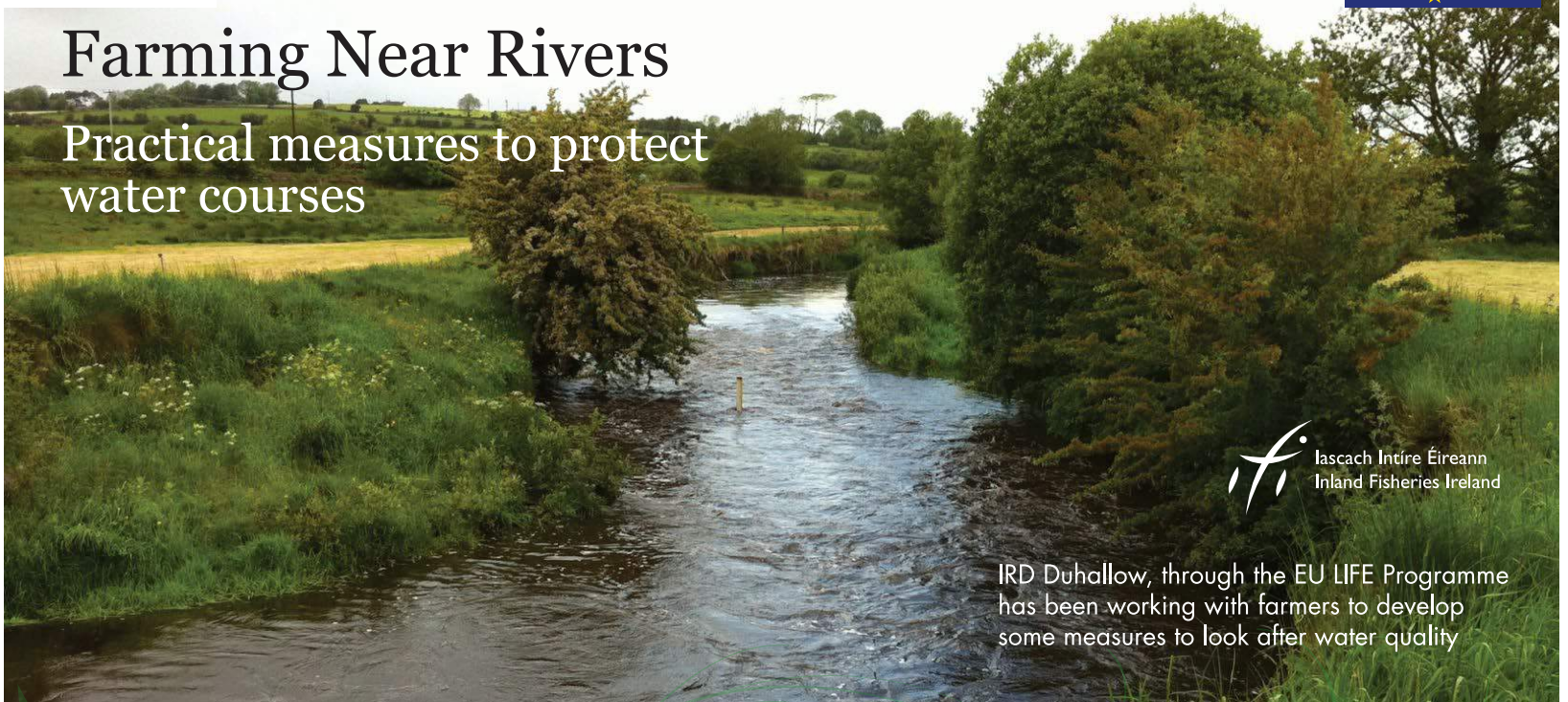




## Farming Near Rivers

Practical measures to protect water courses



IRD Duhallow, through the EU LIFE Programme has been working with farmers to develop some measures to look after water quality

**R**ivers and streams follow the lie of the land, their direction dictated by the local topography. In the uplands they are swift and shallow, while in the lowlands they are slower and more powerful. A typical river channel is sinuous, with erosion on the outer bank of a bend and deposition on the inner bank. However, the likelihood of erosion increases where soil is bare or poached and is exposed to heavy rainfall or floods. Erosion in the Allow catchment has been greatly enhanced due to tall and steep river banks, which are unsuitable for vegetation growth.

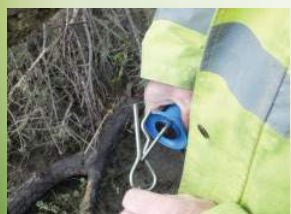
## 1. Fencing



Stable river banks are ideal habitat for a variety of plants whose roots help guard against erosion. Overgrazing along the top of a bank and poaching, where animals are given access to the river, can lead to its destabilisation and erosion. During high water events this erosion can cause a lot of damage to the bank. Over time the river may widen, resulting in loss of land for farmers and other landowners. It also leads to loss of habitat for river and riparian species.

To establish and maintain a well vegetated riparian zone, grazing herds need to be kept from the bank. Erecting a fence line 2m from the bank ensures that a strip at least 1m wide is maintained.

Once a riparian strip is established, protection of the river bank increases. A new habitat is created as well as a buffer from flooding.



Many areas in the Allow catchment area are prone to flooding. Large items of debris, carried by the flood, can damage fences in these areas. The IRD Duhallow LIFE Project has developed a form of flood friendly fencing which opens up under pressure, without damaging the fence.

## 2. Drinking Water



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## 3. Land Drainage

Newly opened drains present a risk of soil and silt being washed into the river. Loose banks can also fall into the new drains furthering the problem. Deltas of silt can build up if enough material is washed down by the drain. This can either block up the drain or get washed into the river in a high water event. The silt will then settle, upsetting potential spawning beds for trout and salmon. Levels of silt in the River Allow are not compatible with the Freshwater Pearl Mussel long term survival.

The IRD Duhallow project designed a novel silt trapping device suitable for land drains and test results on water samples showed that it was very successful in reducing sediment into the river. The silt traps consist of three main components: silt box; 1.2m fencing posts and Christmas trees. The posts, usually three, are driven into the stream bed with the Christmas trees attached, lying across the width of the channel. The purpose of the trees is to slow down the flow of the stream and to catch any debris in high water events. The box is installed flush with the bed of the drain. With the trees in place the water slows down just enough for most of the suspended solids to sink to the bottom of the box.



## 4. Bank Restoration



River banks with trees lining them tend to be more stable than those without. Planting native trees such as willow, ash, alder and oak can provide a protection for many banks under pressure.

In severe cases, bank work may be required. Landowners with rivers within Special Areas of Conservation will need to contact the National Parks and Wildlife Service, Inland Fisheries Ireland or the local authority for advice and information on how to proceed.