

Public Participation | Day No.3

Natural Flood Management Feasibility Study for Midleton



What is Natural Flood Management?

Natural Flood Management (NFM)floodplains and the wider catchment toinvolves implementing features to restorereduce flood risk downstreamor mimic the natural functions of rivers,reduce flood risk downstream

What are NFM features?

- Large Woody Debris
- Tree Planting
- Wet Woodland
- Buffer Strips

- Improved Arable Practices
- Floodplain Reconnection
- Runoff Attenuation Features

How could it be implemented in Midleton?

To determine if NFM would be suitable in the Owenacurra and Dungourney catchments, where NFM could be implemented and what type of feature would be best suited, we created a gridded analysis of the whole catchment, considering landscape variables such as land use, steepness of slopes, watercourses and areas of high flood risk.

Of the area that is suitable for NFM, Tree Planting and Runoff Attenuation features would be considered to be the most suitable and would be required in approximately 33% of the suitable NFM area. These proposed features would be largely in the upper and middle reaches of the catchment.

Contour ploughing would also be suitable across the catchment, especially in the middle reaches, and would be required across ~30% of the suitable NFM area.

The remaining suitable interventions would be largely in the middle to lower catchment, comprising wet woodland, floodplain reconnection, buffer strips and large woody debris. Slowing water By planting trees and buffer strips round fields and building woody debris dams Storing water By creating ponds, overflow channels and reconnecting floodplains and rivers

By improving soils to enable them to store more water and reduce runoff

Intercepting rainfall By increasing vegetation cover to capture rainfall before it hits the ground



How would NFM impact flood risk in Midleton?

Peak flow reduction of 6 – 10% downstream in Midleton depending on NFM intervention type

How much would it cost to implement?

Is NFM a viable option for Midleton?

It was found that NFM could result a minor reduction in structural flood defences on the Owenacurra River.

However given the scale of intervention required across the catchment, the costs, the landowner engagement required and the logistics of construction and maintenance, an NFM solution is not technically or economically viable as an option or even in combination with other measures in terms of reducing flood risk at Midleton. NFM measures would not contribute to any reduction in flood defence requirements on the Dungourney River as the area requiring defences is also subject to tidal flooding. which would deem other NFM features ineffective. This option could also provide potential for biodiversity and amenity benefits.

NFM could be considered as a future measure within the Climate Change Adaptability Plan to increase flood resilience subject to further investigation.

Upstream storage is proposed as the emerging preferred option in Ballinacurra,













