

Soft Engineering

Learning Objective:

- **Assess** the *costs* and *benefits* of soft engineering



Learning Outcomes:

- **Define** what soft engineering is
- **Describe** the costs and benefits of soft engineering
- **Decide** on how to manage sections of the River Tees

Soft engineering ...

... involves working with natural processes to manage the flood risk. It does not involve man-made structures.

Effective? Debate?

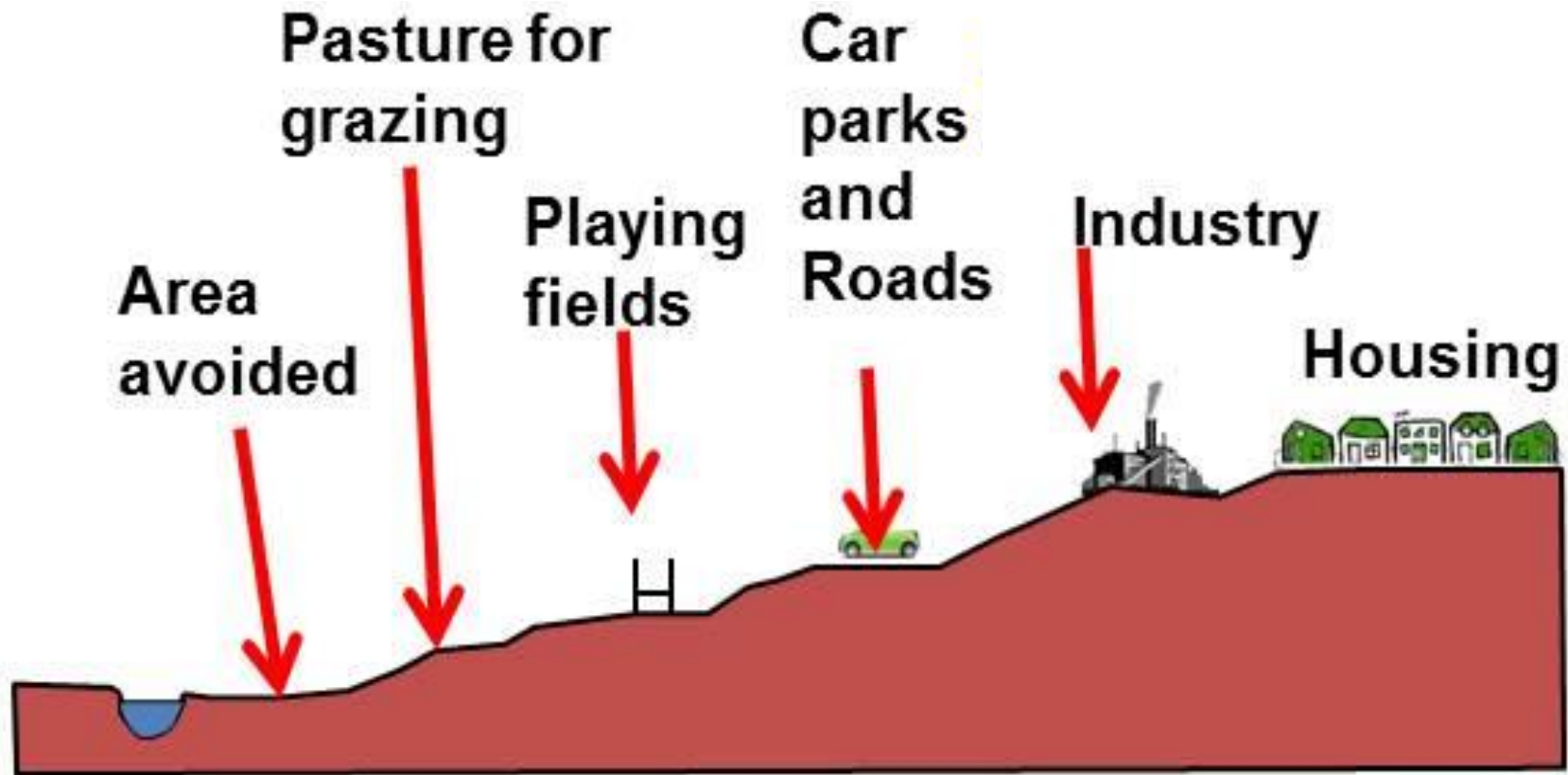
Afforestation – planting trees



Wetlands and flood storage areas



Floodplain zoning



Land uses increase in value as distance from river increases



Before



After

River restoration

Preparing for floods – includes warnings



FLOOD WARNING

FLOODING IS EXPECTED. IMMEDIATE ACTION REQUIRED.

FLOOD ALERT

FLOODING IS POSSIBLE. BE PREPARED.

SEVERE FLOOD WARNING

SEVERE FLOODING. DANGER TO LIFE.



Decision making task:

There are 4 zones along the River Tees that need protecting.

*Decide how you would manage each section using the methods you have studied – choose from **hard and soft engineering***
****Annotate your maps****

James Bevan, Head Honcho



Zone	Plan	Explanation
1		
2		
3		
4		

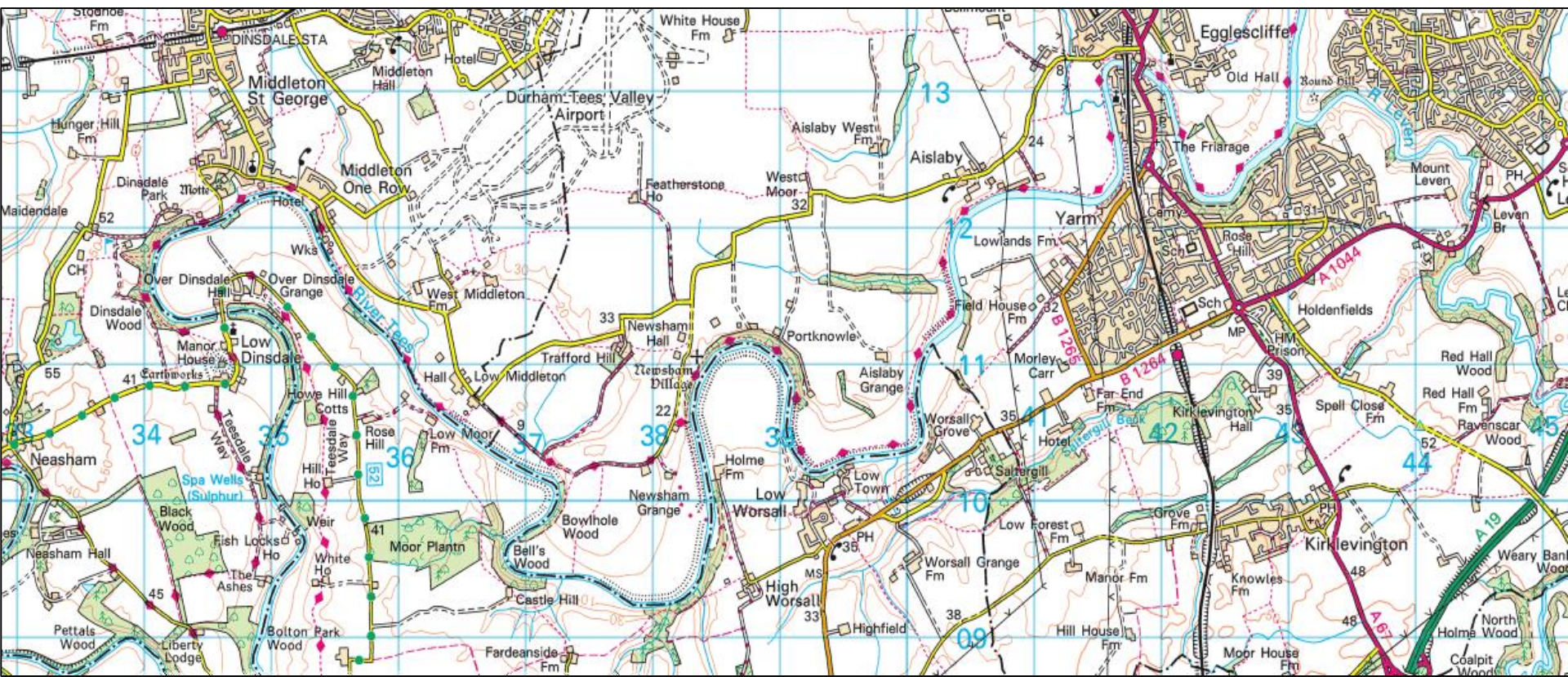
Zone 1



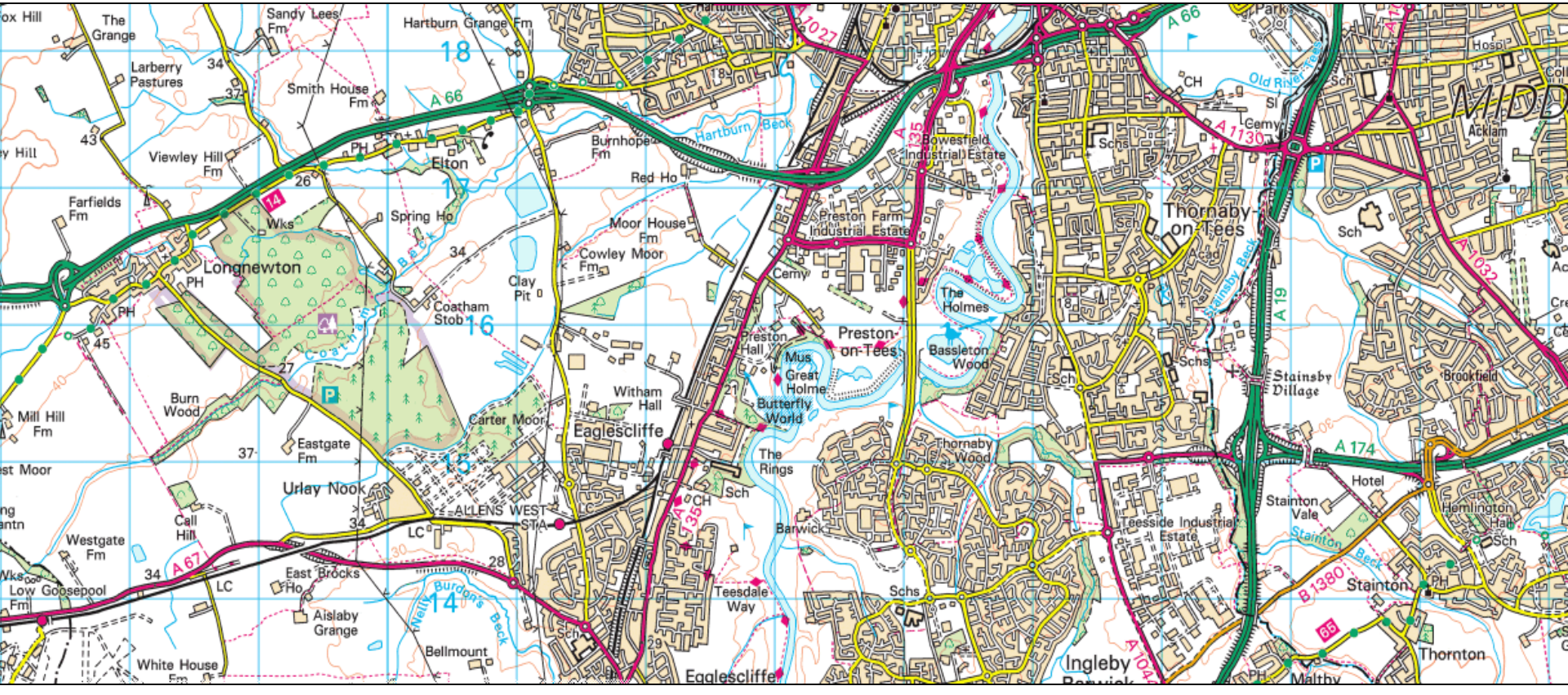
Zone 2



Zone 3



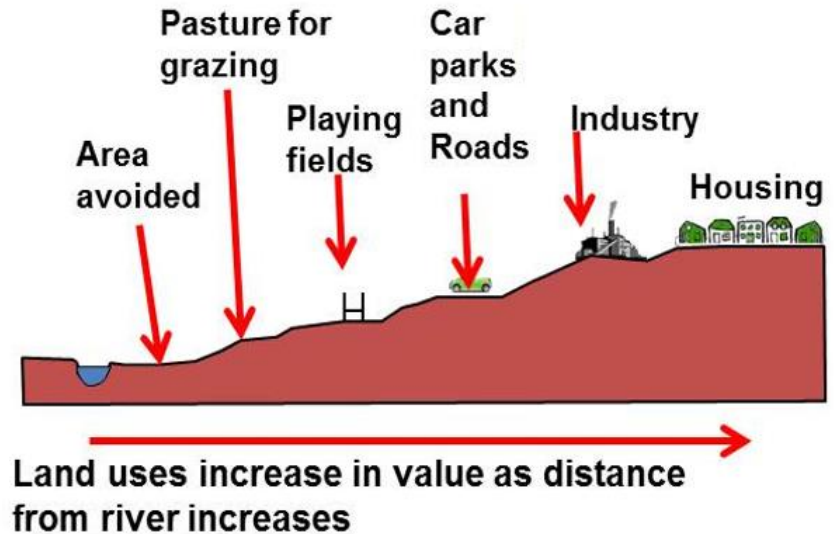
Zone 4



River restoration



Flood plain zoning



Choose one option.

Explain why soft engineering has a **limited** effect on the environment. (4 marks)