

Nene Valley Habitat Opportunity Map

March 2012

Overview

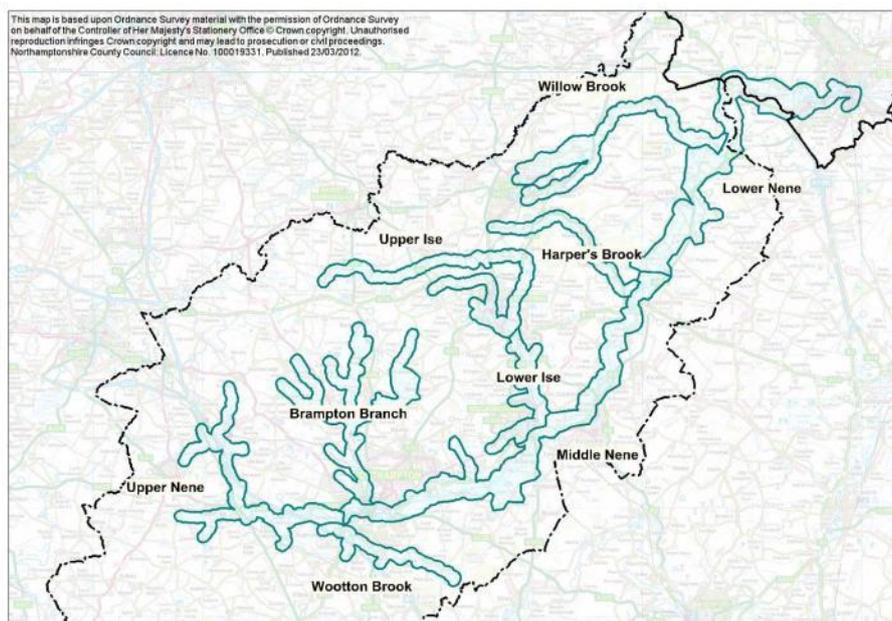
This piece of work is designed to guide changes of land use in the Nene Valley when the opportunity arises through development, agri-environment schemes or other projects.

A wide range of data have been used to identify opportunities for priority habitat types, however, this must always be supported by a thorough assessment of the site in question. Such an assessment may include:

- An initial walk over to confirm current land use type.
- Detailed survey of current habitat type and species present (particularly plants).
- Assessment of water availability, ground water level, or ability to hold back water using sluices or other impoundments.
- Historic Environment Record search to identify presence of features of historical interest.
- Identification of consents that may be required.

While identified changes affecting Local Wildlife Sites and other designated sites have been discussed with the relevant organisations, no private landowners have been consulted.

The mapping was undertaken for the major flood plain of the River Nene from Upper Heyford to Peterborough, and for the River Ise. Reach Statements have been produced for each of the following areas: Brampton Arm, Upper Ise, Lower Ise, Harper's Brook, Willow Brook, Wootton Brook, Upper Nene, Middle Nene, Lower Nene. These statements summarise the current land uses, distribution of BAP habitat, ecological status of the watercourses, and key features such as Scheduled Ancient Monuments. They then go on to suggest the key opportunities for habitat creation and restoration and measures for improving the ecological status of the watercourse. Reach statements should be used in conjunction with other landscape character assessments.



Map: Reaches of the River Nene

Prioritisation of habitat opportunities

In many cases a single parcel of land will contribute equally well to the ecological network of the Nene Valley as one of several different habitat types. In these cases a range of suitable habitats have been identified and the site conditions and type of management possible will inform the final choice. In other scenarios a parcel of land will form a crucial connection or buffer to an existing habitat or site and therefore should be restored to a single priority habitat if possible.

Effort has been made to avoid suggesting that arable or productive farmland be reverted to semi-natural habitat. In some cases, however, reverting arable land is the only means of connecting patches of habitat. In regularly flooded areas arable land is likely to be less productive and may also contribute towards high levels of phosphate and siltation in the river. In these cases, ideally the whole field would be reverted to another habitat type, but an acceptable result may be achieved by creating wide margins and buffer zones.

There is currently a lot of 'undetermined grassland' in the Nene Valley. This is grassland which is not of any Biodiversity Action Plan type (e.g. Lowland Meadow or Floodplain Grazing Marsh). Much of this grassland is liable to regular flooding but has a species-poor sward. Methods to increase the biodiversity of such grasslands can be expensive and take a long time to show results. If the grassland still contains some botanical diversity and is not dominated by rye-grass and white clover, or is very close geographically to a species-rich site, it is definitely worth pursuing restoration to Lowland Meadow. In other cases enhancements for breeding waders, creation of wet fen habitat, or succession to wet woodland are options. Information in Natural England's FEP handbook (<http://naturalengland.etraderstores.com/NaturalEnglandShop/NE264>) and Technical Information Notes (<http://nepubprod.appspot.com/category/9001#content>) may be of assistance in making this decision.

Any activity that involves lowering the land surface e.g. mineral extraction should prioritise the creation of wet habitats (reedbed, fen, wet woodland) that require a high water table all year around, unless suggested otherwise on the map.

Climate Change

UK Climate Projections 2009 data for the East Midlands suggests that, under a medium emissions scenario, by the 2050s the region may see:

- An increase in summer mean temperature of around 2.5°C and of winter temperatures of around 2.2°C;
- A 14% increase in winter mean precipitation;
- A 16% decrease in summer mean precipitation.

(Source: UKCP09 – <http://ukclimateprojections.defra.gov.uk>).

The CEH Climate Change Assessment Tool

(http://www.ceh.ac.uk/sci_programmes/Water/Wetlands/ClimateChangeAssessmentToolforWetlands.html)

allows the user to project the impacts of climate change on wetlands in the next 50 years. The tool indicates that over a 30 year period, 2040 to 2069, in the Anglian region:

- Conditions for tall herb fen (S24) and reed (S4) plant communities will remain very similar and not be adversely affected*.
- Conditions for MG8 wet grassland are currently moderately unsuitable and there is an 84% chance of a medium impact, which could increase or decrease suitability. There is a 16% chance of conditions becoming more suitable*.
- There are likely to be only minor impacts on suitability for MG4 wet grassland and MG13 wet grassland on high porosity soils (peat, gravel)*.

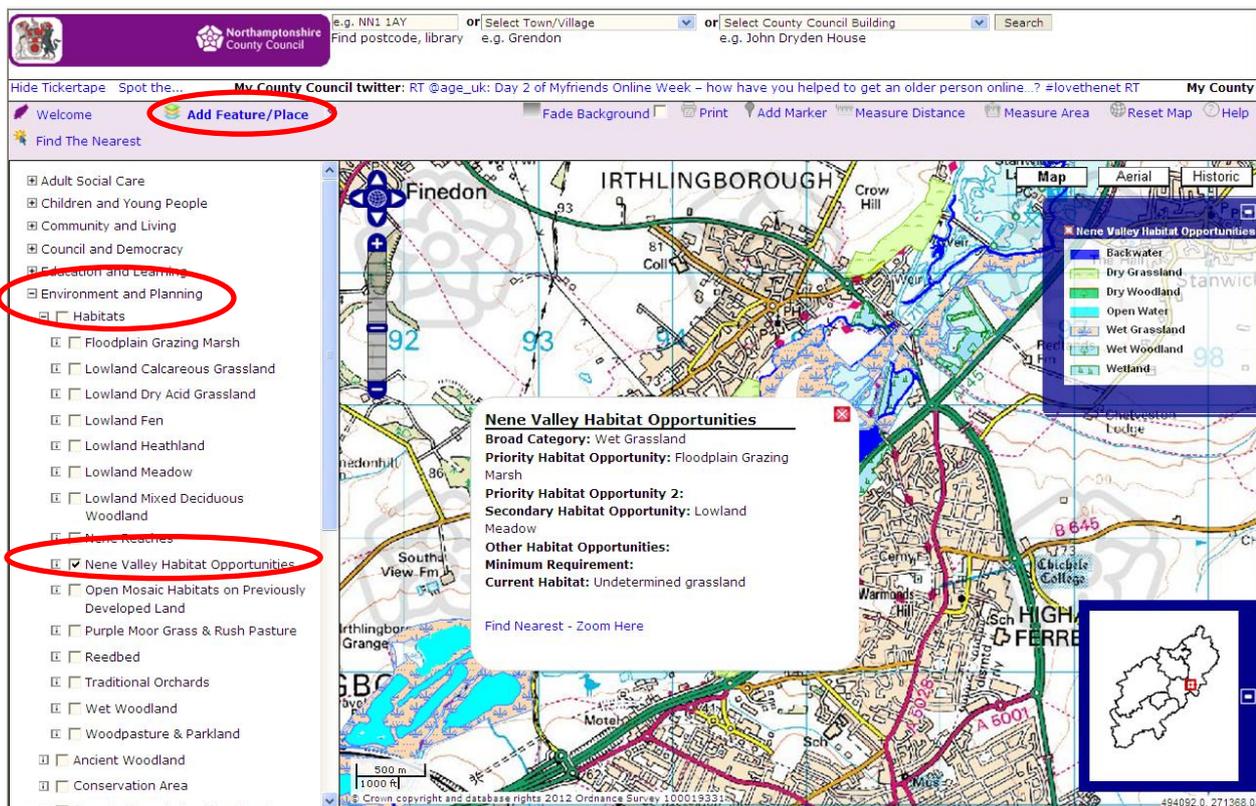
- Conditions are currently moderately unsuitable for MG13 on low porosity soils (such as alluvium) and it is certain that conditions will remain in this range, though they may move towards becoming more suitable*.
- There is a 15-20% chance of a medium adverse impact on breeding wader populations caused by a decline in spring and summer water levels.

* Using the mean annual departure from ideal water level requirements for plant communities.

Habitat creation that relies upon high water levels in spring and summer should proceed with care due to the reduced likelihood of water being available at this time of year. Relevant considerations may include increasing the depth and frequency of ditches to hold water near the land surface, and lowering the land level to cope with anticipated future lowered ground/river water levels. We should strive to create habitats that are tolerant to water logging in winter and drought in summer or build in measures that allow the extremes to be moderated. This will provide benefits both to water management at a catchment scale and to the sustainability of new/restored habitats. 'Drought-proofing' water courses to deal better with low flows by creating multiple-stage channels will also be important to prevent a decline in riverine diversity.

Viewing the map

The Opportunity Map is available to view on the Northamptonshire County Council Interactive Mapping service <http://maps.northamptonshire.gov.uk>. Click on the 'Add feature/place' icon near the top left, and from the list of layers expand 'Environment and Planning' and then 'Habitats'. This will then give you the option to display existing habitats and the Nene Valley Habitat Opportunities.



When a polygon is clicked a window is displayed that lists the information about the relevant layers. A legend of the display styles is also shown on the top right. Further information about each map layer can be seen by clicking the 'i' icons in the list of layers on the left.

Data display

The priority habitat opportunities are grouped into broad categories for display.

Broad Category	BAP Habitats
Wet Grassland	Lowland Meadow (wet sites), Floodplain Grazing Marsh
Dry Grassland	Lowland Meadow (dry sites), Lowland Calcareous Grassland, Open Mosaic Habitats on Previously Developed Land, Lowland Dry Acid Grassland
Wet Woodland	Wet Woodland
Dry Woodland	Lowland Mixed Deciduous Woodland, Wood Pasture and Parkland, Traditional Orchard
Wetland	Reedbed, Lowland Fen
Open Water	Eutrophic Standing Water (enhancement)
Backwater	Rivers (restoration opportunities)

Clicking on a polygon will open a box showing a list of habitat opportunities.

Heading	Description
Broad Category	Broad grouping that the priority habitat opportunity fits into.
Priority Habitat Opportunity	Given the option this would be the habitat of choice
Priority Habitat Opportunity 2	This habitat is of equal priority to that above
Secondary Habitat Opportunity	If the priority option is not possible, this is the second choice
Other Habitat Opportunities	More options for habitat creation and restoration.
Minimum Requirement	If it is not practical to restore any of the listed habitats over all or part of the site, then this option should be considered.
Current Habitat	The current habitat/land use according to existing habitat maps or aerial photography.

Additional Documentation Available:

Nene Valley Habitat Opportunity Mapping Method
Reach Statements

All available from www.northamptonshirebiodiversity.org

Organisational support:

The mapping process was led by the Wildlife Trust BCN, with support from the following organisations:

River Nene Regional Park (production of the Ise Valley maps)
RSPB
Natural England
Northamptonshire County Council
Environment Agency

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