

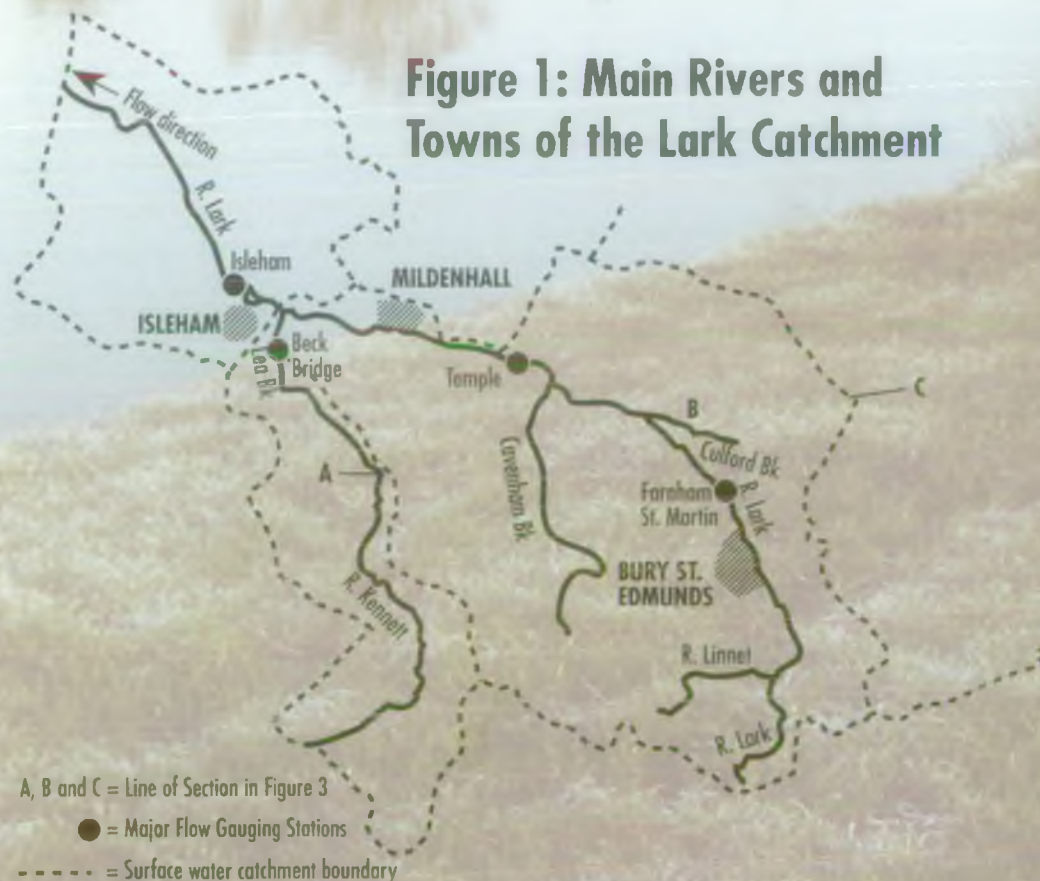
# FACT FILE

## River Lark

### FACTS IN BRIEF

- Flowing north west from its source south of Bury St Edmunds, the River Lark runs into the Fenlands north of Ely joining the Ely Ouse near Prickwillow. The River Kennett, rising at Kirtling, Cambridgeshire has its confluence with the Lark near Isleham. This is shown in Figure 1 below.
- From Eastgate Bridge, Bury St Edmunds to Great Branch Bridge near the Lark's confluence with the Ely Ouse, the river length is 40 km.
- Although the groundwater catchment does not exactly correspond with the surface water catchment, the underlying chalk aquifer (a natural underground reservoir) contributes greatly to the flow in the Lark and its tributaries.
- The spring-fed chalk streams and Fenland rivers in the area support a diversity of physical features and biological life.
- Within the Lark's catchment, population and commerce are concentrated in the town of Bury St Edmunds while the major part of the area is predominantly rural with a large percentage of high quality agricultural land.
- Landmarks along the Lark include the historic cathedral town of Ely, with its majestic lantern tower visible for miles across the flat Fens; Mildenhall and Bury St Edmunds an old market town now the area's centre of light industry.

**Figure 1: Main Rivers and Towns of the Lark Catchment**



Guardians of  
the Water  
Environment



Anglian Region



## GEOLOGY OF THE LARK

Arising at the 100 m AOD (above Ordnance Datum) contour south of Bury St Edmunds, a number of tributaries contribute to the source of the Lark. Flowing over the boulder clay which overlies the main chalk aquifer the river continues in a general south east to north west direction until the chalk becomes exposed near Lackford, 10 km downstream of Bury St Edmunds.

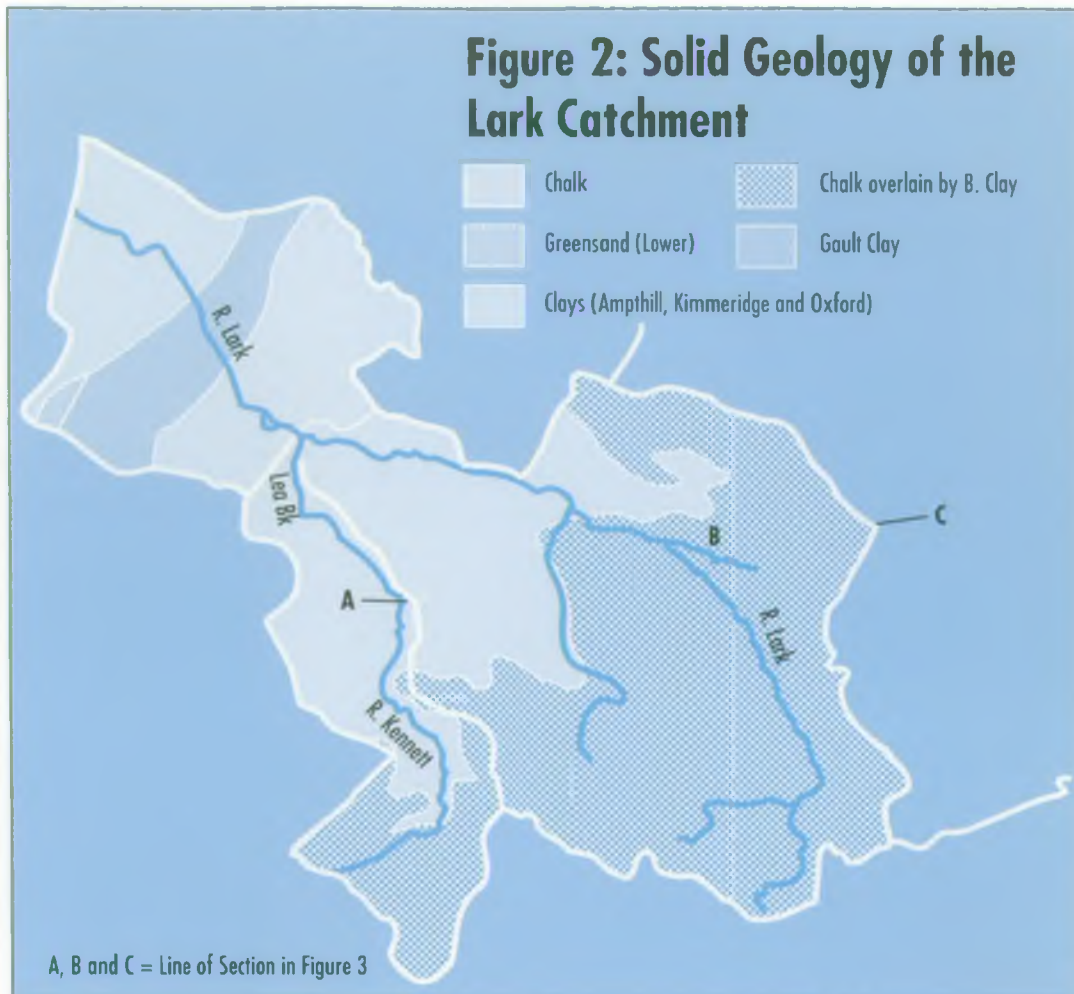
A major tributary, the Cavenham Stream, joins the Lark 2 km downstream of Lackford. As the river flows over the chalk outcrop, the underlying aquifer provides a significant contribution to the flow.

Between Mildenhall and Isleham the River Kennett and the Lea Brook join the Lark from the south. Over the final 14.5 km stretch to the junction with the Ely Ouse the low lying Fens are underlain by impervious Gault clay and at the confluence by Kimmeridge, Ampthill and Oxford clays. Figures 2 and 3 show the geological relationship within the catchment.

## HYDROLOGY

The Anglian region is the driest in Britain and throughout the Lark catchment the average rainfall is 582 mm per year,

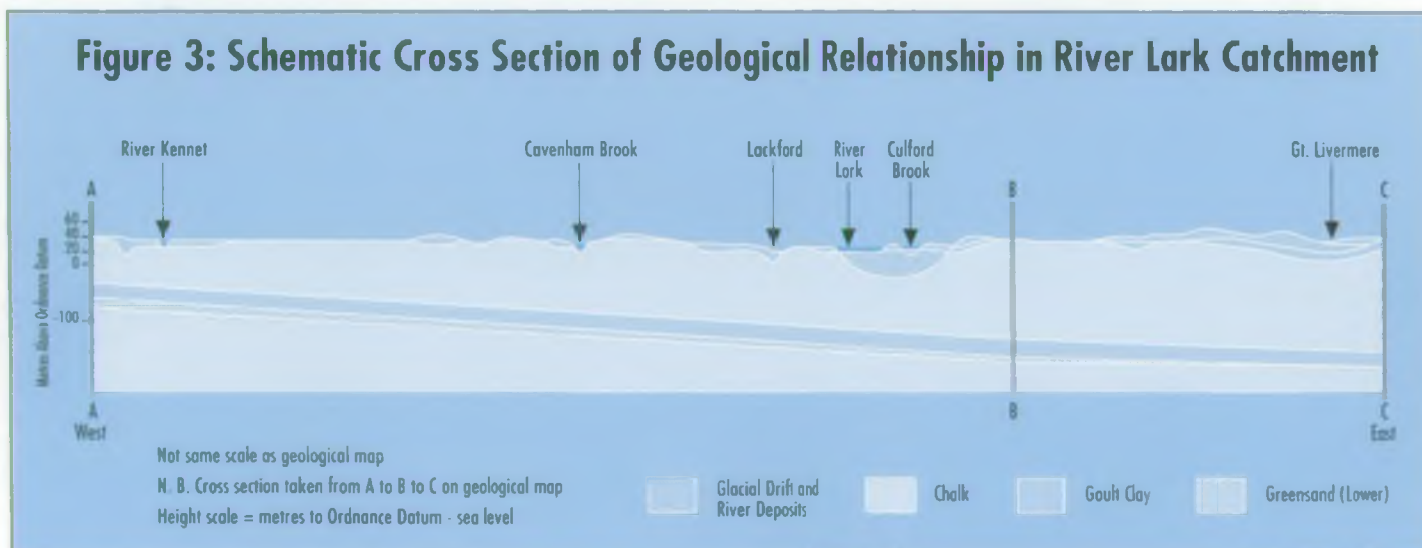
### Figure 2: Solid Geology of the Lark Catchment



lower than the average for the whole region. Rainfall ranges from 608 mm per year at Hawstead in the south to 578 mm per year at Prickwillow in the Fens.

River flows are monitored at flow gauging stations along the length of the Lark and at Beck Bridge on the Kennett. At Fornham St Martin, immediately downstream of Bury St Edmunds, the long term annual mean flow is 23.9 thousand cubic metres per day (tcmd) and 95% of the year the flow exceeds 770 cubic metres per day. At Temple the annual mean flow is increased to 110.8 tcmd, exceeding

### Figure 3: Schematic Cross Section of Geological Relationship in River Lark Catchment







*Farming along the River Lark.*

42.4 tcmd for 95% of the year. With an average input of 21.5 tcmd from the Kennett, records at Isleham show the annual mean flow to be 156.2 tcmd, exceeding 36.8 tcmd for 95% of the year.

Downstream of Isleham where the Lark flows over the Fenlands, there are no major inputs until it reaches the Ely Ouse.

The base flow element from the major chalk aquifer and smaller sand and gravel aquifers is very significant to the Lark. Base Flow Index (BFI) is the ratio of flow in a river derived from the aquifer to the total river flow and ranges from zero (no base flow) to one (all base flow). During a drought river flows in the Lark are sustained by a base flow element only.

## WATER QUALITY AND OBJECTIVES

Formal water quality based on the National Water Council (NWC) system classifies the greater length of the Lark and its tributaries as good quality. Short stretches, at Fornham and Isleham downstream of major sewage treatment works, are fair quality. The breakdown for the classified river is as follows;

Class 1A (very good)	15.1 km
Class 1B (good)	72.4 km
Class 2 (fair)	12.8 km
Class 3 (poor)	4.5 km
Class 4 (bad)	0 km

The Lark is also classified according to river quality objectives which allocates specific uses to certain stretches. quality depends on each particular use.

The NRA has 21 chemical sampling points and 24 biological sampling points on the River Lark at which we monitor water quality.

## FLOOD PROTECTION

While the Lark is not susceptible to widespread flooding, small problem areas exist in Bury St Edmunds and the Fenland town of Isleham. River levels are controlled and artificially maintained by weirs, locks, sluices and old mill structures. The most significant are Isleham Lock, and Lark Head Sluice where water is released into the man-made Cut-Off Channel for flood relief.

Since severe flooding in 1968 the major part of a flood relief scheme in the Bury St Edmunds area has been completed. It includes channel straightening: structural, flood wall and bank improvements. The cill level at Eastgate Bridge, Bury St Edmunds was lowered to ease water passage in the channel in a flood.

The principal NRA flood warning station is located at Sicklesmere, 3 km south of Bury St Edmunds.

## LAND USE

Agriculture within the Lark Catchment consists of a variety of vegetable and cereal crops such as wheat, barley, oil seed rape, sugar beet, carrots, potatoes, and salad crops. Extensive irrigation of crops is carried out using water from field ditches which are filled from the river, and through abstractions from bore holes.

Permission for all abstractions must be obtained from the NRA and is granted under licence.

The area contains many light industries associated with



*River scene at West Row.*



food processing such as sugar refinery and brewing. These are often dependent on water through abstraction for cooling or cleaning processes.

## NAVIGATION

Approximately 16 km of the Lark is currently navigable and is maintained by the NRA. Confined to the Lower Lark it stretches from Branch Bridge at the confluence with the Ely Ouse to West Row Bridge at Judes Ferry near Isleham.

Historically navigation was possible up to Fornham north of Bury St Edmunds. By 1900 traffic had practically ceased and subsequent bridges built between Isleham and Bury St Edmunds further reduced navigation.

## FISHING

Fishing is always a popular pastime and East Anglia has over 4,000 kms of potential fishing waters. Stocks of healthy fish are a good guide to water quality and fishery data is collected regularly as part of fish population surveys.

Upstream of Barton Mills the Lark supports a trout (salmonid) fishery stocked annually with brown trout by fishing syndicates. The lower reaches, particularly the stretch between Mildenhall Gas Pool and the confluence with the Ely Ouse, are defined as a coarse (cyprinid) fishery. Additionally the NRA uses part of the Cut-Off Channel between the Lark and the Wissey as a nursery area for coarse fish.

## RECREATION AND CONSERVATION

Rivers give a sense of freedom and adventure and the region's waterways provide many opportunities for watersports, boating, rambling and naturalist pursuits. Approaching such picturesque towns as Ely by water rather than road opens up a new perspective to both visitor and resident.

Within the Lark catchment there are many Sites of Special Scientific Interest (SSSIs) as well as other sites of conservation interest. Although these are supervised by English Nature or the Suffolk Wildlife Trust the NRA cares for their water environment.

Most notable sites in the area are Cavenham Heath which contains nationally and locally rare plants; Bradfield Woods, an ancient woodland and West Stow Heath where three nationally rare plants are found.



*Natural river habitat.*

## FLORA AND FAUNA

Rivers are important wildlife corridors through rural and urban landscape.

Chalk streams are traditionally rich in plant and animal species. On the River Lark navigation engineering work has reduced some of the river's potential. The Lark still supports a good diversity of plants and animals.

Common reed, sedges, various pondweeds and water crowfoot are common in the upper reaches. Below Isleham the river is navigable and takes on a Fenland character with raised flood banks. Here the lower sections provide an important wildlife corridor in contrast to the surrounding arable farmland.

## NATIONAL RIVERS AUTHORITY

An independent public body, the National Rivers Authority was created under the Water Act of 1989. It is responsible for protecting and improving the natural water environment. Regulatory and statutory duties include: flood defence from rivers and the sea; environmental quality and pollution control; water resources; fisheries; navigation and recreation. The NRA is committed to improving wildlife habitats and conserving the natural environment.

The Anglian Region, geographically the largest of the 9 regions in England and Wales, stretches from the Humber Estuary to the Thames, from the Norfolk coast to Northampton. It covers more than 27,000 square km - almost 18% of the total NRA - and over 5 million people live in the area.

A range of brochures containing comprehensive information about all aspects of the NRA's work and responsibilities is available by writing to the Public Relations Department stating your particular areas of interest or study.

