



This lesson is part of a series of 8 lesson plans based on the “Explore the Nore” poster and River Nore Heritage Audit. It is aimed at 4<sup>th</sup>, 5<sup>th</sup> & 6<sup>th</sup> classes in primary schools. The project is an action of the Kilkenny Heritage Plan, and is funded by the Heritage Office of Kilkenny County Council and the Heritage Council. For further information contact [dearbhala.ledwidge@kilkennycoco.ie](mailto:dearbhala.ledwidge@kilkennycoco.ie). Tel: 056-7794925. [www.kilkennycoco.ie/eng/Services/Heritage/](http://www.kilkennycoco.ie/eng/Services/Heritage/)

## ■ Learning objectives

Subject: Geography

Strand: Natural environments

Strand unit: The local natural environment; Land, rivers and seas

Strand unit: Rocks and soils

### Objectives

To understand how the Ice Age and geology has influenced the journey of the River Nore, and to learn how the river has affected the landscape and land use in the area.

- Develop knowledge and understanding of natural environments
- Engage in active exploration of local and other environments
- Develop a sense of place
- Acquire an ability to understand, develop and use plans, maps

### Skills

- Understand the relative location and size of major natural features
- Use pictures and maps
- Ask questions about natural and human features and processes in the environment and their interrelationships

## ■ Learning activities

Although this lesson plan is about the River Nore in general, the examples and activities are based on the northern section of the River Nore, as illustrated on the “Explore the Nore” poster.

### *The journey of the River Nore*

The river Nore (An Fheoir) rises in the Devil’s Bit Mountain in Co. Tipperary. It then flows through county Laois and enters county Kilkenny at the townland of Ballynaslee. It flows through Ballyragget, Kilkenny city, Bennettsbridge, Thomastown and Inistioge, before joining flowing into the River Barrow a few kilometres north of New Ross. It is known as one of the Three Sisters Rivers (Barrow, Nore, Suir). The River Nore is 140km in length and drains an area of approximately 861 hectares. It has a very steep gradient, but this is lessened by the many weirs built along its length.

The main tributaries of the river Nore in this northern section are the Dinin, the Nuenna, and the Breagagh.

### *What formed the river?*

The landscape of the Nore valley was shaped by the last ice age in Ireland, which was at its peak approximately 24,000 years ago. When the huge glaciers that covered this region melted they ground-down through the layers of rock, leaving behind deposits of sands and gravels (many of these deposits

are now quarries). The River Nore was an important channel or funnel for the melting water from the glaciers to flow to the sea. In places where the rocks were harder the ice and water couldn't wear them down as quickly, these remained as ridges and hills in the landscape.

A good example of this is at Naglesland, where the River Nore and the River Dinin meet. There is a ridge of hard cherty limestone here which caused the river to veer steeply around the harder rock to form a deeply incised meander – known locally as “The Rock”. Can you find this on the poster?

### *The Dinin – A spate river*

The Dinin River is a very dynamic river and experiences significant increases in river flow at times of high rainfall. The area where the Dinin enters the Nore is known locally as “The Shot”. Evidence of changes in the river channel, due to both flooding and human intervention, can be seen here.

### *Land Use*

The river occupies a broad valley of gravel underlain by limestone rock, between the uplands of the coal-bearing Castlecomer Plateau in the east and the shale and sandstone Slieveardagh hills to the west. The Nore's flood plain in this northern section is quite narrow until it reaches the 'pinch-point' at Threecastles, where it opens out into a wide basin.

The main land use in the river corridor is agriculture - the low-lying lands in the flood plain (underlain by alluvial soil) are used for pasture, those on the higher, dryer ground on the sides of the valley are used for tillage. The semi-natural habitats, such as wet grassland, treelines and hedgerows, are found in the areas of floodplain and steeper slopes, which are not as well sited for intensive agriculture.

## ■ Linkage and Integration

**Subject: History.** Strand: Local Studies. Strand unit: Buildings, sites or ruins in my locality (e.g weirs & bridges)

**Subject: Science.** Strand. Environmental awareness and care. Strand unit: Environmental awareness (e.g use of resources – agriculture, quarrying)

## ■ Differentiation

### ● The highest mountains and longest rivers in Ireland

Go to [http://www.osi.ie/Education/Primary-Schools/Seniors/Mountains,-Rivers-Lakes-\(1\).aspx](http://www.osi.ie/Education/Primary-Schools/Seniors/Mountains,-Rivers-Lakes-(1).aspx) to find out about the highest mountains and longest rivers in Ireland. How does the River Nore compare in length? How do the hills in Kilkenny compare in height?

### ● Locate man-made features on the rivers

Do you know where there are weirs on the river? Can you locate them on a map? Why were weirs built?

Do you know where the bridges and fording points are on the river? Can you locate them on a map?

Go to <http://maps.osi.ie/publicviewer/> to view the old 6" maps of the area which show weirs and bridges

### ● A Spate River

The River Dinin at the “Shot” – can you identify the old and new river channels here? What types of habitats are found here?

### ● Land use and industry

Can you locate any active quarries in the study area? What is quarried here, and what is it used for?

### ● Placenames

Do you, or your parents or grandparents, know the local placenames for places in your area? And why they were called what they're called (refer to Lesson Plan 8 on Rivernames)

## ■ Resources

### River Nore Poster

**The Journey of the River Nore:** Topographical map (River Nore Heritage Audit. Vol 1, p.2)

**The Dinin – A spate river:** River Nore Heritage Audit Vol 3 (Target Area 36 p. 29; Map 16, p64; Fig 14, page 31)

### What formed the river

Geology map and text (River Nore Heritage Audit. Vol 1. Pages 5-8)

Quarries (River Nore Heritage Audit Vol 3. Map No's 12, 13, 19)

### Land Use

Topography: River Nore Heritage Audit (Figure 1, page 2)

Geology: River Nore Heritage Audit (Figure 5, page 6)

The living Riverscape: Natural Heritage (River Nore Heritage Audit Vol 3. pages 52-72)

### External resources

#### General Rivers

Rivers theme page [http://www.scoilnet.ie/Rivers\\_themepage.shtm](http://www.scoilnet.ie/Rivers_themepage.shtm)

Case study of a river <http://www.scoilnet.ie/TeachersFirstLevel.aspx>

Rivers and Coasts- [http://www.bbc.co.uk/schools/riversandcoasts/rivers/whatis\\_river/index.shtml](http://www.bbc.co.uk/schools/riversandcoasts/rivers/whatis_river/index.shtml)

<http://www.serbd.com/images/serbd-mapping.jpg>

#### Geology in Kilkenny

[http://www.geoschol.com/counties/KILKENNY\\_GEOLOGY.pdf](http://www.geoschol.com/counties/KILKENNY_GEOLOGY.pdf)

## ■ Evaluation