Managed Retreat

Learning Objective:

-**Investigate** ways of using the natural environment to protect against flooding

Learning Outcomes:

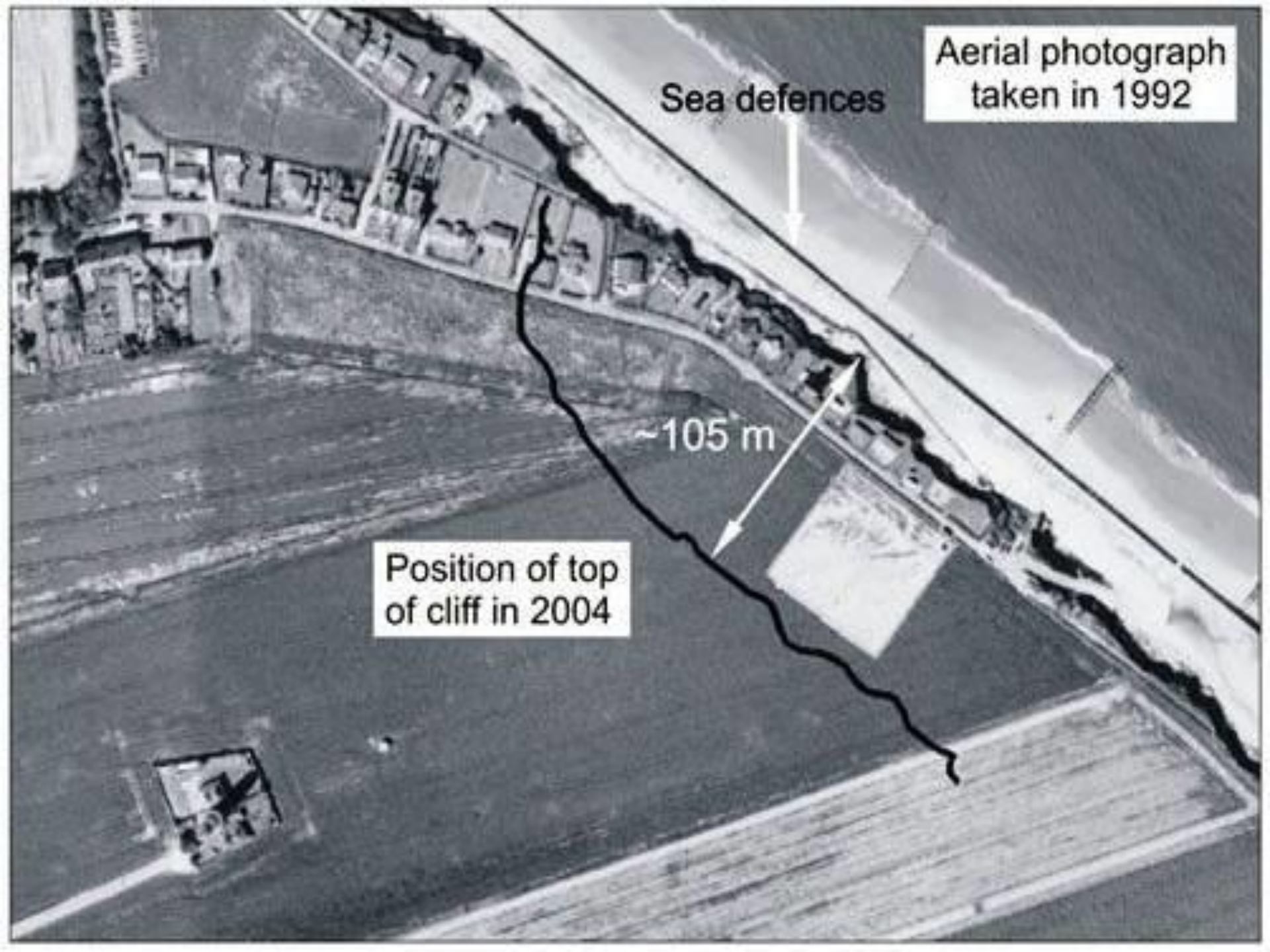
-**Identify** features of managed retreat

-**Explain** how management retreat reduces the effects of flooding

-**Decide** how to manage a stretch of coastline

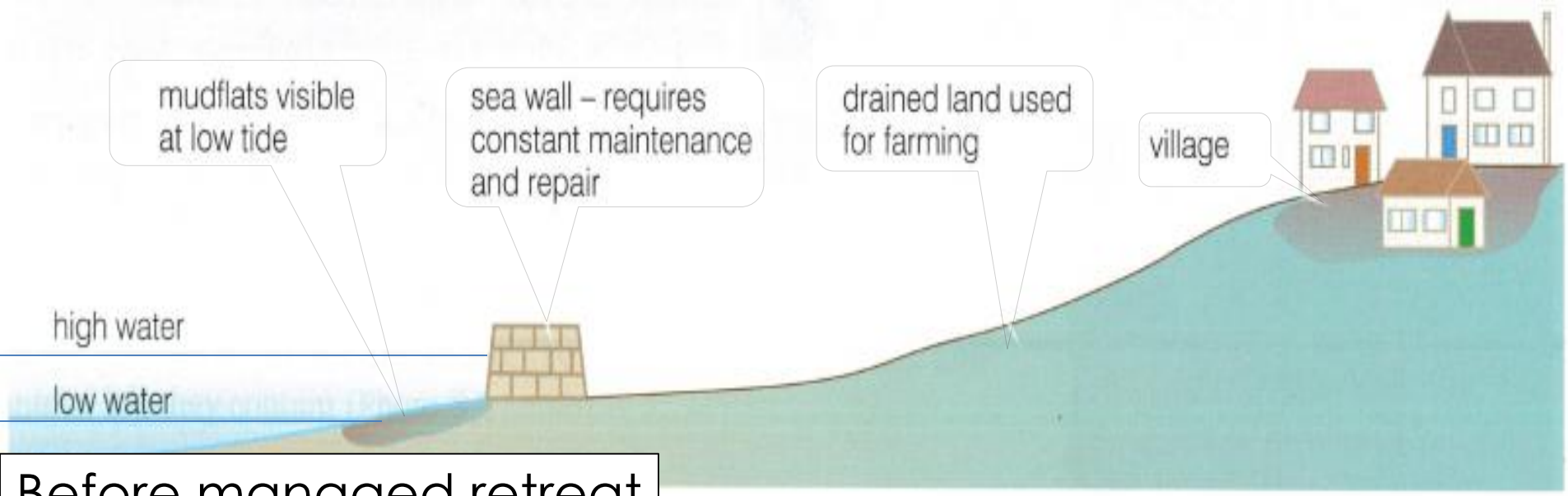
How much is this house worth?

£1!

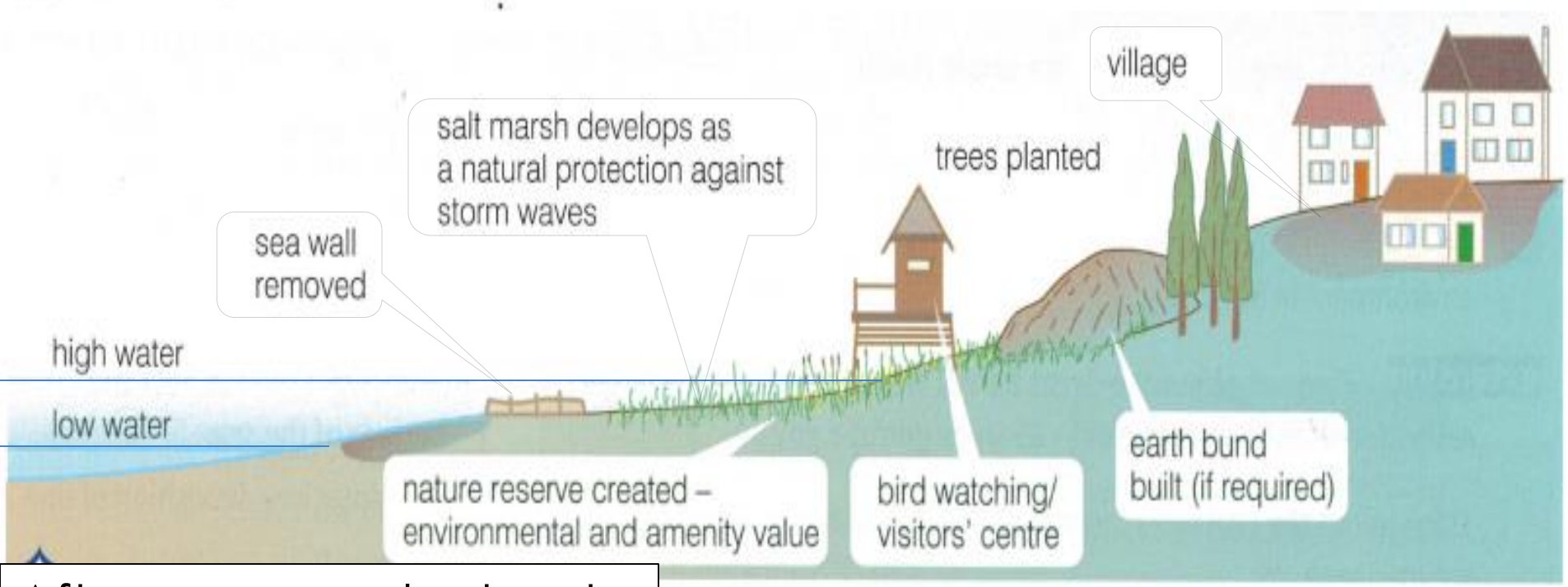

Aerial photograph taken in 1992
Sea defences
~105 m
Position of top of cliff in 2004

What management issues can you see?

What is the cheapest management option on the coast?



Before managed retreat



After managed retreat


Describe the relief of this area
What are the land uses at X?
Why is managed retreat used here?
X

Managed retreat is also known as *managed realignment*.

It involves breaching an existing coastal defence, such as a sea wall, and ***allowing*** the low-value land behind to be flooded.

This land is then left to be colonised by saltmarsh vegetation, creating a new '**intertidal zone**'.

When established, the vegetation ***disperses wave energy***, reduces erosion rates and provides new habitats.

Explain how managed retreat can reduce the risks of coastal flooding. Use the **diagram** to help you. (6 marks)

L1 – awareness of what managed retreat is, **describing** what is on the diagram.

L2 – understanding that **energy is reduced** by creating a **natural barrier** / **dispersal** of energy / waves spread out – link to **reducing the risks** of flooding

L3 – clear **links to storms, flooding and dissipating energy** / settlements are protected, not flooded / water does not travel up rivers, but spreads out over a **bigger area**

1 (g) Study **Figure 5** on the insert. **Figure 5** shows an example of managed retreat.

Explain how managed retreat can reduce the increasing risks of coastal flooding.

Use **Figure 5** and your own knowledge.

[6 marks]

Managed retreat / realignment is ~~one of the~~ a shoreline management plan that is put in place to help reduce the risks of flooding in coastal areas. The process of managed retreat works by ~~demolishing~~ moving villages and people further inland and then planting trees and an earth band, (as shown in figure 5), before demolishing a previously built sea wall. This will allow the waves to spread out and reduce the risk of sea level rises and flooding. The spread out sea can develop into salt

marshes which would protect the coastal area from future risks of flooding as they'll absorb storm and wave energy.
An example of an area that has used managed retreat to reduce the risks of flooding in it's coastal area is
Extra space Wallasea Island in Essex. The sea wall built in 2007 to protect the island was weakening and falling down and the government decided it wasn't worth repairing. Therefore, a managed retreat scheme was put in place. 800 tonnes of mud was pop pumped into the area creating 115 hectares of mudflats and salt marshes which absorbed the energy from the waves when the sea wall was demolished. An earth bund was put in place to seperate fresh water from salt water and many trees were planted.
Managed retreat is seen as an easy and cheap way to reduce flooding in coastal areas, although people may have to be compensated for demolished building and farmland.
The salt marshes created can attract tourists and provide nature reserves.