

Leaky barriers

Slowing water naturally in the Pix Brook

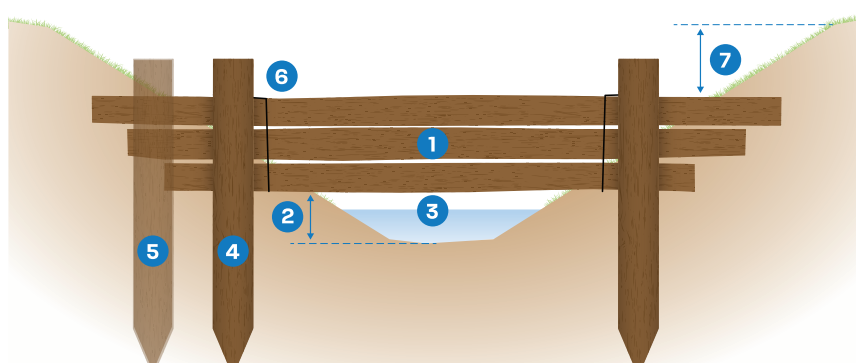
Leaky barriers are a **natural flood management (NFM)** measure used in streams and brooks to **slow the flow** of water during heavy rainfall. Made from timber, they work with the shape of the watercourse to reduce the speed of fast-moving water. Leaky barriers (also known as leaky dams) are one part of a wider approach, working alongside other drainage and flood-management measures across the Pix Brook area to **manage flood risk** downstream during heavy rainfall.

Why are leaky barriers used

In some parts of the Pix Brook, the channel is relatively straight, which **increases the speed** of water during heavy rainfall, increasing the **risk of flooding**. Leaky barriers are used here to slow the flow of the brook in a controlled way before it reaches more **built-up areas** downstream.

What leaky barriers look like

Leaky barriers are made from **untreated timber** and are designed to blend into woodland and natural settings. They resemble naturally fallen trees or woody debris often found in **healthy watercourses**. Over time, they weather naturally and become less visually prominent as the surrounding environment settles.



- 1 Logs with 1.5 cm gaps between
- 2 Lowest log 20 cm above channel bed
- 3 Brook base water level
- 4 Timber support post
- 5 Additional support post if required
- 6 Wires around each log and post
- 7 Top of dam 15–30 cm lower than channel bank

How they work

Leaky barriers slow water in a controlled way:

Timber **posts and logs** are placed across the channel.

Gaps between the logs allow water to pass through normally most of the time.

During heavy rainfall, fast-moving water is **slowed** by the barriers.

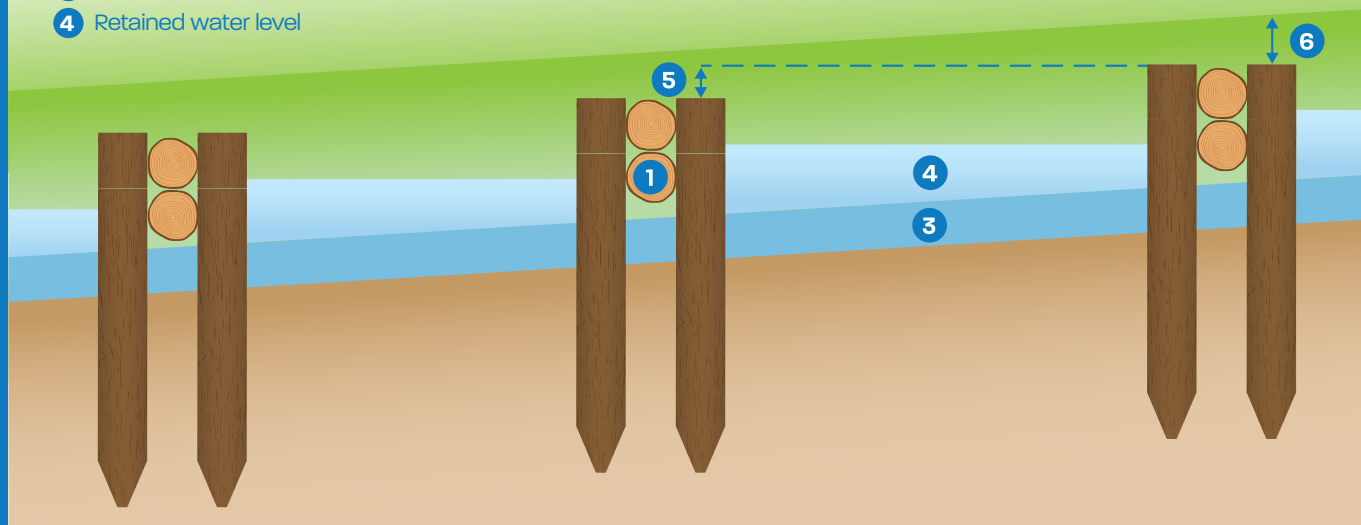
Peak flows are **delayed** as water moves downstream.

Sediment settles naturally behind the barriers.

They **do not** create permanent ponds. Water, wildlife and debris can pass through the structures.

Leaky barriers design

- 1 Timber logs forming the dam
- 2 Timber support post
- 3 Brook base water level
- 4 Retained water level
- 5 Dam height 10–15 cm lower than the last
- 6 Top of dam 15–30 cm lower than channel bank



Frequently asked questions

Do leaky barriers block the river?

No. They are designed to be “leaky”, allowing water to pass through freely during normal conditions.

Will they increase flood risk upstream?

No. Barriers are only installed where surveys and modelling show they will not increase flood risk upstream.

How long do leaky barriers last?

They are designed to last around **five years**, often longer depending on conditions, and can be repaired or replaced if needed.

Maintenance

Leaky barriers are installed by trained specialists and **inspected regularly** as part of ongoing catchment monitoring. Any damaged elements can be repaired or replaced easily.

Examples of leaky barriers elsewhere in England

