of the Waveney between the valley fen headwaters and the wide alluvial floodplain of the downstream Broadland landscape has benefited from inputs from the Environment Agency, the Waveney Valley Project and South Norfolk Council, the latter most notably on the **Frenze Beck** project.

The Frenze Beck sub-project was carried out by South Norfolk Council on land acquired by the council through a 106 Agreement linked to light industrial development and new housing on adjacent land. In the end no TEN money was used by South Norfolk Council but the project welcomed its association with the bigger international picture of TEN and was audited and written up as a TEN project.

In addition the Environment Agency contributed to some of the works at Frenze Beck using TEN funding.



Photo 6. EA funded reconnected ditch, Frenze Beck

The Frenze Beck flows southwards into the Waveney alongside the eastern boundary of Diss. The site consists of 15 acres of valley bottom land which was too flood-prone to be built on and lies immediately adjacent to the western side of the beck. The land was semi-derelict, over-dry, inaccessible to the public and in need of management when work started on it in 2003. Previously the site suffered from damage by travellers however new fencing has overcome this problem. A large quantity of dredgings deposited over the years by the Internal Drainage Board has been relocated as a boundary bank between the site and the industrial estate thus allowing the beck to seasonally overtop. Sluices have been installed, a pond enlarged in the meadow to the north together with a viewing platform, circular access and 3.71 acres of reed bed.

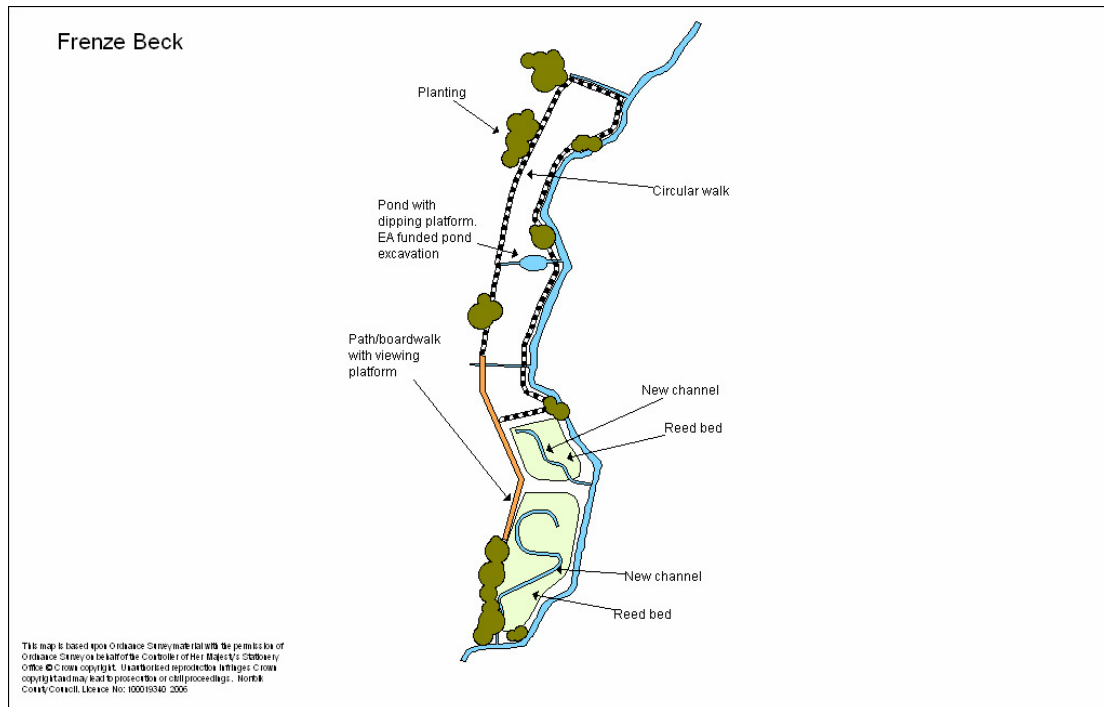


Figure 5. Frenze Beck

A new public boardwalk screened from the wetland areas runs along the western boundary of the site, providing access to the viewing points. Much of the northern section has open access; it is intended that school educational visits use this area. Frenze Beck's location on the edge of Diss provides an excellent opportunity for residents to visit local wildlife on their door step.

A previously dry ditch connected to the river has been re-excavated by the Environment Agency, and will act as a fish refuge and nursery area. Otters are present together with snipe, bitterns on passage and barn owls breed in the owl box. The site improves water quality downstream by feeding some water through a wetland system and on the Waveney while also acting as a potential flood storage area. Outstanding issues are improving flow in the back channels and reducing high nutrient levels which will require considerable management over the next five years. There is also the potential to improve the riverine environment of Frenze Beck along this stretch by river rehabilitation techniques.



Photo 7. Habitat creation, Frenze Beck

The Upper Waveney Valley Partnership, which received 18 000 euros from TEN, has carried out works within this section of the river together with the lower reaches. These include establishing a black poplar nursery at Thrandeston south of Diss from which around 50 trees have been provided to sites in the valley including Middleton Hall south of Harleston. Another initiative has been the provision of 90 birds of prey boxes along the valley. Numbers of pairs of birds of prey using the boxes so far have been three pairs of barn owls, three tawny owls, two little owls and two kestrels. Advice has been given to 60 landowners including Parish Councils over the entire Waveney. Advice on wet grassland management was taken up near Thrandeston and around 20 ponds were restored for great crested newts over the entire Waveney. At Little Brockdish Common upstream of Harleston overgrown damp grassland was cleared and opened up with involvement of the Parish Council and has been improved both for public access and wildlife.

Through the ESA and stewardship, small patches of damp grassland supporting orchids have been retained south of Scole near Oakley and a large parcel of arable land between Withersdale Street and Holdens south of Harleston went into grassland in 2002. Attempts are being made to raise water levels on it.

Nonetheless this section of the Waveney where the habitat value was described in the original vision as being 'generally poor the valley bottom being dominated by dry tier 1 grassland' remains substantially unchanged since the initial vision. Meander restoration recommended seven years ago immediately downstream of Scole (*Rehabilitation of selected sub-reaches of the River Waveney*, Newson, M and Heritage, G, Environment Agency, 1998) does not appear to have been attempted. This section together with the reach adjacent to Stuston Common between Diss and Scole remains relatively bleak in landscape terms and would benefit from some tree planting as well as meander restoration. The fact that farmers are not automatically hostile to developments in this section is demonstrated by past interest from landowners around Syleham. The sinuous county boundary, which originally followed the river and is easily visible on the map as quite separate from the straightened river would be a good starting point for a restoration strategy.

There is also notable potential in relation to tributary streams in this section as demonstrated by the success of the Frenze Beck sub-project. One outstanding potential enhancement scheme lies at Dickleburgh Moor, a 45 acre peatland basin lying on a tributary of the Frenze Beck north of Scole. This is currently grazed and pumped to prevent regular inundation, which previously happened every winter. The site was locally celebrated for its botanical interest, wildfowl and as a popular skating lake. It currently supports water vole together with non-breeding snipe and redshank. Dickleburgh Moor has been the subject of a report by the RSPB, has local champions in the community and is owned by a sympathetic landowner. Reduced pumping could also increase its potential in terms of flood alleviation. Unfortunately it lies outside the immediate TEN study area but if an exception was made to include the whole parish within the river catchment as has already been done in relation to Farming and Wildlife Advisory Groups (FWAGs) contribution to TEN, the site could represent a significant flagship project both in terms of conservation and access.

At the Pennings, a Local Nature Reserve on the River Dove, the Environment Agency whilst carrying out their desilting work created a new pond, installed a bird hide and re-profiled one bank to improve the habitat value. Black poplar were also planted in the area.

### 3.8 Waveney between Harleston and Downstream End of Study Area

As was stated in the original vision this is arguably the finest section within the study area both in terms of habitats and landscapes especially between Beccles and Bungay. In this respect it was never seen as a priority in terms of habitat restoration although some sections such as the reach immediately downstream of Homersfield bridge are reminiscent of the bleaker sections of the Waveney near Scole and Diss. The main inputs within TEN have been some projects carried out by the Environment Agency and the Upper Waveney Valley Partnership together with advice by FWAG. However there have also been a number of independent developments on this section of the river.

In the vicinity of **Homersfield** bridge the Environment Agency created a number of riffles for fish, largely chubb and dace, by placing gravel into the river over 20m sections where it had previously been over-deepened and straightened. Three riffles were created immediately downstream of the bridge in 2004 and two more were created further downstream, at **Flixton** in 2005. Backwaters were also dredged out and cleared of reed over a 100m length as a refuge for fish in times of high flow and as a nursery area for fry. The value of the work was £30 000. The EA has the fishing rights at Flixton and leases them to the Cherry Tree Angling Club at Bungay. This part of the river valley which consists of improved grassland and is leased out for grazing would also benefit from some tree planting and other conservation works subject to landowner agreement.



Photo 9. Placing of gravel, Flixton

Much further downstream the Environment Agency has also cleared the **Ditchingham Mill By-pass** on Outney Common. This was heavily silted up and blocked with trees. In addition a riffle–pool sequence has been created and bat and owl boxes installed.

During the same period the EA has been carrying out routine maintenance on the Waveney including some dredging and two annual weed cuts early and late in the year. There have been some problems with weed cutting whereby silt disturbance at low flow levels appears to have led to some fish mortality. All maintenance work is referred to the Fisheries, Recreation and Biodiversity section (FRB) within the EA. In general dredging work undertaken by the EA would have had some conservation enhancements included but the extent is always dependent on landowners.

Environmental enhancements have been carried out at Stowe Fen. Stowe Fen is a County Wildlife site supporting wide range of grassland species, some wetland dependent. The Waveney flows along one side of the fen and the other side is a redundant former course of the Waveney. Whilst carrying out other works the Environment Agency surveyed the former watercourse of the river and installed a feeder pipe from the River Waveney to allow a flow of water to enter the channel throughout the year. The area has greatly improved for breeding waders with 2 pairs of snipe nesting in 2002. Suffolk Wildlife Trust is intending to re-survey the site to establish any improvements in the flora.

This section of the river does flood regularly over the flood plain in winter. An especially severe flood occurred in 2000-2001. Since only farmland rather than housing is largely affected this is not given top priority by the EA due to DEFRA funding.

The Upper Waveney Valley Partnership has been involved with work at Boon's Heath south of Wheatacre where relict heath has been cleared of rubbish and a management plan is ongoing. They are currently investigating the creation of a picnic site with interpretation on a small triangular field beside Homersfield bridge where there is currently no public access. This would use up the final unspent £5 000 from their TEN budget.

FWAG has advised on a number of Countryside Stewardship Schemes in this area notably on the Raveningham Estate where there has been promising reversal of arable to wet grassland and at Rutterford Black Dyke Farm. South of Burgh St Peter near the Shrublands two sizeable parcels of arable have reverted to grass and are now being made wetter.

Meanwhile there have been a number of other initiatives and changes within this most downstream section of the Waveney alongside some remaining opportunities.



While further gravel extraction is no longer permitted in the valley on landscape grounds, the existing gravel pits at Ocean Lake near Harleston are maturing. They support wildfowl and little ringed plover as well as providing a recreational resource for sailors and walkers. The Flixton Pits between Wortwell and Bungay are planned as a country park on completion of works and already support little ringed plover and passage migrants. Restoration of the pits consist of returning two areas to agriculture and restore two areas to wetland. The area to the south west is now largely restored and can be seen from Angles Way. The other area to the north west is ongoing will have a circular path

The Broome-Ellingham by-pass which was constructed in 2000-2001, while introducing a new road into the valley did create very substantial new planting which is now fast maturing and provides cover for otters in an area which was previously improved grassland. It also created some new wetland systems including wet grassland now dominated by rushes and a well used cycleway/footpath system separate from the road.

Increased flooding may be having an effect on surviving parcels of arable land in the flood plain such as those still present immediately upstream of Beccles which was subject to major flooding in 2002-3 and subsequently. This large arable parcel is underlain with gravels and has a high water table throughout the year. It is now being proactively managed to improve its margins. This entire area overlooked by the historic Barsham church is potentially one of the most beautiful sections of the Waveney valley. There is potential for a permissive path on the flood bank which is owned by the EA.

Finally, a number of major potential projects which were identified in this section of the river before the budget for phase 3 of TEN was reduced may now be re-explored. They include Beccles Marshes which is a County Wildlife Site owned by Beccles Town Council. It has excellent dykes and the grassland would benefit from increased water levels. Other potential projects for enhancement considered earlier by TEN include Stanley Carrs, Geldeston Marshes, Shipmeadow Marshes, Royden Fen and Wortwell Sluice.

A large flood defence scheme is being carried out by the BESL/Environment Agency Partnership downstream of Beccles. This has involved substantial tree removal and vegetation clearance, however, in the long term the scheme will provide benefits in terms of rond creation, improvements in the habitat structure of the soke dyke, tree planting and enhanced protection of the valuable grazing marsh dykes in the wider area of Beccles Marshes.

### 3.9 Water Vole Project

Anecdotal and quantitative evidence suggests that water voles have declined or disappeared from extensive stretches of the main River Waveney and Little Ouse. However, little information is on the status and distribution of water vole at the river valley scale. The TEN water vole project is ambitious in that it aims to provide data on the presence and/or absence of water voles within 100% of the TEN project area. This sub-project is unique within the wider TEN Project as it is the only one dealing with a specific species and which encompasses all of the Waveney and Little Ouse study area.

Norfolk Wildlife Trust received £4 500 from the Environment Agency with 50% match funding from TEN, enabling it to employ subcontractors to undertake the field surveys, with substantial additional inputs for survey and mapping coming from staff within the Trust.

The survey results give an indication of the overall distribution of the water vole population and the pattern of distribution in relation to differences between main river channels and the watercourses, water bodies and wetlands within the river valley floor. Surveys of the main Waveney and Little Ouse rivers show that water voles remain in 'pockets', although there appears to be a greater distribution along the River Waveney. Grazing marsh dykes across the Waveney river valley floor and across arable farmland in The Fens still support substantial water vole colonies, although there are extensive areas of valley floor that appear suitable where water vole remain absent. The aim of the project was to achieve 100% coverage of the study area but in reality this was not achieved due to funding limitations.

GIS was used to map the survey results, the information will be shared with project partners, including local authorities, Internal Drainage Boards, landowners and other relevant groups.

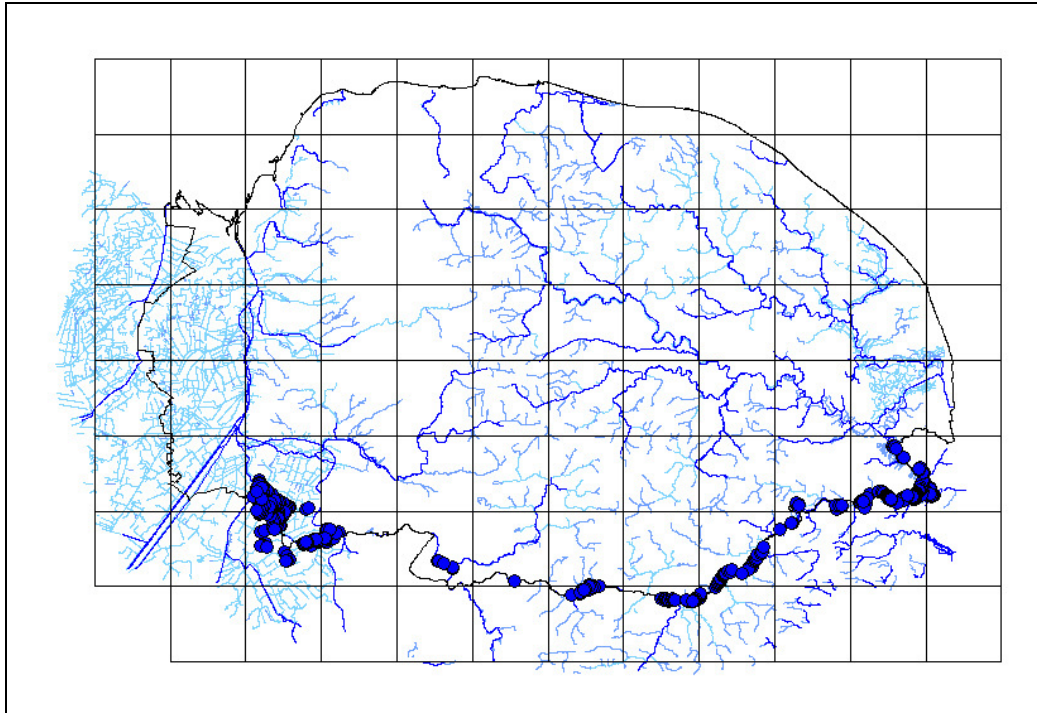


Figure 6. Broad-scale map of water vole distribution in the Waveney and Little Ouse Valleys within the TEN Project area

Follow up initiatives could include:

- Best practice habitat management guidelines.
- Site advisory work to help achieve habitat gains and enhancements for water voles.
- Raising awareness of water vole issues among landowners.
- Reconnecting fragmented water vole colonies.
- Controlling American Mink.

### 3.10 FWAG Farming and Wildlife Advisory Group

As stated previously **Suffolk and Norfolk FWAG** contribution to the project has been whole farm conservation plans in the parishes adjacent to the two rivers of the Little Ouse and the Waveney. One of ways that this has been achieved is through 3 'farm walks'.

In October 2005 the final farm walk took place at Syleham Hall Farm, a 667 acre farm in the Waveney Valley. Issues such as soil erosion, diffuse pollution and resource protection were discussed and also the implications and possibilities of catchment sensitive farming under the new Environmental Stewardship scheme were explored. Speakers included a soil management specialist, an expert on catchment sensitive farming from the Environment Agency and FWAG advisers.



Photo 8. Steve Henson, Norfolk Wildlife Trust speaking to attendees at a farm walk, Chatsholme Farm

In addition to the farm walks FWAG has achieved a great deal in the TEN project area through the Countryside Stewardship Scheme (CSS). An exception was made in the case of FWAG to extend project boundary to include all parishes with a river edge.

A number of the achievements are listed below:

- 320ha of 6m field margins created, many of which form buffers for the river
- 288ha grassland created through arable reversion
- 198ha of over wintering stubbles, providing food and shelter for birds and mammals
- 12.2km of ditch management
- Restoration of 21 ponds
- 276km of hedgerow restoration
- 77km of hedgerow planting



Photo 10. Field margin

## **4 Success in achieving principles, objectives and priorities from the original vision**

### **4.1 Principles**

These were to improve habitats and landscapes to their maximum potential in terms of:

- water quantity
- water quality
- public access
- sense of place
- community involvement.

#### **4.1.1 Water quantity**

Habitats and landscapes have certainly benefited from a greater quantity of water in a number of key sub-projects notably at Lakenheath Fen, the LOHP, Knettishall Country Park, Nunnery Lakes and Frenze Beck. In addition the closing down of the borehole at Redgrave has continued to yield benefits to the upper Waveney at Redgrave and Lopham Fen and to a lesser extent to the upper Little Ouse. However, further down the Waveney from Redgrave and Lopham Fen, flows have been reduced near the new borehole at Wortham.

In addition a number of parcels of arable land on the lower Waveney notably near Harleston and Burgh St Peter have reverted to damp grassland through stewardship and independent initiatives by the Forestry Commission are also raising water levels notably at Horse Meadow. An increasing tendency for the Environment Agency to weed cut rather than dredge may have had a beneficial impact on water levels and flooding within the Waveney flood plain in the winter. Winter storage reservoirs have been constructed by private farmers near Diss and Scole. If these replace summer abstraction there should be some local benefits. Nonetheless apart from the impact of the Redgrave borehole removal actual river levels have not been changed and in many places still bear the impact of dramatic lowering carried out in the second half of the twentieth century.

#### **4.1.2 Water quality**

This has been perhaps the major disappointment within the valleys over the past six years. Water quality in biological terms has remained fairly static between A and C, using the Environment Agency's assessment criteria.

Chemical water quality also appears to be unchanged remaining at D and E within the Little Ouse headwaters.

The Water Framework Directive (WFD) requires surface waters to achieve a number of objectives including good ecological and chemical status by 2015. The River Waveney from Bungay and Little Ouse at its confluence with Great Ouse has recently been classified to be at significant risk of failing the objectives of the WFD with particular concern associated with nitrogen and phosphorus pressures. The remaining sections of the River Waveney have not yet been classified.

#### **4.1.3 Public access**

Public access has been greatly improved within the Lakenheath, LOHP and Frenze Beck sub-projects although further aspirations remain for improved access links within the LOHP. Existing access has been retained and enhanced at Knettishall and Nunnery Lakes. Outside the scheme, the 1997 access agreement for Bungay and Outney Common has been very effective.

#### **4.1.4 Sense of place**

The strong landscape character of the valleys remains and has been reinforced by many of the sub-projects and also by stewardship-driven changes from arable to grassland in the Waveney valley. The urban edge landscapes which were never tackled except partly in relation to the Frenze Beck remain perhaps the weakest areas of the valleys in terms of sense of place and may have further degraded over the past six years.

#### **4.1.5 Community involvement**

The shining example of community involvement among the sub-projects is the LOHP, a model of its kind, despite the inevitable difficulties in persuading all members of a community to support nature conservation. There has also been good community involvement through the Upper Waveney Valley Partnership and a number of the sub-projects notably Lakenheath, Knettishall, Frenze Beck and Nunnery Lakes.

Another important contribution to community involvement have been the successive conferences organised by the TEN project which from the initial conference in 1999 to final in 2006 have set out to invite a wide cross section of stakeholders. All this needs to be seen against a background of potentially difficult relations between the agricultural community in the valleys and the nature conservation movement as small graziers in particular face increasing economic difficulties.

### **4.2 Strategic objectives**

These were, as appropriate or possible, to:

- Develop sustainable flood defence
- Raise water levels
- Return rivers to natural channel systems
- Raise river beds
- Create buffers to core wetland habitats
- Promote land use away from improved grassland/arable
- Prevent urban development in flood plains
- Achieve integrated catchment management
- Create large scale naturally functioning wetlands
- Create mosaic of wetland habitat, driven by BAP species/important species
- Involve community groups/stakeholders
- Enhance or where appropriate remove riverside structures such as weirs.

The following objectives were not achieved or even attempted:

- Develop sustainable flood defence
- Raise river beds
- Prevent urban development in flood plains
- Achieve integrated catchment management.

Large scale raising of river beds was perhaps over ambitious and certainly remains unrealistic for the entire river system. However it should remain an aspiration for certain reaches such as the over-deepened Botesdale Beck and its confluence with the upper Little Ouse, the section of the Little Ouse between Brandon and Thetford where land is largely owned by the Forestry Commission, and some of the over-deepened sections of the middle sections of the Waveney. The increasing trend whereby arable production is becoming absent from the flood plain makes bed raising more of a possibility. Local raising of ditches and small tributaries has been achieved at Knettishall, on Forestry Commission land and at Lang Fen near Redgrave.

Developing sustainable flood defence, preventing urban development in the flood plain and achieving integrated catchment management were perhaps in retrospect beyond the scope of TEN and are of course the responsibility of other organisations. However a number of the sub-projects have indirectly contributed to these objectives.

The following objectives were partially achieved:



- Enhance or where appropriate remove riverside structures such as weirs
- Return rivers to natural channel systems
- Raise water levels.

Enhancing structures such as weirs was only achieved in the case of clearance of the Ditchingham Mill By-pass and this did not result in the lowering of any structure. Returning rivers to natural channel systems was achieved in relation to the work at the Nunnery where an already completed meander restoration scheme was repaired and also at Homersfield and Flixton small (400m) pool/riffle sequences were restored. This remains a major aspiration for the LOHP and the middle Waveney. Raising water levels was not effectively achieved within the main rivers themselves but was certainly achieved on adjacent wetland schemes at Lakenheath, Knettishall, LOHP and Frenze Beck.

The following objectives were substantially achieved:

- Create buffers to core wetlands
- Promote land use change away from improved grassland/arable
- Create large scale naturally functioning wetlands
- Create mosaic of wetland habitat, driven by BAP species/important species
- Involve community groups/stakeholders.

These objectives were certainly achieved in varying degree at Lakenheath, LOHP, Knettishall and Frenze Beck. Land use change was also independently achieved through stewardship on the Lower Waveney and mosaic of wetland habitat was extensively improved through management on Forestry Commission land.

### **4.3 Priorities**

The priorities of the original vision were:

- Address problems at the headwaters of the two rivers
- Return flood plain arable to wet grassland notably in Beckland and downstream of Waveney Environmentally Sensitive Area (ESA)
- Major wetland creation on downstream reach of little Ouse
- Increase saturation of dry grassland on middle Waveney and Little Ouse between Lakenheath station and Brandon

- Soften municipal character of riverside open space especially in Thetford.

The first priority of the vision to address problems at the headwaters was certainly taken on board and well resourced. As a result the LOHP is one of the main flagship projects arising from the vision although of course it still faces many challenges. Flood plain arable land was not returned to grassland in Breckland but it was in a number of locations beside the Waveney. Major wetland creation on the downstream reach of the Little Ouse was achieved at Lakenheath where carrot fields were returned to reedbed and existing grassland was enhanced at Botany Bay.

The last two priorities of increasing saturation of dry grassland on the middle Waveney and improvements within riverside open space at Thetford (Priory Water Meadows) were not achieved.

## 5 Assessing the subprojects against the 'Logical Framework'

For the submission for European funding it was necessary to develop a set of criteria or 'logical framework' to monitor the whole TEN project.

The following four types of indicators were used:

**Project Activities Indicators** that monitored numbers of;

- organisations involved,
- persons involved,
- meetings within projects,
- course,
- theme meetings, and
- number of meetings with partners.

**Output Indicators** that monitored the numbers/areas of;

- interpretation boards and interpretation leaflets,
- cleared birch woodland
- Newsletter (since report no. 2)
- Pedestrian bridges
- purchased land
- re/creation of fen, reed bed or other new wetlands
- depleted nutrients
- websites Restored ditches
- new footpaths
- kissing gates
- articles
- culverts
- posters
- folders
- leaflets
- enhanced management of Natura 2000 sites
- CD-ROMS
- Implementation plans
- reconstruction of the water course
- surveys, studies carried out ('Water voles')
- fish ladders
- culverts & Weirs

**Result Indicators** that monitored the numbers/areas of;

- Reduction of the ground water winning for irrigation
- Enhanced river channels
- More public and political support for extending ecological improvement
- Increase of the water quantity
- Unspecified small works to enhance wetlands directly or indirectly that stem from advice given during the project's duration
- Enhanced management of derelict grazing marshes
- Enhanced management of carr woodland
- Number of new supported and initiated projects

- Number of pilots implemented
- Provide advice to farmers and other landowners to benefit wetlands directly or indirectly
- Enhanced management of fen
- Better quality of plans

**Impact Indicators** that monitored the numbers/areas of;

- Economical development in social poor developed area
- Regional identity and co-operation, cross-sectoral co-operation to solve problems according to the Water Framework
- Revitalisation of the water corridors and the connecting wetlands between the involved regions
- Increased biodiversity  
Reduction of the costs for treatment processes for irrigation water
- Developments of habitat / animal population and vegetation Improvement of quality of life in rural areas
- Increase in ground water quality
- Improvement of tourism
- Improved water quality

European and UK indicators were set at the outset of the project. An example of where the Little Ouse and Waveney project has been extremely successful is under the criteria 'numbers of people involved'. The UK's target of 125 people, half of the overall project target of 250, was greatly exceeded, in total 367 people were involved a substantial number of these were local volunteers.

Other notable success include the number of farmers that have received advice on ways to directly and indirectly benefit wetlands, the length of ditches restored and length of footpaths created. Lakenheath Fen and LOPH project are significant contributors to these targets.

Monitoring of target and indicators is a valuable method of measuring progress and successes. One concern with setting targets at the beginning of the project is that there are no opportunities to alter or improve them, they become very rigid. As the sub projects developed the rigidity of the indicators has not allowed all the successes it be fully included, this is considered to be a downfall of TEN 3.

Improvements in groundwater and improvements in water quality are two targets that have not been met. Detailed monitoring was not included in the costs of the Project, making it impossible to monitor water quality, relying on third party records is never a good substitute and in this case EA monitoring does not provide the detailed data necessary. An early opportunity to alter or even adapt these indicators could have given a clearer picture of the real achievements of the Little Ouse and Waveney project.

## **6 Overall Assessment and Lessons Learned**

### **6.1 Assessment of Achievements of TEN and Other Developments 1999-2005**

The TEN Project has clearly been an inspiring success with real results on the ground notably at LOHP, Lakenheath, Knettishall and Frenze Beck, all of which have been monitored through the logical framework. It is essential that the initiative continues and builds on the foundations which have been laid.

In addition to site-specific successes, there has been the less tangible but very beneficial generation of enthusiasm and bringing together of a very wide constituency of people from politicians to landowners to generate a wider vision of landscape and habitat which links UK to the continent.

A great deal has been and is going on outside TEN to change the valleys often for the better in relation to the objectives of the vision. These include Forestry Commission work on the Little Ouse and initiatives by the Wildlife Trusts and Department of Environment Food and Rural Affairs / Rural Development Service (DEFRA / RDS) on both rivers.

Major land use change has not happened in the valleys as dramatically as expected. However with the possible demise of grant to sugar beet, the threat of bird flu, the reduction in grazing stock, likely increased flooding and increasing pressure on small graziers, we are probably on the brink of it. This situation needs to be managed creatively as far as possible.

Major changes in administration concerning habitat and landscape management present both challenges and opportunities. In 2006 English Nature will become Natural England. In 2001 part of DEFRA became the RDS. The Water Framework Directive, which is becoming ever more influential, together with 'High Risk Erosion Areas' and initiatives on diffuse pollution could all work to the advantage of the vision. The removal of the ESA boundary, which excluded the headwaters of the Little Ouse from potential benefits, has been beneficial. The phasing out of 'classic' stewardship schemes which tended to be merely prescriptive also offers opportunities especially in relation to the 'Higher Level Payments'. These are highly targeted in relation to Joint Character Areas and are likely to focus on major habitat and landscape improvements. They are also on the lookout for brand new customers.

Experience with the RSPB project at Lakenheath Fen and in the wider region with the Wicken Vision and the Great Fen Project has demonstrated that really ambitious large scale habitat creation projects are meeting with unexpectedly fast success in terms of fund raising and land acquisition.

In European terms successes can be monitored through the logical framework. One of the main outcomes anticipated from TEN 3 was to disseminate knowledge and expertise. The results of the project activities indicators show that the UK exceeded its targets for 'theme meetings', 'number of meetings with partners' and 'meetings within projects'.

The TEN sub-projects are patchy, some outstanding, some less so. The impression is therefore one of piecemeal efforts and now is the time to formulate a strategy to drive the vision forward in a joined up way. What is the mechanism for this ?

## **6.2 Lessons Learned**

### **6.2.1 Was the vision too ambitious?**

The remarkable and even unpredictable success of some of the projects shows that the vision was not over-ambitious. Areas of dramatic habitat change did have a negative effect on some farmers and the link with EU may have conjured in the minds of some landowners unrealistically high expectations of available land purchase budgets. But you have to start somewhere. One area where the vision was perhaps not clearly thought out was the ambition to achieve wet grassland throughout the lower Waveney. The commoners on Outney Common let the land to graziers who did not want it to get any wetter and in those circumstances the quality of the landscape is already so high and the problem of obtaining graziers so increasingly difficult that further changes were not a priority.

### **6.2.2 Was the project too target-driven?**

This is fairly inevitable when grants are accountable. Sometimes targets such as land acquisition turned out to be not in our gift. In some cases targets led to lack of flexibility and pressure to over-deliver on details. The ability of the scheme to allow trading of targets among partners/sub projects was considered excellent. Although the targets themselves could have given a clearer picture of the real achievements if additional targets could have been included.

### **6.2.3 Was the project boundary inappropriate?**

Here is the familiar dilemma between dissipation of effort over too large an area versus a missing of opportunities and holistic habitat management. In fact the project boundary was changed three times. In the original report for the vision (Mott MacDonald, January 2000) the boundary followed the existing ESA except for on the Little Ouse where the Beckland ESA was too large for inclusion and there was no ESA on the downstream fenland section or on the upstream headwaters. Within Beckland and the upstream sections the boundary was drawn 1km back on either side of the river which broadly covered the wetland corridor. Hopton and Market Weston fens together with feeder tributaries such as the Botesdale Beck were also included. On the most downstream section where the entire area is potential fenland a 5km corridor on either side of the river was embraced. In the subsequent 'Vision for Wetlands towards Biodiversity-rich Floodplains' this boundary was broadly followed but many tributaries were taken off. Later than that Graham King of Norfolk County Council agreed to extend the boundary to the wider catchment specifically for FWAG only. These various boundaries have not hindered the success of the project but it is certainly time to re-assess them.

### **6.2.4 Have we been re-inventing the wheel?**

Emphatically yes. Relevant documents, which would have helped many stakeholders during the life of the project, have just recently been re-discovered. These include the original vision (Mott MacDonald, 2000) which includes a GIS for the study area and a detailed report of potential enhancements for the entire Little Ouse carried out in 1994 (Beckland Rivers Restoration Project, Suffolk Wildlife Trust, December 1994). A copy of the original bid for the full scheme before the budget was cut appears available in summary showing details of a suite of projects such as the Beccles Town Council scheme, this document will be useful for a future project.



## 7 The Way Forward/Next steps

### 7.1 January Worksop and April Conference

With this re-assessment at the end of the project and the conference in April 2006 it is necessary to formulate the next steps. Through discussions with the sub project organisations it became clear that there was a desire to continue the Little Ouse Waveney and Project, although the exact form was unknown.

A workshop organised in January 2006 began to determine the level of support for such a project, a wide range of individuals and organisations were given the opportunity to express their views and opinions.

The workshop established that the original vision included the key themes for a new overarching project vision for the Little Ouse and Waveney. The general feeling of those present was an aspiration to continue the project, expanding the project boundary to include both river catchments. A larger project area would allow the project to influence factors such as pollution sources on higher ground, which in turn could lead to the delivery of greater successes. A number of organisations expressed the concern that a catchments boundary should not alter the focus of the project on improving river valleys.

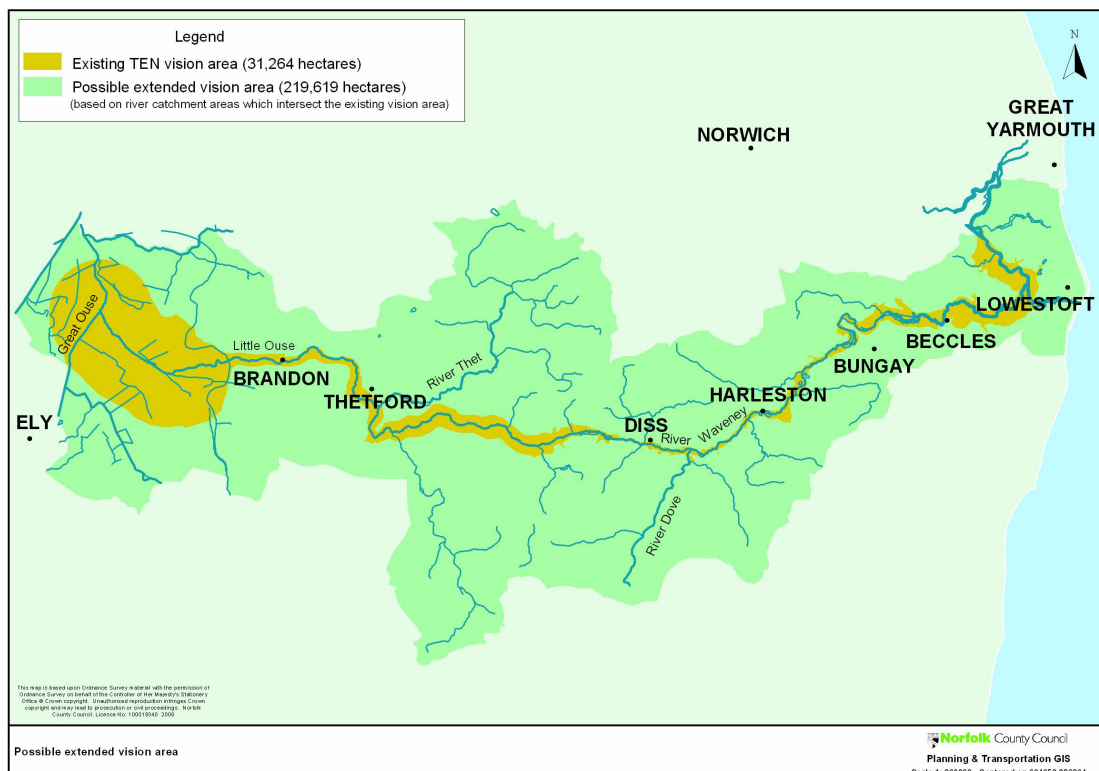


Figure 7. Proposed project boundary

The re-assessment of the project until this point had very much focused on the work of the sub partnership organisations, little direct contact had been made with landowners. It was clear that landowner involvement in any future project was essential to its future success. To overcome this all landowners in the catchments were invited to the April Conference.

The 3-day international conference was attended by the international TEN partners, local landowners and key stakeholders all celebrating the successes of TEN in particular the Little Ouse and Waveney Project. The approach of the conference was one of inclusivity. Landowner support was less than hoped for and in hindsight to involve landowners direct contact should be made with individuals.

A copy of the conference programme and list of participants are included in appendices B and C respectively.

Day 1 focused on involving participants in group discussion workshops based around three themes.

- Water Quality & Environmental Stewardship
- Biodiversity & Ecological Networks
- Eco Tourism/Public Access & Recreation

Each group was encouraged to look at how their theme could contribute to a new vision; mini presentations opened each discussion group. A key outcome of the day was to try to achieve a consensus on the future direction of the project and partnership. An outline of the main outcomes from the workshops is provided in Appendix E.

Day 2 was spent in the field visiting Frenze Beck, Little Ouse Headwater Project, Knettishall County Park and Lakenheath Fen. Opportunities also existed on the other conference days to explore the Nunnery Lakes reserve and the work that the BTO had been doing. This was an excellent opportunity for those who didn't know the projects on the Little Ouse and Waveney to see the completed projects.

The focus of Day 3 was very much looking forward to the future, with the morning session beginning with presentations from Helen Smith, Norman Sills and Jeremy Purseglove based loosely around the theme of 'local perspectives'. 'Large scale wetland creation' developed the day further with presentations from Graham Elliot, RSPB and Brian Eversham, Cambridge and Peterborough Wildlife Trust explaining their organisations experiences.

'Future Challenges' was the theme for the final conference session, where presentations were given by Andrea Kelly, Broads Authority, Mark Shepard, ADAS and Jo Pitt, Environment Agency.

Concluding the presentations, Ben Van Os from the lead partner organisation spoke of the Future and a new project 'Waterline Economy'. A copy of all presentations can be found in Appendix D.

## 7.2 Waterline Economy

The focus of this new European funded project 'Waterline Economy' is the potential of sustainable water management to contribute to sound socio-economic development along the water corridors (rivers, brooks and canals) that connect wetlands, cities and the North Sea – the waterline that runs from source to sea. The central aim is to strengthen the role of socio-economic development in enhancing sustainable water management in "waterline" areas, by drawing upon the knowledge and experience of five existing, innovative INTERREG North Sea Programme projects.

### Objectives

- To develop a transnational cooperation programme on the linkages between economic advancement and sustainable water management
- To contribute to the new cooperation programme 2007-2013 Objective 3
- To capture knowledge and expertise

### Activities

- Regional meetings and expert-meetings
- Integrate knowledge on economic development linked with water management
- Analysis of socio-economic knowledge or experience amongst existing partnerships
- Determine potential project fields / projects
- End seminar

### End result for waterline economy

- Programme with potential projects and project fields for Objective 3
- Analyses of involving socio-economic improvement in water and nature projects

An expectation exists substantiated by European partners that Norfolk and Suffolk Councils are involved in the Waterline Economy project however the exact details are as yet unknown.

A clear leader is the continuation of the Little Ouse and Waveney project.

## **8 Conclusions**

Recommendations based on the findings of this study and the conference is as follows:

### **Management of delivery**

- There is a great need for a dynamic project officer dedicated to the project in order to pull together the disparate parts of the vision and drive it forward. Although there are other mechanisms which could be considered. One option is to establish improved communication between stakeholders by setting up a forum that meets twice yearly to keep everyone informed, avoiding duplication and to seek opportunities for joint working on shared priorities.

### **Profile of the project**

- The project needs a clear profile, one that relates to perceptions and expectation management, that can maintain momentum through out the duration of the project. Project branding would be a clear method for the public to associate with the Little Ouse and Waveney.

### **Connectivity**

- The project needs to patch together the piecemeal projects that have taken place in the valley to improve connectivity promoting the idea of ecological networks.

### **Catchment approach**

- The project boundary needs reconsidering perhaps in order to cover the parish boundaries linked to the catchment and also most certainly in relation to diffuse pollution and High Risk Erosion Areas. On 15 December 2005 the 'England Catchment Sensitive Farming Programme' will be launched. This will tackle diffuse pollution of surface waters. Both the Little Ouse catchment and the Yare/Waveney catchment have been targeted in this programme. For each of these two catchments, a Catchment Sensitive Farming Officer will be appointed in mid 2006. The maps to be published in December 2005 will show the main catchments and within them the subsidiary catchments which might be prioritised. This focus on particular sub-catchments offers opportunities to monitor pollution and can be tied in to wider conservation initiatives both through cross-compliance, agri-environment schemes and the initiatives of TEN.

### **Wider Partnership**

- There perhaps needs to be a wider partnership with political backup to grow out of the excellent partnerships already formed. This could then seek more major funding from e.g. HLF, WREN, East of England Development Board and other grant aiding bodies.
- Greater involvement from some groups would aid the development of the project. Greater roles could come from the Wildlife Trusts, Anglia Water and the Internal Drainage Boards. There could also be greater involvement from the Angling Clubs/angling fraternity.

### **Revisit the vision**

- The original vision was very ambitious a new project should recapture the vision recognising the reality of the situation or at the very least set clear objects and the time scales for their delivery. The question was posed how many years should the vision be for.

### **Strategy in relation to agricultural funding**

- A joined up strategy in relation to Higher Level Payments and Cross Compliance is essential. Since March 2005 Higher Level Payments which were at an unworkable £150/hectare have been trebled and so are much more tempting as well as being tied to a proactive habitat creation/restoration agenda in line with the aspirations of TEN. In addition and quite separate from Agri-environment payments there is Cross Compliance whereby Single Farm Payments are administered on a hectare basis rather than via production (e.g. headage/arable area payments) as in the past. Under GAEC 1 in the 'Cross Compliance Handbook for England' (ref. PB 10222A, tel 08459 556000), the scores which farmers have to reach before attaining basic available grant bear remarkable resemblance to the principles and objectives of the original vision. They include : maintaining SSSIs, habitat restoration in relation to BAP, restoration of traditional field boundaries including ditches, maintaining/re-creating historic landscape features including semi-improved river valley grassland and floodplain grazing marsh and minimising diffuse pollution to watercourses. To audit this the Rural Land Register has been set up and should be available electronically to TEN so that it can be easily tied into our internal GIS system. This will provide all farm units together with landowners contact details within our catchments.

## Water quality

- Improving water quality on both rivers but especially on the headwaters of the Little Ouse should be an absolute priority. This should be helped by Nitrate Vulnerable Zones which now cover the Little Ouse and Waveney Catchments. In relation to poultry farmers however these are only now beginning to be policed through farm inspections by the EA on behalf of DEFRA. Under these rules, in winter poultry manure must be properly stored or sold as fertiliser and not spread. Slurry tanks may not leak and proper manure management must be carried out. Adherence to these standards is a basic legal requirement of the farmer and in addition if they are not met EA may recommend to DEFRA that the Single Farm Payment is cut.
- All partnership organisations and those at the conference should receive either paper or digital copy of this report. This will allow individuals and organisations active in the rivers valleys to continue with or without future European funding.

## GIS

- Updating the GIS information prepared for early TEN projects would appear an obvious project for the future. Recording the environmental changes in the valleys would give a clear indication as to the effectiveness of future TEN projects. A copy of the original GIS is provided in Appendix G.

## Waterline Economy

- Clear support exists for Norfolk and Suffolk County Councils to form part of the Waterline Economy project however what is not clear is if an extension of Little Ouse and Waveney project will form a project in the 2007-2013 Objective 3 funding application. Project ideas need to be developed out of the conference workshops and projects worked up to establish the way forward for the Little Ouse and Waveney project.

## Possible new schemes might include:

- New fenland on the lowest reaches of the Little Ouse in co-operation with the Cambridgeshire Wildlife Trust which has potential access to Green Infrastructure (GI) budgets since Cambridge is a growth area, in contrast to Norfolk and Suffolk
- Improved public access, linkage to existing public rights of way
- Extension of the LOHP to the west
- The Botesdale Beck and its confluence with the Little Ouse – which drains through poultry land and is the true head of the Little Ouse

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- Dickleburgh Moor – it is a 45 acre peatland basin lying on a tributary of Frenze Beck, north of Scole. The area is currently grazed and pumped to prevent regular inundation, which previously happen every winter. The site is locally supported for is botanical interest, wildfowl and as a popular skating lake. It currently supports water vole together with non breeding snipe and redshank. Reduced pumping could also increase its potential in terms of flood alleviation.
  - Meander restoration on the middle Waveney – some of which we know existed from the historic Faden map of 1797
  - Urban schemes such as that earlier proposed on Priory Water Meadows town park in Thetford.
  - Explore schemes from 2000 bid which did not materialise e.g. Beccles Marshes (Beccles Town Council), Shipmeadow Marshes (Rockland Wildfowlers Association), Geldeston Marshes (Alde and Ore Wildfowlers Association).

**Appendix A A Vision for Wetlands towards Biodiversity-rich Floodplains**



## **Appendix B Conference Programme**

**Appendix C List of Conference participants**

## **Appendix D Copies of Conference Presentations**

## **Appendix E Outline of workshop discussions**

### **Water Quality & Environmental Stewardship**

To improve biodiversity in the Little Ouse and Waveney Valleys water quality needs to be greatly improved, the project to date has not really addressed the issue of water quality. Improved water quality is an essential factor that needs fully assessing, environmental stewardship. Summarised below are the main points from the Water Quality and Environmental Stewardship workshop group.

Water quality is a real issue; nutrients, sedimentation/soil erosion and contaminants are the main issues that would need address through a new vision.

Poor or good water quality has impacts in terms of ecology and the economy and must be thought of in a holistic way.

Initiatives such as environmental stewardship and catchment sensitive farming are two schemes that could assist in the delivery of improvements to water quality.

The water discussion group were clear that a future project should act on a whole catchment basis with a wide as possible representation, from governmental organisations to individual landowners. Involving IDBs in a new vision would help to strengthen links between farmers and conservations particular when trying to achieve changes in water levels and improvements in water quality.

Consideration was also given to the length of time a new vision should apply for, the outcome of this was a minimum of 25 years was appropriate but a 100 year vision may be more appropriate if the vision was very ambitious. Concerns over a vision spanning 100 years as the effects of climate change and sea level rise are not fully understood or predictable.

Little discussion took place regarding the future delivery of the TEN project, however consideration should be given to using the catchment officers as a contact for the TEN project, particularly on diffuse pollution issues.

### **Biodiversity & Ecological Networks**

TEN has focussed on connecting wetlands and river systems, a future project needs to set out how TEN could contribute to ecological networks along the river valleys and the habitats and species at the catchments level that would benefit from enhancement.

Summarised below are the main points from the biodiversity and ecological networks workshop.

There was an understanding that in addition to the community benefits that may be achieved there was a clear need to safeguard biodiversity for its own sake.

## Key issues affecting a new vision for the Little Ouse and Waveney

- Creation of wetland habitats
- Restoration of rivers and floodplains
- Creating and connecting as networks
- Need to be clear on objectives

## The most significant issues in the discussion included

- ensuring clear objectives are set, learning lessons from previous work under TEN and the practical experiences of species and habitat management,
- the need for long term planning, to secure buy in and involvement leading to a sustainable vision
- partnership development – ensuring that the right people are involved in the partnership which could be clearing identifying benefits for landowners to ensure their involvement.
- establishing and maintaining a profile for the project – aim to achieve reference in LDFs and future RSS

The groups also considered actions that would address the highest priority/significant issues, clear target setting and long terms issues were the two key ways of doing this.

## **Eco Tourism/Public Access & Recreation**

The future of TEN is dependant on the engagement of the wider community, and the development and appreciation of the socio economic benefits that an improved natural environment can contribute.

The main points from this workshop are summarised in the following paragraphs.

The benefits public access includes;

- An enhanced local economy
- Increase peoples awareness of the countryside
- Promote healthy living
- Improvement in local facilities, including infrastructure
- Local employment
- Education

It is important to be aware that there are disbenefits to be considered, these are a number that were identified;

- Disturbance wildlife and degradation of habitats
- Effects of increased visitor numbers on local services
- 'soft' image of ecotourism
- Increase in traffic and associated environmental effects
- Increase in house prices

Projects and initiatives that could assist in the achievement

- Training/education
- Links with heritage e.g. churches, gardens
- Visitor perception surveys
- Local transport initiatives
- Themed areas/branding

In eco tourism/public access & recreation terms the priorities for a future TEN project would include developing educational opportunities for all ages in the community, developing themed areas and a brand for the Little Ouse and River Waveney project and finally that there should be a co-ordination of information and importantly a co-ordinated partnership.

## **Appendix F List of Contacts**

**Appendix G Copy of Original GIS (land use only)**