

# the outdoor classroom

## river flooding

**Curriculum focus:**  
Geography

**Keywords:**  
Rivers

**Skills learnt in this worksheet include:**  
Observing and questioning  
Collecting and recording evidence  
Classifying, representing and interpreting data  
Undertaking field work  
Learning technical language related to rivers

**Resources required for this activity:**  
Datasheets  
Map showing both rivers  
Newspaper / letter outline

**Further information and resources that could be used to support this topic include:**

[www.sln.org.uk/geography/enquiry/we30.htm](http://www.sln.org.uk/geography/enquiry/we30.htm)

Environment Agency flood maps, flood warnings, information on how to prepare for floods, Environment Agency flood strategies and schemes can be found at:  
[www.environment-agency.gov.uk/homeandleisure/floods/default.aspx](http://www.environment-agency.gov.uk/homeandleisure/floods/default.aspx)

Sustainable Drainage Systems (SUDS)  
Information about the problems with traditional drainage systems, benefits of SUDS and EA policy. For EA policy see: [www.environment-agency.gov.uk/business/sectors](http://www.environment-agency.gov.uk/business/sectors)

The River Restoration Centre [www.therrc.co.uk/](http://www.therrc.co.uk/)  
The London Rivers Action plan page shows the location and details of proposed river restoration projects on the river Crane. There are also examples of river restoration projects elsewhere.

Listen to Noyas Flud by Benjamin Britten.

Floodland by Marcus Sedgwick. Orion Children's, 2000 ISBN 1858817633  
*A novel set in the near future when many parts of England are submerged in water. People divide into gangs due to scarce resources, especially food.*

The Ram of Sweetriver by Colin Dann Red Fox, 1987 ISBN 0099512408  
*A novel by the author of the Farthing Wood series, this book has a description of the effects of heavy rain and a flood on a village. The animals of the farm go in search of new pastures, while trying to keep the flock together.*

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### Background information:

#### **Flooding on the River Crane**

The River Crane has always been prone to flooding. This effect has been accentuated in the last 100 years by increased urbanisation, resulting in more land drainage and hard surfaces. In the 1800s the natural flood plain of the lower Crane extended across a large part of the adjoining market gardens and, as these were sold off for housing, flooding became an increasingly important issue – with floods reported in 1892, 1895, 1903, 1914, 1916 and 1920.

Eventually, from the 1920s, work was done to deepen, straighten and canalise the lower reaches of the river as a means of controlling the flood risk. This work was reportedly done for free by a local gravel contractor in exchange for removing the gravel to sell, and resulted in a deep and wide rectangular channel from Kneller Gardens to the far side of the A316. There has been no flooding in this area since this time – however a side effect has been to greatly reduce the environmental and aesthetic value of the lower Crane. FORCE hopes to see the re-instatement of more natural banks in the future, with flood protection levels maintained or enhanced. Sustainable drainage systems have now been implemented in new building developments along the catchment.

### Ideas for activities on site:

#### **1. Look at the weir from the road bridge at Mereway Nature Park.**

Discuss and record the following on the data sheet and map:

- How does the weir work?
- What effect does the weir have on the rivers?
- Why is it there?

#### **2. Look at the banks of the rivers.**

Both have been altered by people – note that the river Crane is in a deep concrete channel while the DNR is in a wood lined channel.

On a summary sheet record:

- What effect does the concrete channel or wooden boards on the banks have on the river?
- Why are they there?
- What are the benefits and the problems with them?

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- Do you think that the river can flood?
- What would you expect to happen if it does?
- Where are the nearest houses?

Follow up activities in class could include the following writing activities:

1. Why has increased building upstream increased the risk of flooding?  
Why have more houses in the local area increased the impact of flooding?  
What is the difference between risk and impact?
2. FORCE would like to take part of the river Crane out of its concrete channel.  
Using all the information that you have gathered as well as researched background information write a balanced argument for or against this proposal.  
Information gathered on site could be supplemented by information from the Environment Agency and the River Restoration Trust.  
  
This could be in the form of a newspaper article or as a letter.  
Alternatively the issues could form the basis of a discussion or debate.
3. Using the scenario that Marcus Sedgwick has portrayed, imagine a future rise in river levels.  
Describe how this would affect life in Twickenham.