

Defra NFM evidence base. ArcGIS Online for future investment

David Johnson National CaBA Technical Team

Introduction
& user guide

PROJECT
Map

Input an
asset

NFM Projects Monitoring and Evaluation Tool v2.401 Find out more about Natural Flood Management

Introduction Project Explorer Add NFM Assets NFM Assets Map Add Benefits Info Provide Feedback

Monitoring and Evaluating Natural Flood Management

This tool has been built to support the monitoring and evaluation requirements for the 79 Defra-funded NFM catchment and community projects. Scroll down for an introduction to the monitoring and evaluation requirements and how to use this tool.

CaBA Interreg North Sea Region EU

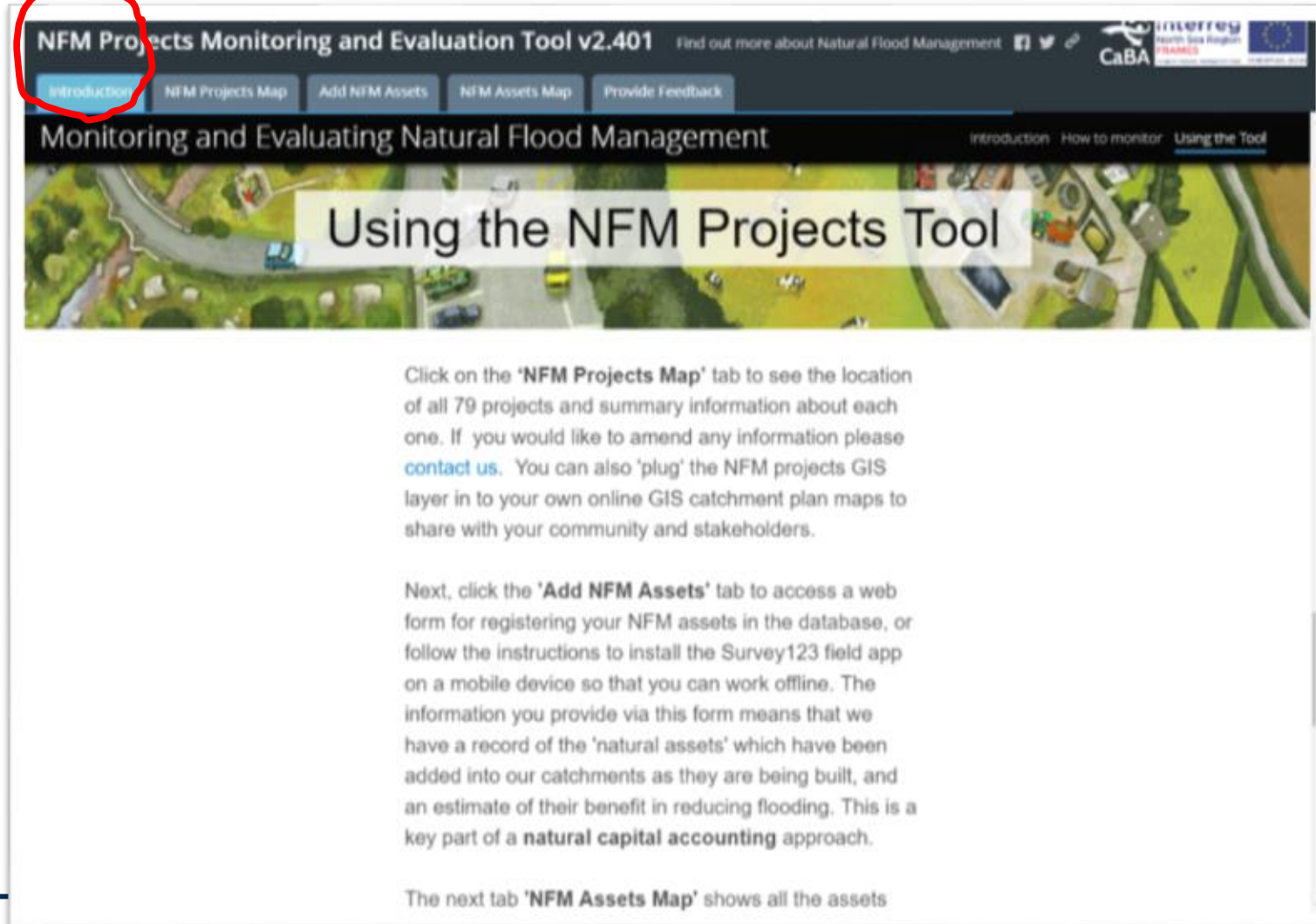
ASSET
Map







Give us
feedback

PROJECT
evaluation

Scroll down
to get the
user guide

We will keep
on updating
this as
people give
us feedback



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Monitoring and Evaluating Natural Flood Management

[Introduction](#) [How to monitor](#) [Using the Tool](#)

Using the NFM Projects Tool

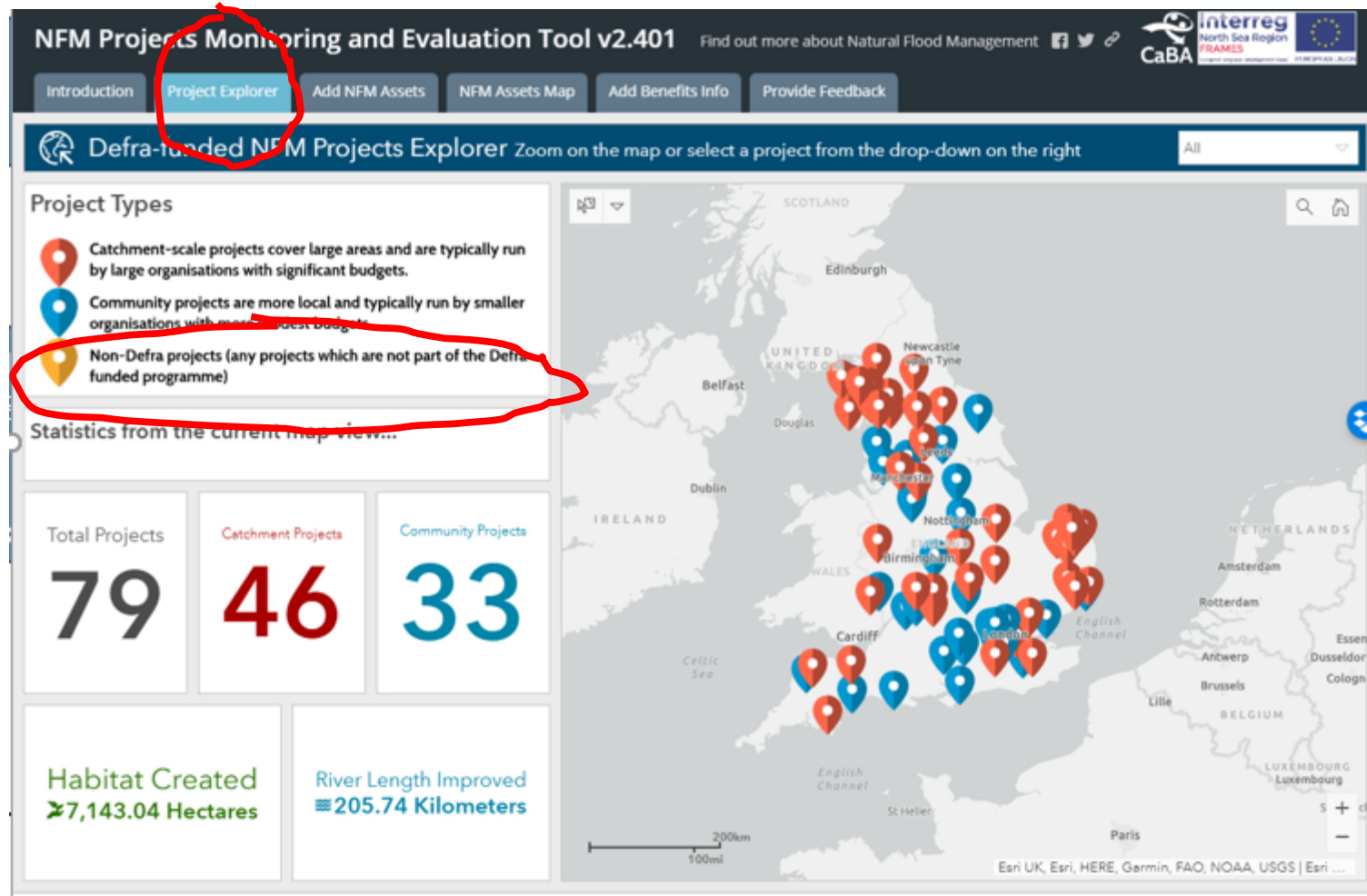
Click on the '**NFM Projects Map**' tab to see the location of all 79 projects and summary information about each one. If you would like to amend any information please [contact us](#). You can also 'plug' the NFM projects GIS layer in to your own online GIS catchment plan maps to share with your community and stakeholders.

Next, click the '**Add NFM Assets**' tab to access a web form for registering your NFM assets in the database, or follow the instructions to install the Survey123 field app on a mobile device so that you can work offline. The information you provide via this form means that we have a record of the 'natural assets' which have been added into our catchments as they are being built, and an estimate of their benefit in reducing flooding. This is a key part of a **natural capital accounting** approach.

The next tab '**NFM Assets Map**' shows all the assets

Now a
dashboard

Summary
statistic for
the projects
in the view



We have added in
a Non Defra
project type

At the moment
we need to add
each new project

Now we are
on the 'Add
Asset' tab

User guide
on the LHS.
Scroll down
to see how
to use this
tab

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Introduction NFM Projects Map **Add NFM Assets** NFM Assets Map Provide Feedback

Registering new NFM assets

Current mobile app version = v2.4

You can quickly add new NFM assets to the database using the web form in the main panel to the right.

You can also download the Survey 123 app to desktop or mobile device.

The advantages of using the Survey 123 apps are:

- make edits to previously submitted records
- save favourite answers, or copy previously submitted records to save time with data entry
- work offline and upload the results later.

To use the Survey123 app you need to do the following steps whilst you are

NFM Assets v2_4

FR1 Details

Select project*
Select your project from the drop-down list. Start typing to shortlist.

Asset ID:
_1907120904

Location*
Move the map to locate the asset, use your mobile device's location, or type the coordinates. (NB. If you have your coordinates in British National Grid, use GridReferenceFinder.com to convert them to lat / long)

Find address or place

User guide includes adding an asset from your mobile phone

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Find out more about Natural Flood Management [f](#) [t](#) [e](#)

CaBA [Interreg North Sea Region FRAMES](#) [European Union](#)

Introduction **NFM Projects Map** Add NFM Assets NFM Assets Map Provide Feedback

Registering new NFM assets

If you don't have an ArcGIS Online account please ignore this prompt and go to step 3.

3. Open the Current NFM Survey Link:
bit.ly/nfmsurveyv2 to load the current survey form in to the Survey123 app.

Please sign up to our [NFM Tool Development Mailing List](#) so that we can contact you about changes and fixes to the app.

The short survey link will change each time we implement changes, so please ensure you are using the latest link to load the updated survey form in to your mobile app. At this time there is now way to push out the latest survey form to the app, so **you must ensure that you click the latest link in order to have the current version.** We will email out the new link and will update the link on this page and the web form

NFM Assets v2_4

FR1 Details

Select project*
Select your project from the drop-down list. Start typing to shortlist.




Asset ID:
_1901120904

Location*
Move the map to locate the asset, use your mobile device's location, or type the coordinates. (NB, if you have your coordinates in British National Grid, use [GridReferenceFinder.com](#) to convert them to lat / long)




Find address or place

esri A Story Map

And a video clip on how to download Survey 123

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 **Survey123 for ArcGIS Collecting Data with the Survey123 App**  Watch later  Share

Registering new NFM assets
the link on this page and the web form opposite.


Help using the Survey123 field app




This video shows an example of how to use the Survey123 field app and upload the survey back to the database, or save the results on your mobile device and upload later if you need to work offline.


If you have any problems using the app please contact michelle@theriverstrust.org or fillout the feedback form on the final tab of this tool. Don't forget to signup for the [NFM Tool Development Mailing List](#) so we can keep you informed of latest developments and bug fixes.

Survey123 for ArcGIS (Beta)
Smarter Forms. Smarter Field Work.
[Sign Up Now](#)

How It Works
Survey123 for ArcGIS is a simple and intuitive form-centric data gathering solution that makes creating, sharing, and analyzing surveys possible in just three easy steps.







MORE VIDEOS 

  0:07 / 2:35 

 A Story Map

Now we are ready to input an asset

The first thing to do is to select your project from the drop down

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NFM Assets v2_4

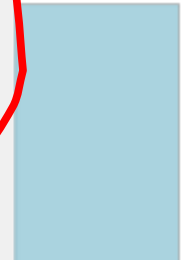
FR1 Details

Select project*




Select your project from the drop-down list. Start typing to shortlist.

- Alconbury
- Annas catchment NFM project
- Aylsham NFM
- Bacton Sand Engine
- Bannisdale
- Bishop's Wood NFM
- Bourne Rivulet Restoration & Flood Management - groundwater
- Buxton NFM
- Cairn Beck
- Clothworkers Wood - Wet Woodland Flood Storage Scheme
- Cocker catchment NFM project
- Collingham Beck NFM
- Dartmoor Headwaters
- Debenham NFM

type the coordinates. [Use a location finder](#) to



You have selected your project and the tool gives the asset a Unique ID

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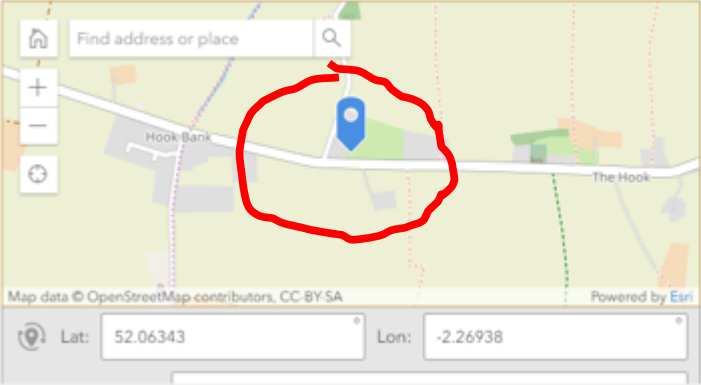
FR1 Details

Select project*
Select your project from the drop-down list. Start typing to shortlist.

Alconbury ▼

Asset ID:
A001_1907120920

Location
Move the map to locate the asset, use your mobile device's location, or type the coordinates.
(NB. If you have your coordinates in British National Grid, use GridReferenceFinder.com to convert them to lat / long)



Find address or place

Hook Bank The Hook




Map data © OpenStreetMap contributors, CC-BY-SA Powered by Esri

Lat: 52.06343 Lon: -2.26938

esri A Story Map

If you are doing this on the desktop you drop the pin on the exact location

Now choose the
'Asset type'
from the
dropdown

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Asset Type*
Select from the drop-down and start typing to shortlist

- Catchment woodland creation
- Cross-slope woodland creation
- Floodplain woodland creation
- Riparian woodland creation
- Soil and land management (soil aeration, hedges, buffer, stocking dens...
- Headwater drainage management (grip blocking, gully blocking, peatla...
- Run-off pathway management (ponds, swales and sediment traps, SuDS)
- River restoration (deculverting, re-naturalising, re-meandering)
- Floodplain / wetland restoration (floodplain re-connection, wetland res...
- Leaky barriers
- Offline storage (including ponds and bunded areas)
- Saltmarsh and mudflat creation and management
- Sand dune management
- Beach nourishment (including sandscaping)

Upstream Photo*













In this case we have chosen 'Soil and land management'

A bit of free text to describe the asset

The date 'installed'

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Soil and land management (soil aeration)

Asset Description*
Provide some details to help others to find this asset again, e.g. "3rd leaky dam upstream from track"


Cover crops in CPH 123


Date installed*
7/12/19

Installed Cost (£)*
Estimated cost of the asset. If the 'asset' is soil improvement work on a specific area, give the cost of the initial treatment. Subsequent treatments can be recorded in the maintenance section of the FR4

123




Upstream Photo*
Taken facing upstream. If asset is not associated with the river then add two photos from different directions



Press here to choose image file. (<10MB) 

 A Story Map

The cost of the asset, in this case it is the cost for year one, subsequent costs will be recorded as maintenance

Insert a couple
of photos as
proof of delivery

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To use the Survey123 app you need to do the following steps whilst you are

Downstream Photo*
Taken facing downstream. If asset is not associated with the river then add two photos from different directions

Press here to choose image file. (<10MB) 

Press here to choose image file. (<10MB) 

Watercourse Type
This shows where assets are used to manage the catchment and who is approving them, the EA or the L.A.

☐ Main ☐ Ordinary ☐ Coast ☒ Catchment

How easy was it to get permits to undertake the work?
This will help drive improvements in the application and permitting process.
If one permit granted for a number of assets then divide the time equally




Hard (more than 40hr work > £2.5k)
Moderate (16-40hr work, £0.5 to £2.5k)
Easy (<16hr work ~£0.5k).

Land Drainage Consent Difficulty

esri A Story Map

What sort of
waterbody are
we affecting? In
this case
'catchment'

How easy is it to get a permit?

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☐ Main ☐ Ordinary ☐ Coast ☒ Catchment

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How easy was it to get permits to undertake the work?
This will help drive improvements in the application and permitting process.
If one permit granted for a number of assets then divide the time equally

Hard (more than 40hr work > £2.5k)
Moderate (16-40hr work, £0.5 to £2.5k)
Easy (<16hr work ~£0.5k)

Land Drainage Consent Difficulty

Hard Moderate Easy N/A

Ecological Consent Difficulty

Hard Moderate Easy N/A

Soil Management Detail







Soil Equipment or Technique Used

☐ Sub-soiling ☐ Min Till ☒ Cover Crops

What type of soil management used, in this case 'Cover crops'

All assets are non optimal?
How 'effective' is this particular asset?

In 10 years time we want to be maintaining the most valuable assets and not spending time on the least valuable?

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FR2 Details 

Flood Efficacy

High Moderate Low

FR3 Details 

FR3 Area Units

☒ Hectares ☐ Square Metres


Area of Roughness Created (ha)

10³ 20

Storage Created (m3)

10³ 0

Area of Increased Losses (ha)

 A Story Map







Next the flood benefits of the asset

Area of roughness, in this case 20ha

Storage volume, in this case 0?

Area of increased losses, either ETa or percolation, in this case 20ha

Have you changed a flood pathway? In this case no?

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Storage Created (m3)


Area of Increased Losses (ha)

Changed Flood Pathway?


☐ Yes ☒ No

Reduced Erosion?

☒ Yes ☐ No







FR4 Details 

Asset Condition

 A Story Map

Have you reduced erosion? In this case yes?

What is the condition of the asset? In this case it has just gone in so 'good'

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Reduced Erosion?

☒ Yes ☐ No

FR4 Details 


Asset Condition

Good Moderate Poor Absent

Date Assessed

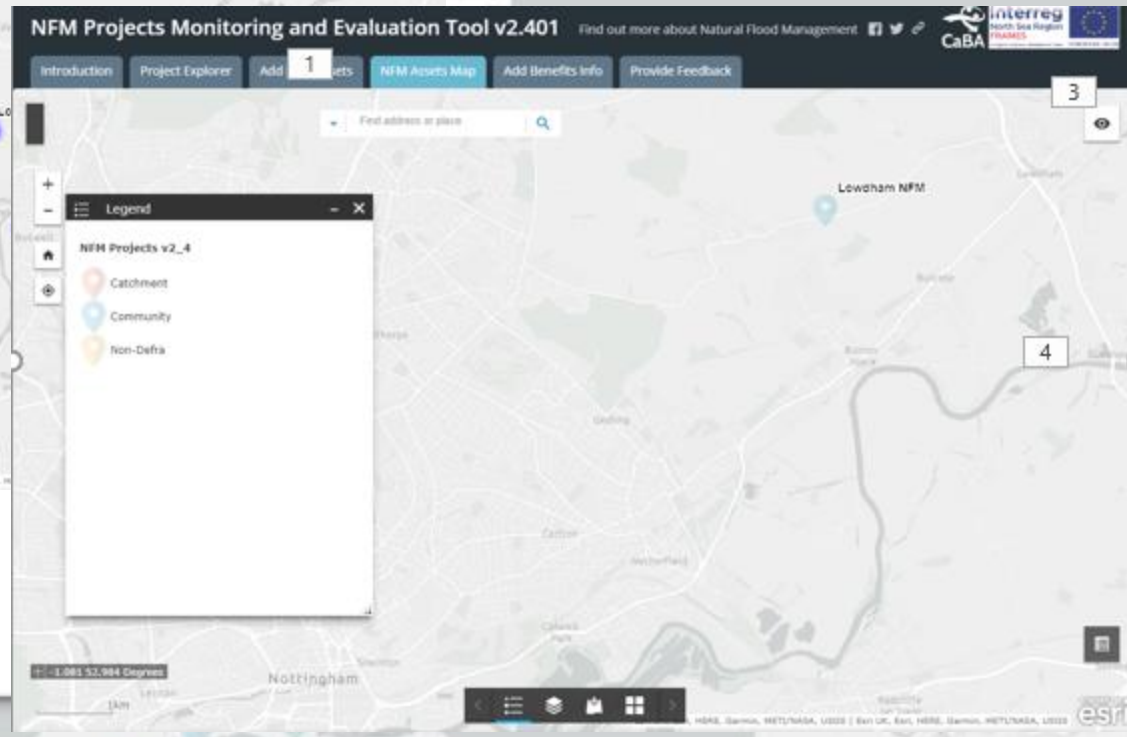
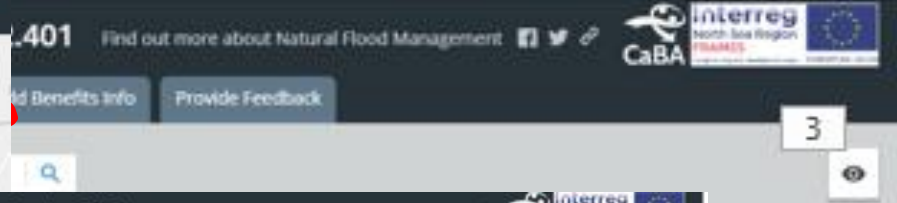
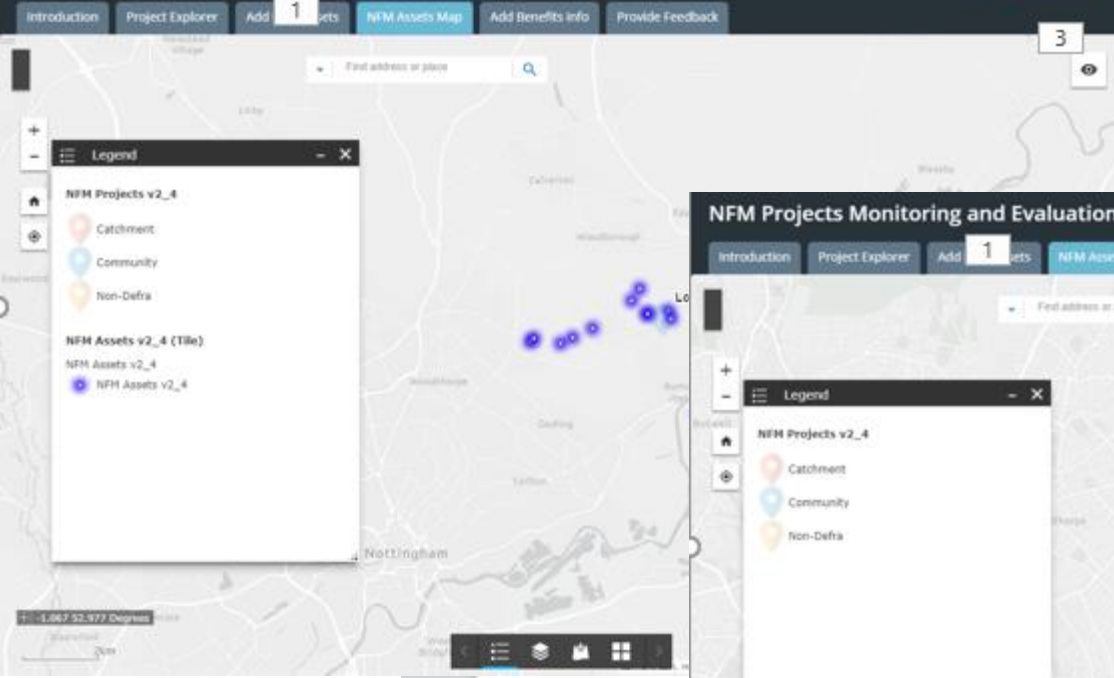
Comments

Submit

 A Story Map

If land manager goes back to bare soil in winter in the future, change to 'absent'

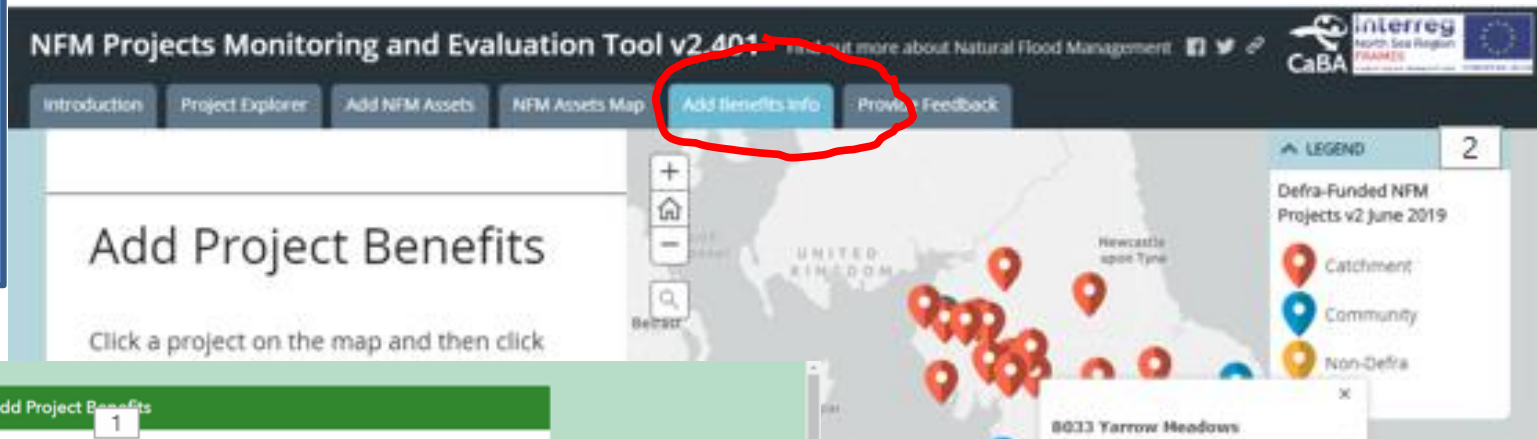
Make a comment and submit....



If you zoom in the assets disappear

If you are in the AGOL group you can use & edit the assets

When project is nearing completion add in project benefits



Click on your project

Add Project Benefits

1

Ha of Habitat

10

km of River Improved

2

Lead Organisation (s)

Chorley Council

CaBA Partnership

River Douglas Catchment Partnership

Research Partner

Citizen Science

FR1 Template Completed

3

Water Quality Benefit

1

Negative benefit No benefit Some benefit Significant benefit

Ecology Benefit

Negative benefit No benefit Some benefit Significant benefit

Climate Change Resilience Benefit

Negative benefit No benefit Some benefit Significant benefit

Low Flow Benefit

Negative benefit No benefit Some benefit Significant benefit

Health Benefit




Negative benefit No benefit Some benefit Significant benefit

Aesthetic Benefit

Negative benefit No benefit Some benefit Significant benefit

3

Asset then appears on Asset map. We are currently re-publishing this..

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Feedback

Please provide feedback on this tool, so that we can improve the way NFM projects are monitored and evaluated.

Your email address:*
so we can follow up and keep you informed of updates

NFM Project
Which NFM project do you work on?

What problems have you had using this tool?
If something doesn't work then please describe what you were doing when you encountered the error, or if you'd like different functionality please give as much descriptive detail as possible.

Give us some feedback

Later this month you can will see the 'Project evaluation' tab to be filled in at the end of the project

Shorter

Easier to
read?

Explains
detail of
each item
of data
required



Find it on
the CaBA
website....li
nked from
the tool