

NFM Studio Outputs

Hydrological benefit map - All measures in-combination

NFMStudio is a strategic decision support tool to develop business cases for Natural Flood Management in catchments. NFM Studio uses open source data describing the physical characteristics of a catchment to identify the best locations for different NFM measures. It also estimates the potential hydrological benefits that might result from the implementation of NFM.

As a strategic tool, NFM Studio does not replace local catchment knowledge or the field-based design that is a pre-requisite for successful NFM implementation. The tool is intended to work alongside local activities to help accelerate the roll out of NFM in catchments, by identifying the most effective NFM measures and the best locations for them. In this way it helps to target field investigations, strategies or design work and provides the quantitative basis to develop NFM business cases.

NFMStudio summarises different measures into the three main classes shown in the picture panel below. This map shows the potential runoff that might be avoided, stored or attenuated across the Evenlode if all NFM measures were implemented at the catchment scale. The results are mapped at the field scale with areas in yellow offering limited potential flood risk benefits, and areas of greatest potential benefit shown in progressively darker tones of green, blue (Land use change and in channel measures) and red (for flow pathway storage measures).

- Land Use Change**
Soil health and improved soil structure
- Catchment Storage**
Bunds along flow pathways
- In-Channel Attenuation**
Woody features and floodplain reconnection

Key

Catchment Features

- Evenlode Catchment Boundary
- Field Boundaries
- Railway Station
- Railway Line
- Buildings
- Woodland

NFM Studio Outputs (all data in m3)

Soil Health	Flow Pathway Storage - Max	In Channel Attenuation
0 - 100	7 - 100	0 - 50
101 - 250	101 - 1,000	51 - 100
251 - 500	1,001 - 2,000	101 - 250
501 - 1000	2,001 - 4,000	251 - 500
1001 - 2500	4,001 - 6,000	501 - 1,000
2501 - 5250	6,001 - 8,500	1,001 - 1,250

Evenlode Catchment

Catchment area
430 km²

Watercourse length
685 km

Elevation range
60 - 220 mAOOD

Dominant soil types
Clay (alluvium), Limestone (brash)

Agricultural Landholdings
ca. 250

Catchment under solar panels
>1%

33-38% Predicted reduction in flood peak flows following catchment wide implementation of NFM

2,600,000 m³ Woodland Creation

2,500,000 m³ Land use Change

2,400,000 m³ Soil Health & Restoration

71,000 m³ Temporary attenuation from in-channel measures

Flow Pathway Storage Summary

802,000 m³ Max bunds per field

253,000 m³ 1 bund per field

(Not additive measures)

Hydrograph shows peak flow reduction with implementation of:
• Woodland creation
• Max bunds
• In channel attenuation

2008 Olympic Swimming Pool's Estimated volume removed by NFM

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