



read

River Landscapes

Soft Engineering



quiz



The Big Picture

river valleys and processes

river landforms

River Landscapes

*river management**

case study



Soft Engineering

Soft engineering river management involves adapting to a river and learning to live with it. The strategy involves working with nature. It is cheaper, but often less effective than hard engineering strategies.



Flood Warnings and Prep

Benefits

- Cheap and dependent on communications
- If warned in advance people can protect valuables
- Ensures safety without the cost of hard engineering.

Costs

- Only effective if people listen and take action
- Not everyone has access to digital communications
- Floods continue to occur



Key Terms



Afforestation – The establishment of trees in an area with no previous cover.



Flood warnings and preparation – An alert system to the risk of flooding.



Floodplain zoning – Land in a river valley is used in a way to minimise flooding.



River Restoration – Returning an engineered river to its natural state.



Soft Engineering – Adapting to a river and learning to live with it.



Floodplain Zoning

Benefits

- Impermeable surfaces are not increased
- Low-cost, as it only involves administration
- Traditional water meadows protected
- Creates a welcome green space

Costs

- Limited impact as most floodplains are developed
- House prices inflated due to lack of housing stock
- Other greenfield sites affected



Planting Trees - Afforestation

Benefits

- Interception reduces surface run-off
- Increases carbon storage
- Creates new habitats and increases biodiversity
- Relatively inexpensive

Costs

- Loss of potential grazing land
- Changes the appearance of the countryside
- Can increase soil acidity



River Restoration

Benefits

- Creates new wetland habitats and increases biodiversity
- Increased water storage in areas affected by flooding
- Reduces the risk of flooding downstream

Costs

- Possible loss of agricultural land
- Can be very expensive