

The River Glen Integrated Catchment Management Study

Introduction and background

This study seeks to integrate the planning of water resources and land-use for public water-supply, natural environment, agriculture, flood risk management, navigation and leisure. To achieve this, it has developed a partnership approach to the integrated use of catchment water resources, consulting relevant stakeholders. The impetus for this work comes from a growing consciousness of the need for habitat creation and restoration and ensuring that those fragments of nature that survive are connected. This awareness is well articulated in the "Lawton Review" (see text box overleaf), which in turn fed into the Natural Environment White Paper, 2011.

Historical context and future perspective

Through history, human activity has transformed the landscapes and habitats of the Glen catchment and the Fenland basin such that less than 0.1% of the original wetland area remains. Tidal marshes and floodplain fens have now become a landscape of large arable fields separated by ditches that feed into a highly engineered drainage network. The rivers, although surviving, have had their habitats and form heavily modified. Population growth, agricultural intensification and industrialisation have led to increasing competition for water resources and in the future it is likely that the human need for water will continue to increase.

The availability of water is also predicted to change in the future. A shift in patterns of rainfall will lead to increased frequency and severity of both winter flooding and summer drought. Water resources will be less evenly spread through the year and as the demand for and availability of water continue to diverge, there will be increasing competition between water users (including agriculture, human consumption and the natural environment). A robust and defensible water resource planning approach will be required in order to provide fair and reasonable allocation of water amongst all. Any improvements in efficient use of water resources will clearly make an important contribution to achieving this goal.

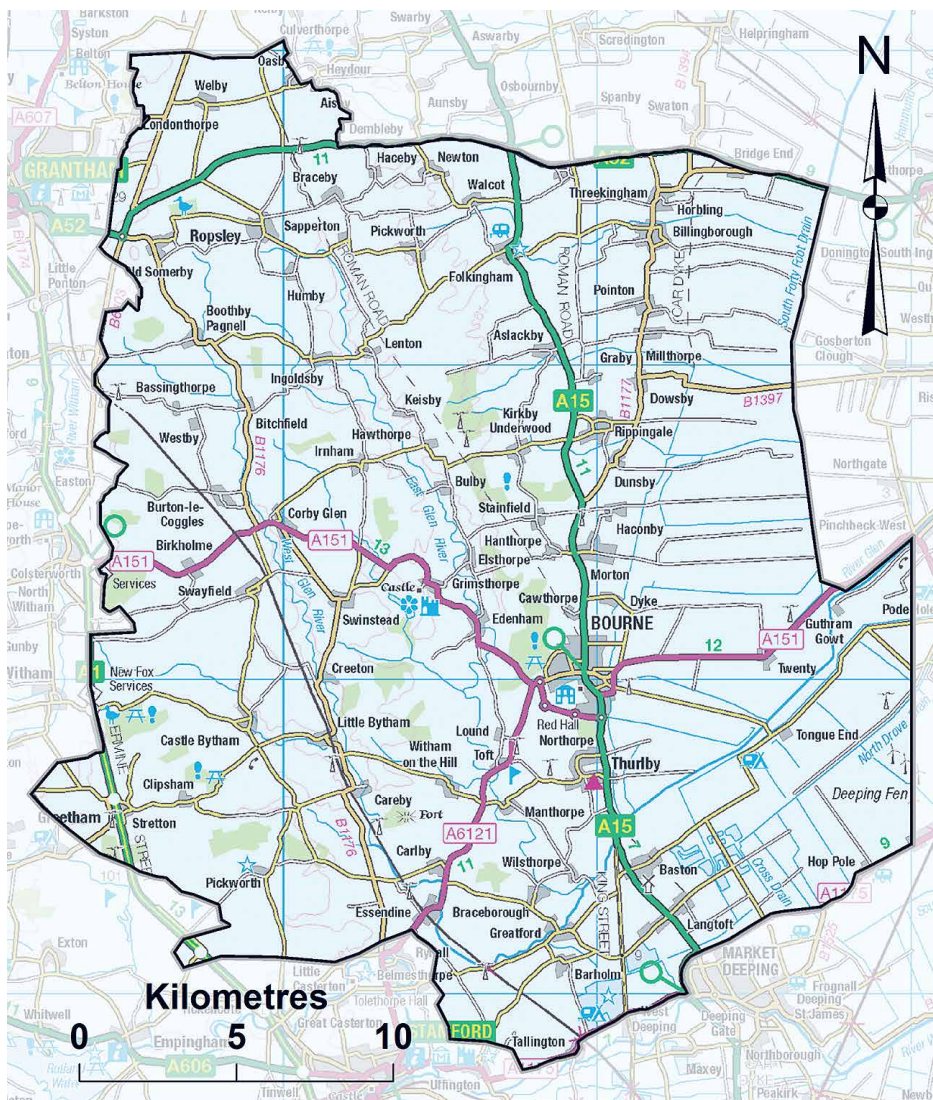


Figure 1 Map of the study area.
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The five key points identified by the Lawton Review:

- Many of England's wildlife sites are too small to provide viable habitat (77% of Sites of Special Scientific Interest [SSSI] and 98% of Local Wildlife Sites are smaller than 100 ha).
- Losses of certain habitats (e.g. grasslands and fens) had been so great that the remaining area is no longer enough to halt further biodiversity losses without coordinated efforts.
- With the exception of sites designated for their important natural features, most semi-natural habitats are insufficiently protected and/or under-managed.
- Many of the natural connections in our countryside have been degraded or lost, leading to isolation of sites.
- Too few people have easy access to wildlife.

Identifying the issues

Through stakeholder consultation, this study has identified four key catchment issues:

1. A desire to address the reduced area of wetland habitat through restoration of wetland features. However without additional storage it is unlikely that the water demands of these features will be fully supported through the summer months.
2. Agricultural activity is predicted to become limited as water availability declines in the future, needing support for sustainability i.e. better use of resources and access to additional resources.
3. Instream management has altered the way water moves and the links between the river and its surroundings. The Water Framework Directive (WFD) requires us to prevent further decline and to promote improvements. This could be achieved through modification of the river channel and riparian zone, additional treatment of wastewater and reduction in farm runoff.
4. Future prosperity can benefit from improved features to attract visitors e.g. making the most of wildlife reserves, improving cycle paths, and opening the area up to new opportunities such as development of navigable inland waterways.

The suggested way forward

Four work streams are proposed, which collectively constitute a significant positive step towards addressing these issues and meeting WFD targets:

Work stream 1 – Creation of wetland features.

Four areas for wetland restoration and/or creation have been identified, featuring a mixture of open water and reed bed storage areas surrounded by a mosaic of wetland habitats including areas of raised water level. Pilot projects will test and develop water efficient farming methods and investigate the use of mineral extraction areas for provision of water storage and habitat creation.

Work stream 2 – Improvement of instream and riparian habitat.

Six sites have been identified based on flow regime, water quality pressures and instream habitats. These issues will be addressed by a combination of solutions e.g. reedbed filters, riparian restoration and other instream improvements.

Work stream 3 – Targeted stakeholder engagement.

Continued stakeholder involvement is essential for project success and specific workshops will focus on: the farming community, inland waterway navigation engagement, water company, Internal Drainage Boards, mineral extraction company and tourism industry.

Work stream 4 – Targeted research.

We are planning to address the following unanswered questions; a) what is the 'natural' un-abstracted

flow regime in the rivers East and West Glen?; b) what are the eco-hydrological requirements of relevant instream habitats?; and c) where are the septic tanks and which require remedial work? Plus others as required.



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