

Mature/Middle Stage of a River

- The mature stage of a river has a greater volume of water.
- This is because of the many tributaries that have joined the river.
- It flows over a gentler slope and carries a large load of material.
- It flows slower than the Youthful/Upper Stage of a River.

Features of the Mature Stage of a River

- The mature stage of a river contains three features;
- U-shaped valley.
- Meanders
- Floodplain

U-Shaped Valley

Wider valley

The sides of the mature valley are less steep. The valley floor is wider and is almost flat.

At this stage, the river begins to swing from side to side, removing the interlocking spurs. As a result, the valley floor is widened. Weathering and mass movement continue, so the valley sides become less steep.

A wider valley may be seen in the mature stage of the rivers Nore, Boyne and Barrow.

Meanders

Meanders are curves or bends that develop along the mature (and old) course of a river.

Meanders are formed by a combination of **erosion** and **deposition**. As the water flows around a slight bend, the water at the outer bank is deeper and flows more quickly. As a result, it has more power to erode the bank.

The water at the inner bank is shallower and flows more slowly. As a result, the river deposits some of its load there. Erosion and deposition continue and the meander becomes more prominent.

Meanders are found along the course of the rivers Shannon, Moy and Avoca.

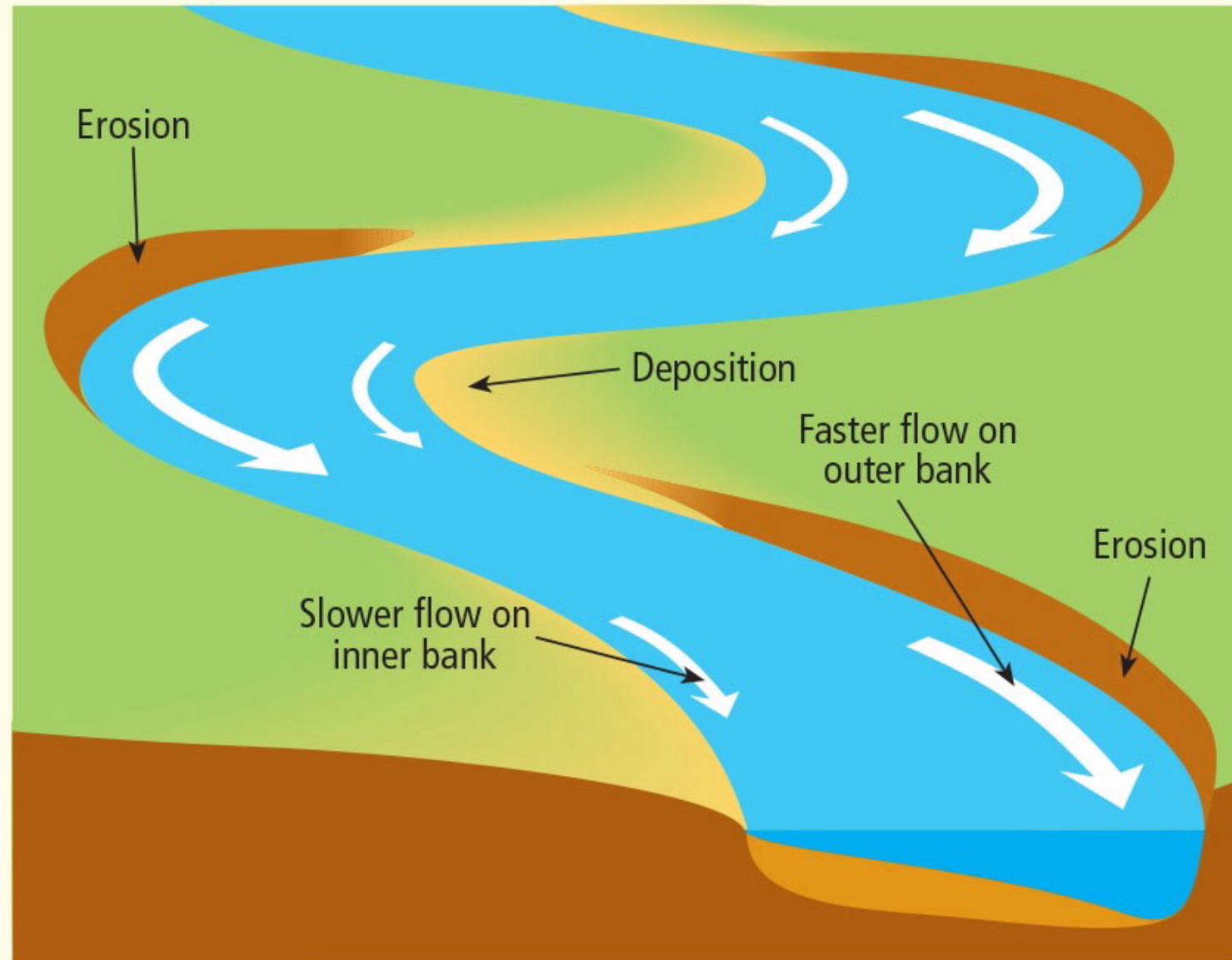


Fig 3.16 Erosion on the outer bank and deposition on the inner bank lead to the formation of meanders

Floodplain

A **floodplain** is the level area of land on either side of a mature (or old) river. It has a covering of very fine clay called **alluvium**.

The river may become swollen and overflow its banks after a period of heavy rain. As it spreads over the level land on either side of the river, it quickly loses its energy and deposits its load of alluvium. Over many periods of flooding, a thick layer of alluvium builds up to form the floodplain.

Floodplains have developed along the rivers Shannon, Liffey, Boyne and Suir.

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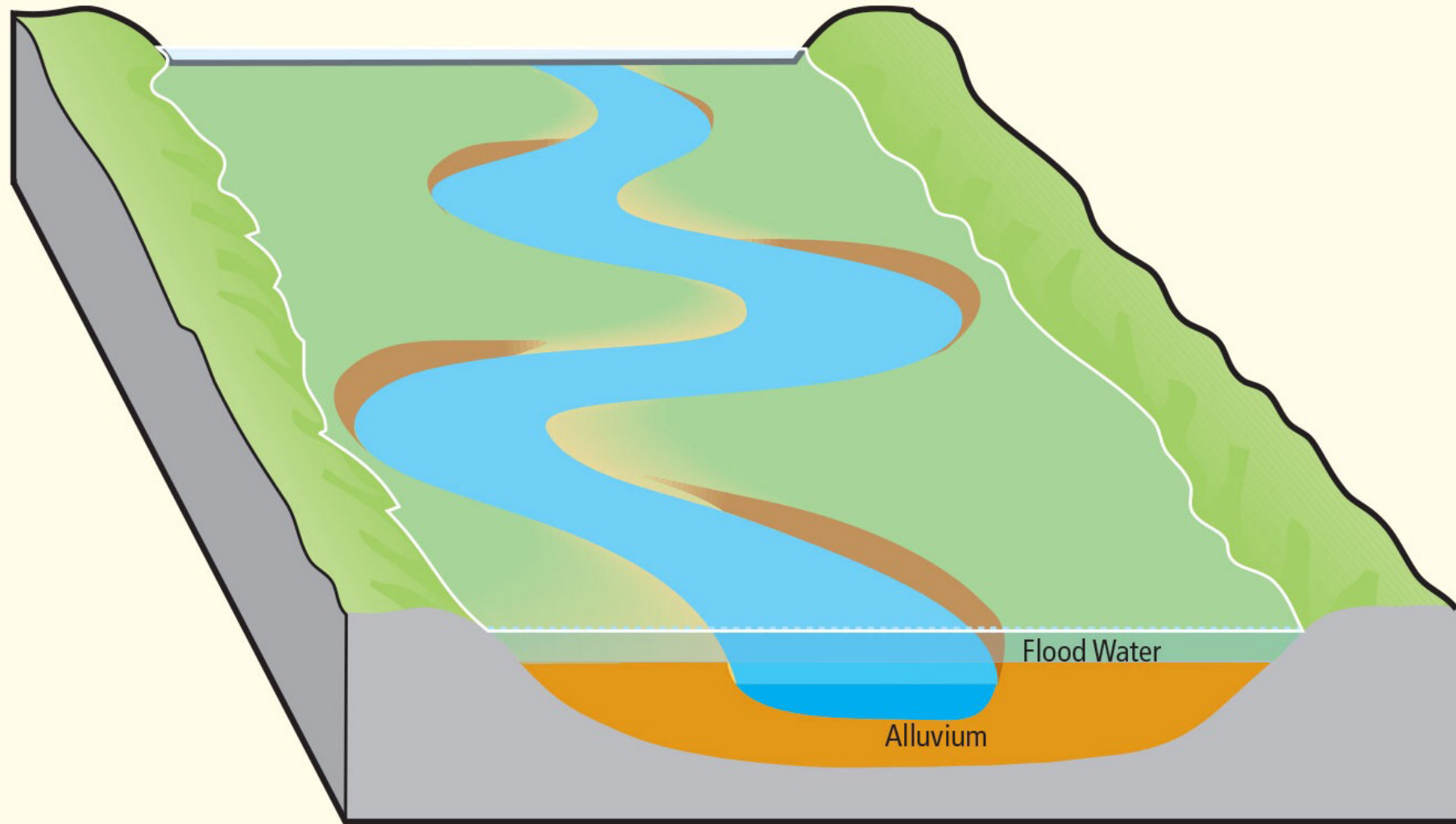


Fig 3.17 River in flood and depositing its load of alluvium to form a floodplain