

Study of a local river: THE WAVENEY – Overview & Notes

Activity at Geldeston Lock to follow in-school introductory sessions which would cover things like:

- (1) what do we know about rivers - and what more can we find out from other sources
- (2) the water cycle + river processes and river systems
- (3) how are rivers formed?

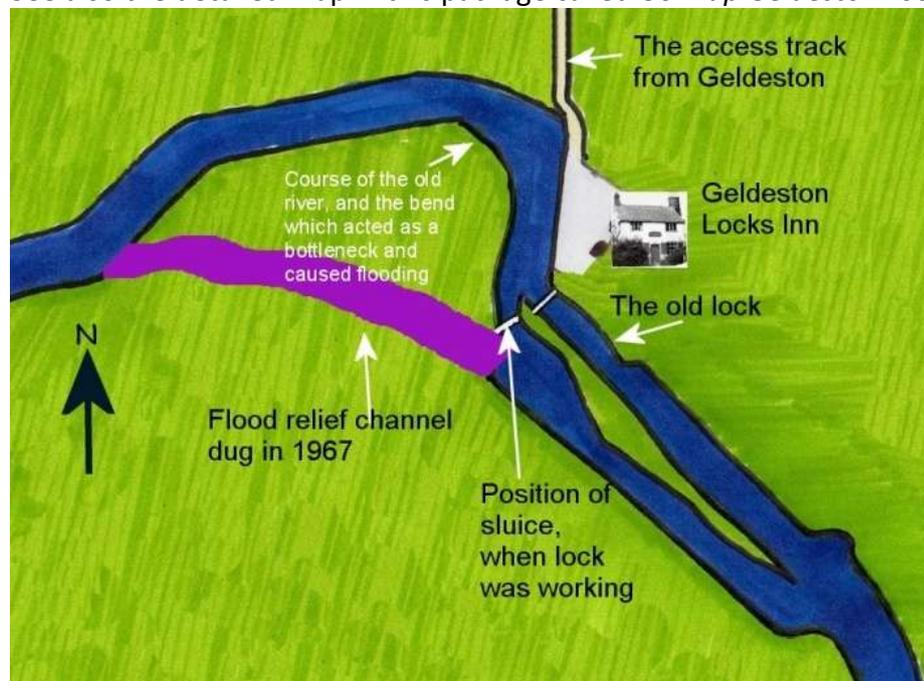
Key Question What is the River Waveney like at Geldeston Lock?			
Purpose	Terms	Activities	Resources
<ul style="list-style-type: none"> • To identify some of the physical aspects of a local river using secondary sources. 	source meander tributary mouth	In class – (1) Waveney Mystery ‘Where do I start and where do I go?’ Mystery river – solve it! Using maps locate the source and the mouth of our river. Ask the children to draw a map of the Waveney to show its course. Use grid references to explain locations.	Maps in this resource pack ...or Ordnance Survey maps 1:25,000 (OS Explorer 230, 231 + OL 40) or 1:10,000 (OS Landranger 144, 134 & 156)
<ul style="list-style-type: none"> • Appreciate purpose of fieldwork and understand methods & equipment which will enable them to make necessary measurements 	depth cross section flow	In class and on site – (2) Waveney Explorers Preparation– read letter from the (imaginary) East Anglian Water Agency (See separate doc.): ‘We appear to have lost our records on a section of the River Waveney.....’ Discuss what they will need to measure & how. List equipment.	Letter from the ‘East Anglian Water Agency’
<ul style="list-style-type: none"> • Appreciate risks and how to keep self and others safe 		Preparation in class - view photos of location. Discuss risk and risk management.	Risk location photos
<ul style="list-style-type: none"> • Develop observational skills • Use fieldwork techniques. • Identify and describe physical aspects of a local river first hand • Present findings clearly using text, maps and diagrams 	flood flood plain water speed rate of flow bank human features profile/ transect drawing	During visit children produce annotated diagram of how the Waveney behaves at Geldeston and some cross sections of its course/s. Measure and record width, depth, speed of flow. (Time how long - in seconds - a dog biscuit thrown into the water takes to travel a measured 10 metre distance.) Write a report for the agency, using statistics gathered on site. Assessment activity: <u>Report/letter to include:</u> - <i>Annotated diagrams of river/stream – labels + description of how the river behaves at Geldeston.</i> - <i>Info gathered about speed, width and depth of the river channels.</i> - <i>Information gathered on any other relevant points they noticed (e.g. bank erosion or damage)</i> - <i>Evidence of any human activities</i>	1:10,000 scale maps of the Geldeston Lock area Dog biscuits (that float!) Cameras Tape measures/ Metre rules String Weights (to make end of string go to the bottom) Stop watch/es Data recording sheets Risk assessment completed

Study of a local river: THE WAVENEY - Notes

1. **The letter** - contains a map derived from one drawn in the mid-1960s.

A more up-to-date map is shown below. The main feature missing on the map in the letter is the main modern river channel (coloured purple) – built in 1967.

See also the detailed map in this package called *OS map Geldeston Lock*.



2. Measuring width, depth and flow on site

The footbridges make it quite straightforward to measure the **width** of the channels.

Depth can be measured at different points along the width by dropping a plumb line from the bridge and measuring the point up to which the string gets wet.

On the plumb line it helps to have:

- visibly distinguishable knots at regular intervals in the plum line – perhaps marked by different-coloured scraps of material.
- a reasonably heavy weight on the end to keep the line vertical if the river and tide are flowing strongly. (A small water bottle full of small stones works well).
- A good knot to secure the weight to the string, so that you don't lose your weight or leave any rubbish behind.

3. The tide

Tides affect the River Waveney all the way upstream, beyond Geldeston, to the sluice at Ellingham. This does not mean that the water is salty at Geldeston, just that the fresh water is sometimes held up.

The tidal flow means that the water **depth** will be very likely to change noticeably during your visit.

It also means that the river may appear at times to be flowing in the '**wrong**' direction – away from the sea.

If you hit a time when the tide and the river are flowing downstream the flow measurement exercise with the dog biscuit will work well. If not - it simply shows that the river is not always taking water out to sea.

At times the overspill channel may be completely empty.