

Flood Risk Assessment

THE PROPOSAL: Application for the conversion of a building to residential dwelling.

THE SITE: BETHEL UNITED REFORM CHURCH, LANCASTER ROAD, PREESALL, FY6 0DY

Introduction

This Flood Risk Assessment has been produced in support of a prior notification application for change of use of a building to provide a 5No bed dwelling.

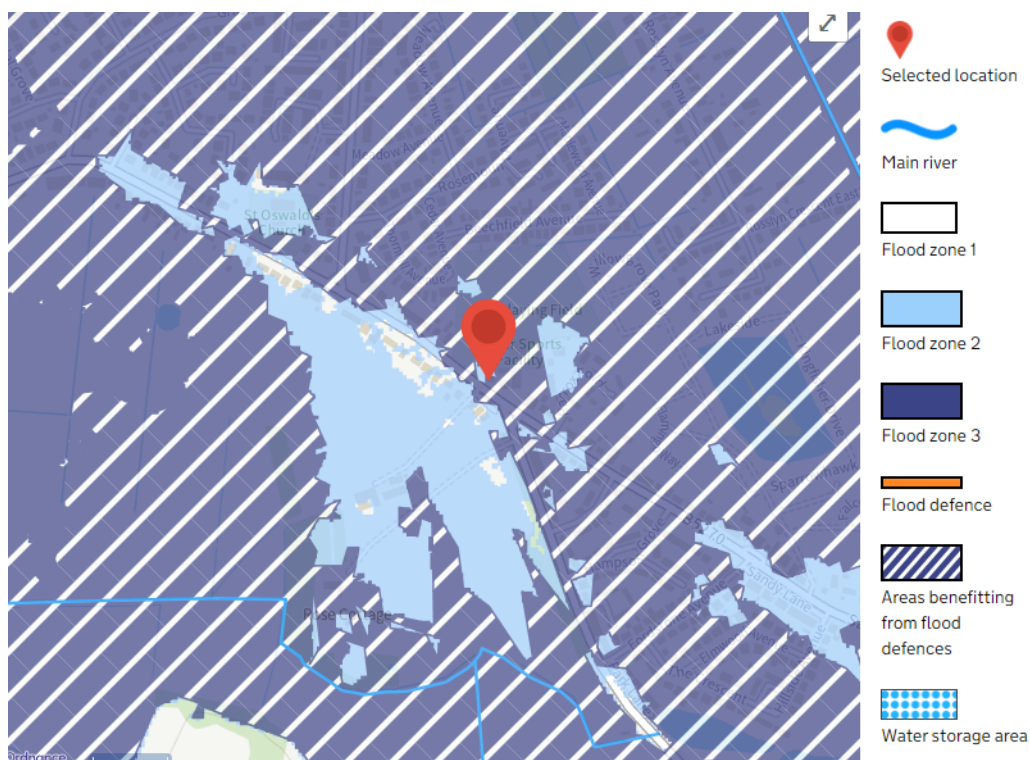
The National Planning Policy Framework (NPPF) sets out the Government’s national policies on different aspects of land use planning in England in relation to flood risk. Supporting Planning Practice Guidance is also available.

The NPPF sets out the vulnerability to flooding of different land uses. It encourages development to be located away from areas at highest risk (whether existing or future), and states that where development is necessary in such areas, the development should be made safe for its lifetime. It also stresses the importance of preventing increases in flood risk offsite to the wider catchment area.

The NPPF also states that alternative sources of flooding, other than fluvial (river flooding), should also be considered when preparing a Flood Risk Assessment.

As set out in the NPPF, local planning authorities should only consider development in flood risk areas appropriate where informed by a site-specific Flood Risk Assessment. This document will identify and assess the risk associated with all forms of flooding to and from the development. Where necessary it will demonstrate how these flood risks will be managed so that the development remains safe throughout its lifetime, taking climate change into account.

This Flood Risk Assessment is written in accordance with the NPPF and the Planning Practice Guidance in relation to Flood Risk and Coastal Change. In investigating the flood risk relating to the site, the Environment Agency flood mapping has been reviewed and shows that the site lies within Flood Zone. An extract from the Environment Agency’s flood zone map for planning is shown below:



Flood Risk

The main risk of flooding onsite is tidal, albeit the land is protected by flood defenses. The historic records identify two events, one back in 2002 and 2013, however the site remained unaffected during the events.

The site lies within Flood Zone 2 and 3 defended and the existing floor levels of the existing building are circa 6.51 AOD. To safeguard against future flood events the finished floor levels of the building will be set at 6.80 AOD which is above the defended climate change modelled tidal extent and height. The floor levels of the two ground floor bedrooms have been set at 7.30 AOD, above the defenses removed climate change modelled tidal extent and height. The majority of the bedrooms have been placed at first floor. Future residents will be registered to receive flood warning alerts.

Conclusion

To protect the development the following mitigation measures are to be implemented:

- Physical flood barriers (7.60 AOD);
- Electrical wiring from the ceiling;
- A non-return valve on the drainage system;
- Closed cell insulation to walls and floors; and
- UPVC skirtings / architraves internally.

Flood risk assessment data

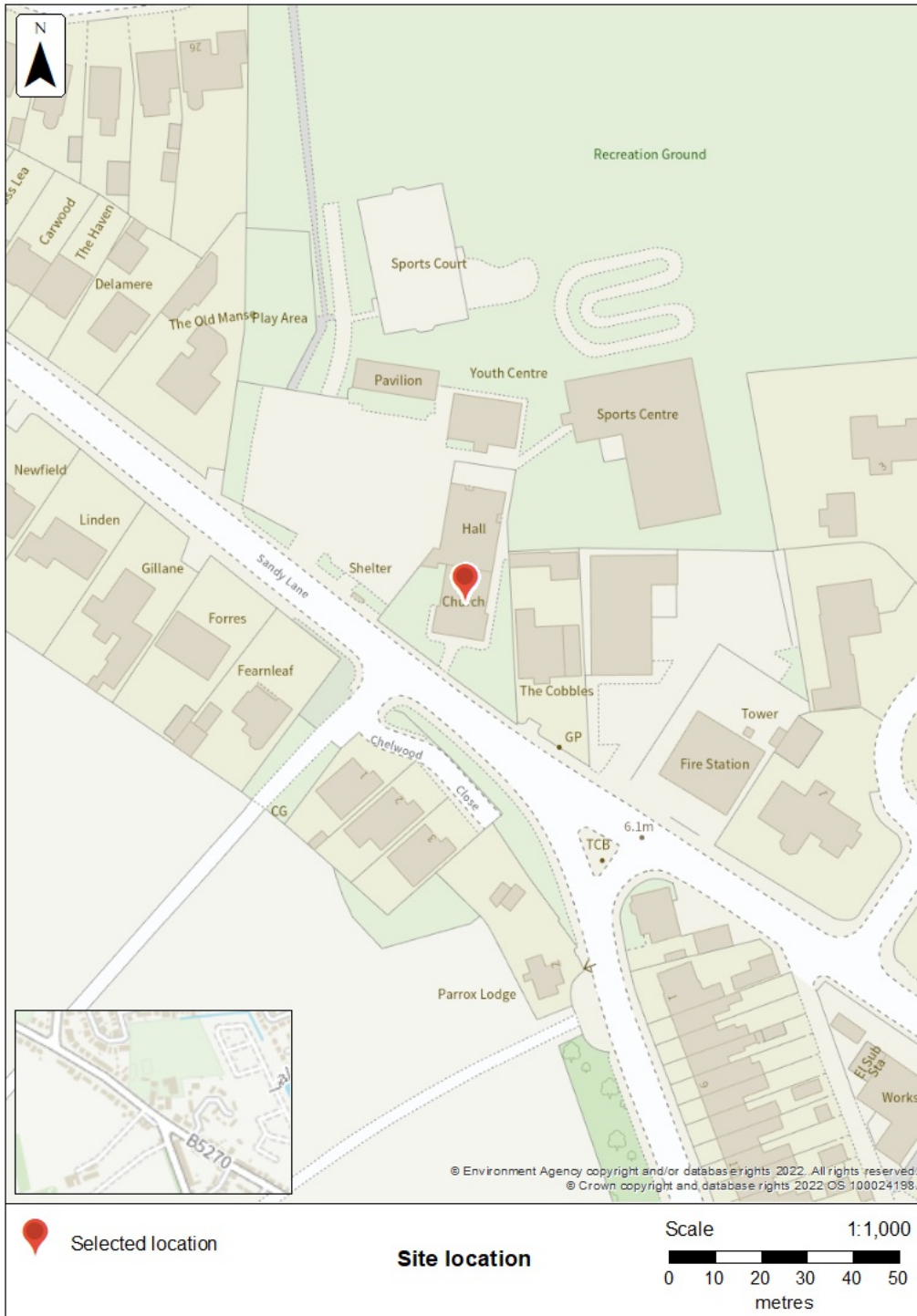
Location of site: 336231 / 448127 (shown as easting and northing coordinates)

Document created on: 14 September 2022

This information was previously known as a product 4.

Customer reference number: WE6PB5J7ABFA

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- areas benefiting from defences
- historic flooding
- flood defences and attributes
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Not included in this document

This document does not include a Flood Defence Breach Hazard Map.

As your location benefits from flood defences, you need to request a Flood Defence Breach Hazard Map and information about the level of flood protection offered at your location from the Cumbria and Lancashire Environment Agency team at inforequests.cmblnc@environment-agency.gov.uk. This information will only be available if modelling has been carried out for breach scenarios.

Include a site location map in your request.

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Lune Estuary_Tidal 2014

Scenario(s): Defended tidal, defences removed tidal, defended climate change tidal, defences removed climate change tidal

Date: 30 July 2014

Model name: Preesall 2018

Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial, defences removed climate change fluvial

Date: 1 April 2018

Model name: Wyre Estuary_Tidal 2014

Scenario(s): Defended tidal, defences removed tidal, defended climate change tidal, defences removed climate change tidal

Date: 30 July 2014

These models contain the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 2.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

This data is updated on a quarterly basis as better data becomes available.

Areas benefiting from defences

This map shows the areas benefiting from defences for 2 possible events:

- fluvial (river flooding) event that has a 1% annual exceedance probability (AEP), this means a 1% chance of occurring in any one year
- tidal or coastal event that has a 0.5% annual exceedance probability (AEP), this means a 0.5% chance of occurring in any one year

[Download the GIS dataset for areas benefiting from defences](#)









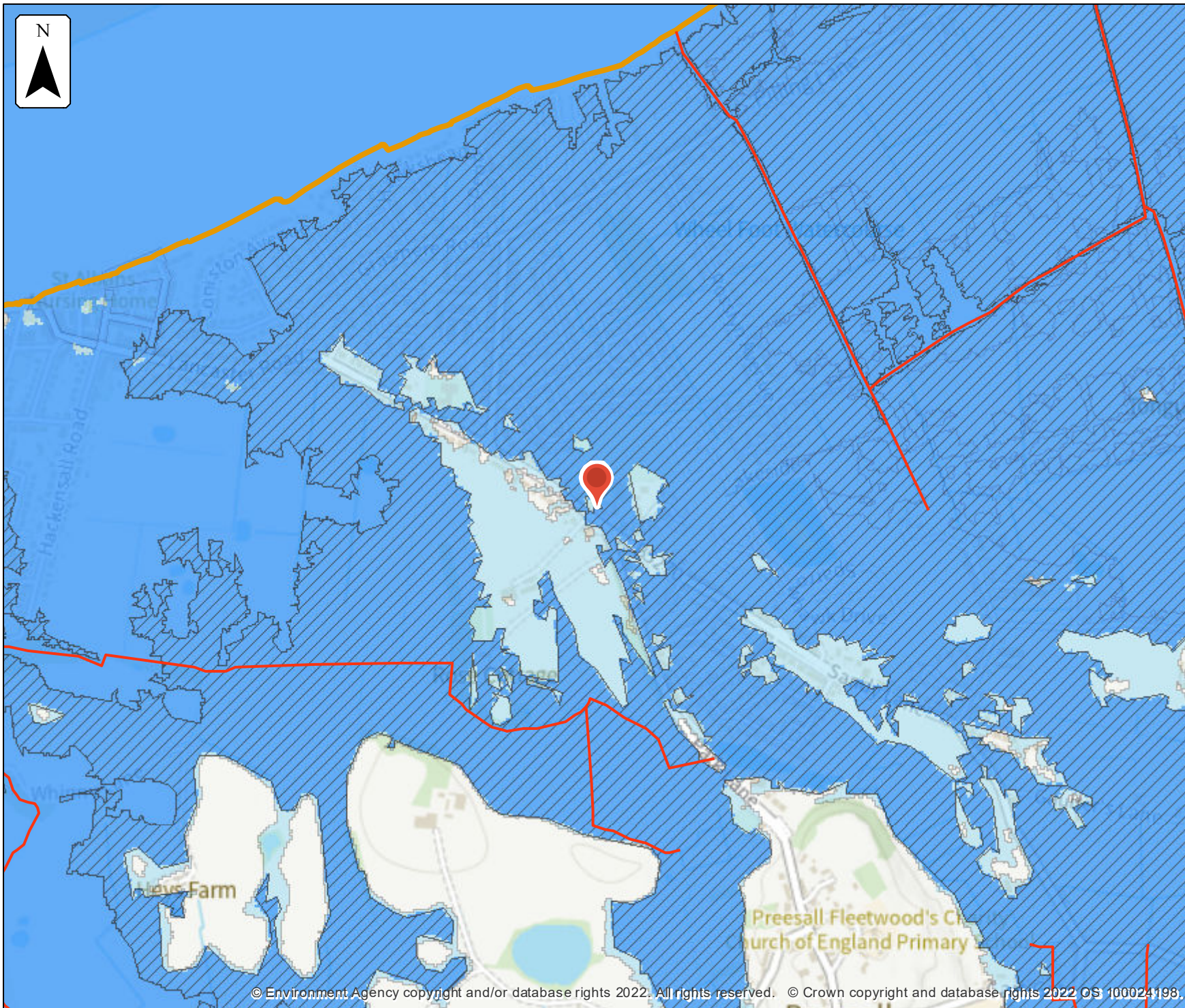
Flood map for planning

Location (easting/northing)
336231/448127

Scale
1:10,000

Created
14 Sep 2022

-  Selected location
-  Main river
-  Flood defence
-  Areas benefiting from flood defence
-  Flood zone 3
-  Flood zone 2



© Environment Agency copyright and/or database rights 2022. All rights reserved. © Crown copyright and database rights 2022 OS 100024198.

Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

[Download recorded flood outlines in GIS format](#)







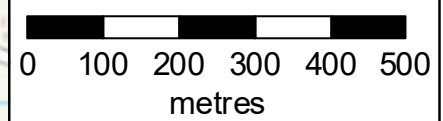
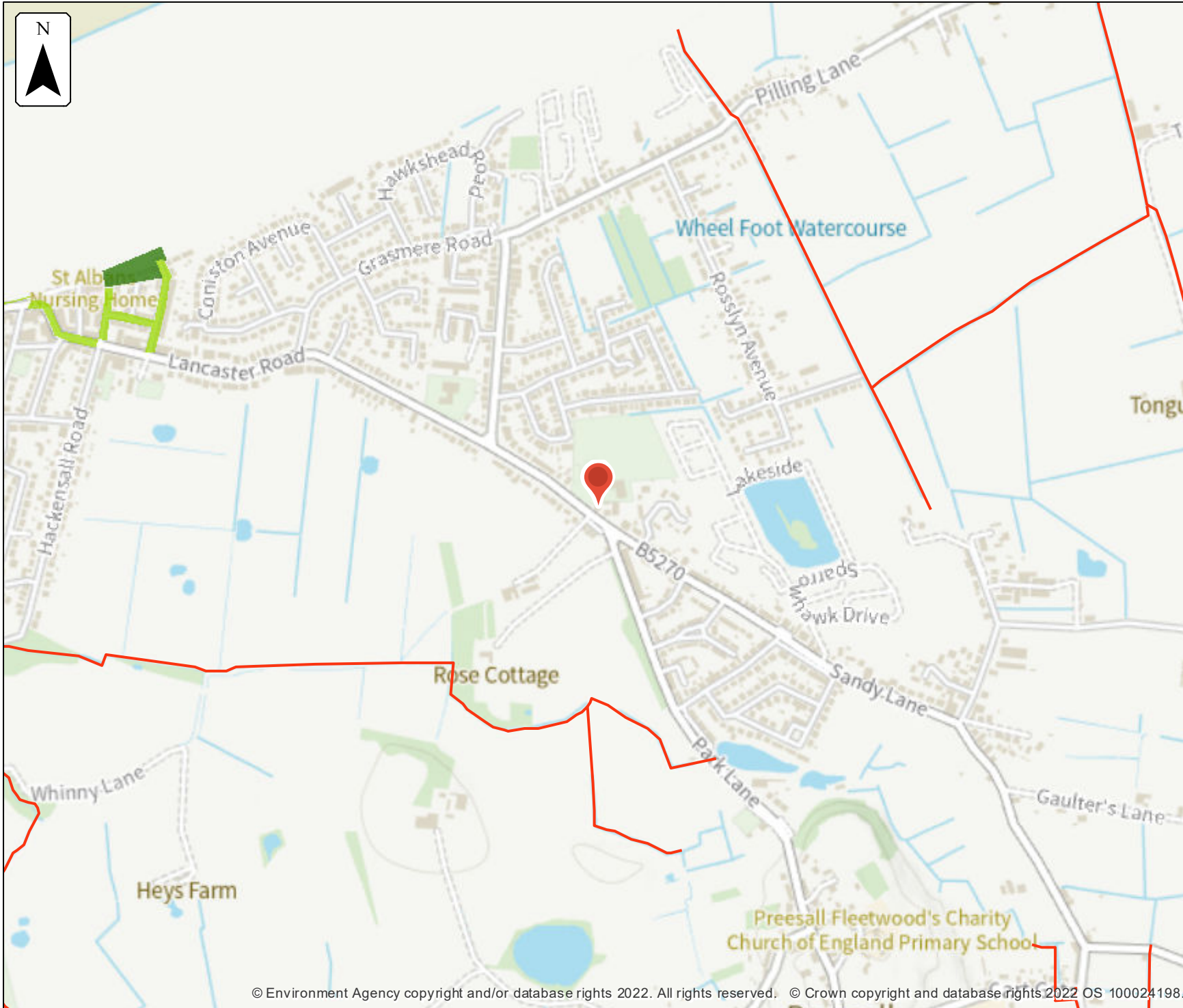
Historic flood map

Location (easting/northing)
336231/448127

Scale
1:10,000

Created
14 Sep 2022

-  Selected location
-  Main river
- Date of flood event
 -  December, 2013
 -  February, 2002



Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
5 December 2013	6 December 2013	sea	operational failure/breach of defence	No
1 February 2002	2 February 2002	other	overtopping of defences	No

Flood defences and attributes

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.






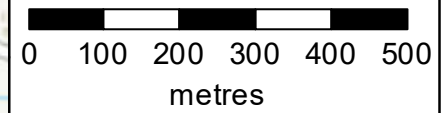
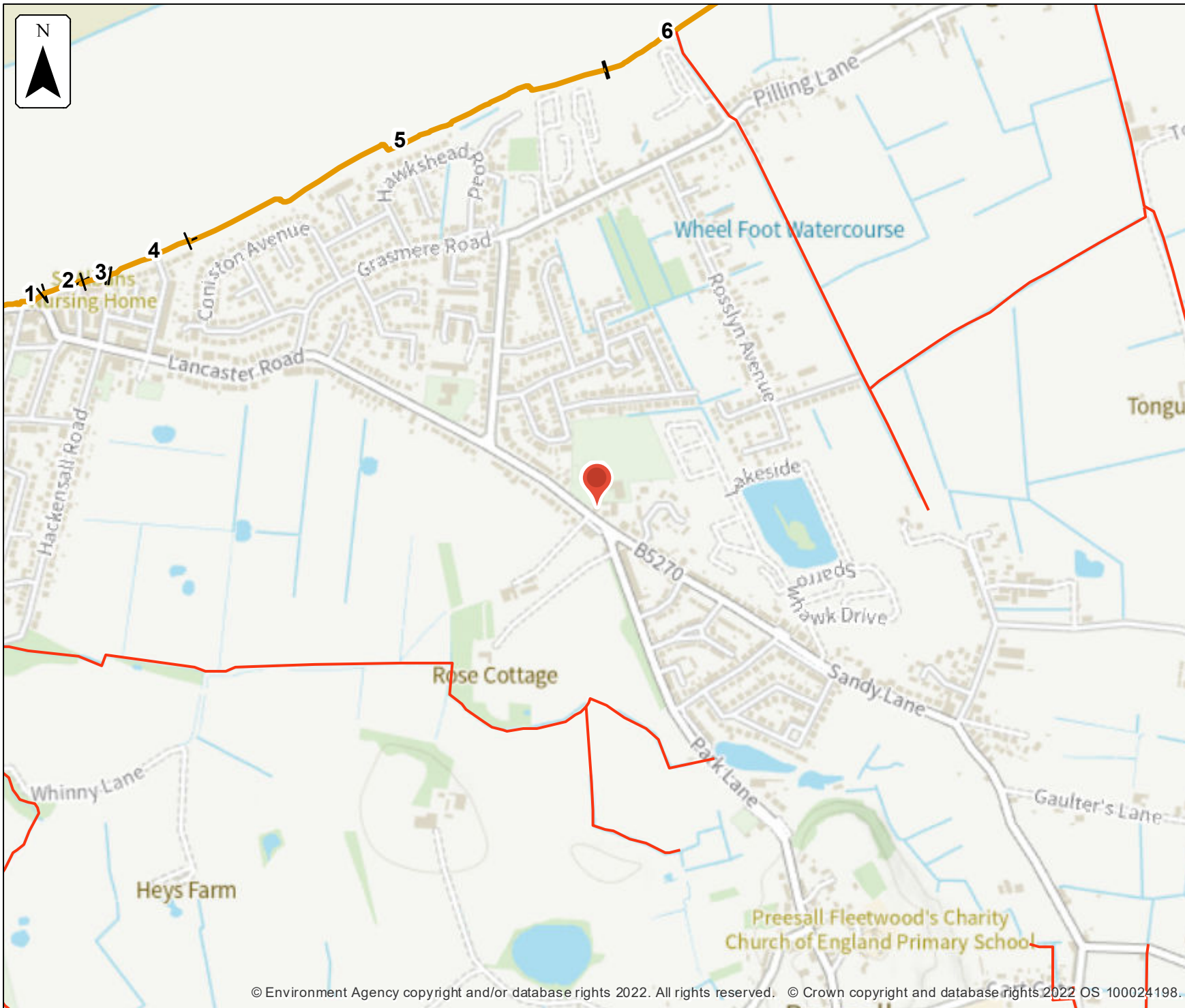
Flood defences

Location (easting/northing)
336231/448127

Scale
1:10,000

Created
14 Sep 2022

-  Selected location
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	69691	Wall	200	Fair			7.40
2	69216	Wall	200	Fair			7.44
3	69692	Wall	200	Fair			7.25
4	89399	Wall	100	Fair			6.98
5	100903	Embankment	200	Fair			7.61
6	138594	Embankment	200	Fair			7.82

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- Defended modelled tidal: risk of flooding from the sea where there are flood defences
- Defences removed modelled tidal: risk of flooding from the sea where flood defences have been removed
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change
- Defended climate change modelled tidal: risk of flooding from the sea where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled tidal: risk of flooding from the sea where flood defences have been removed, including estimated impact of climate change



Defended modelled tidal extent

Location (easting/northing)
336231/448127





Scale Created
1:10,000 14 Sep 2022

Model name
**Lune Estuary Tidal
2014**

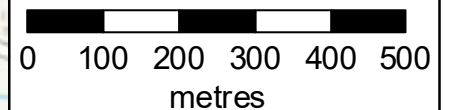
 Selected location

 Main river

Modelled flood extent

-  1.33% AEP
-  1% AEP
-  0.5% AEP
-  0.1% AEP

Flood extents may not be visible where they overlap other return periods





Defences removed modelled tidal extent

Location (easting/northing)
336231/448127

Scale Created
1:10,000 14 Sep 2022

Model name
**Lune Estuary Tidal
2014**

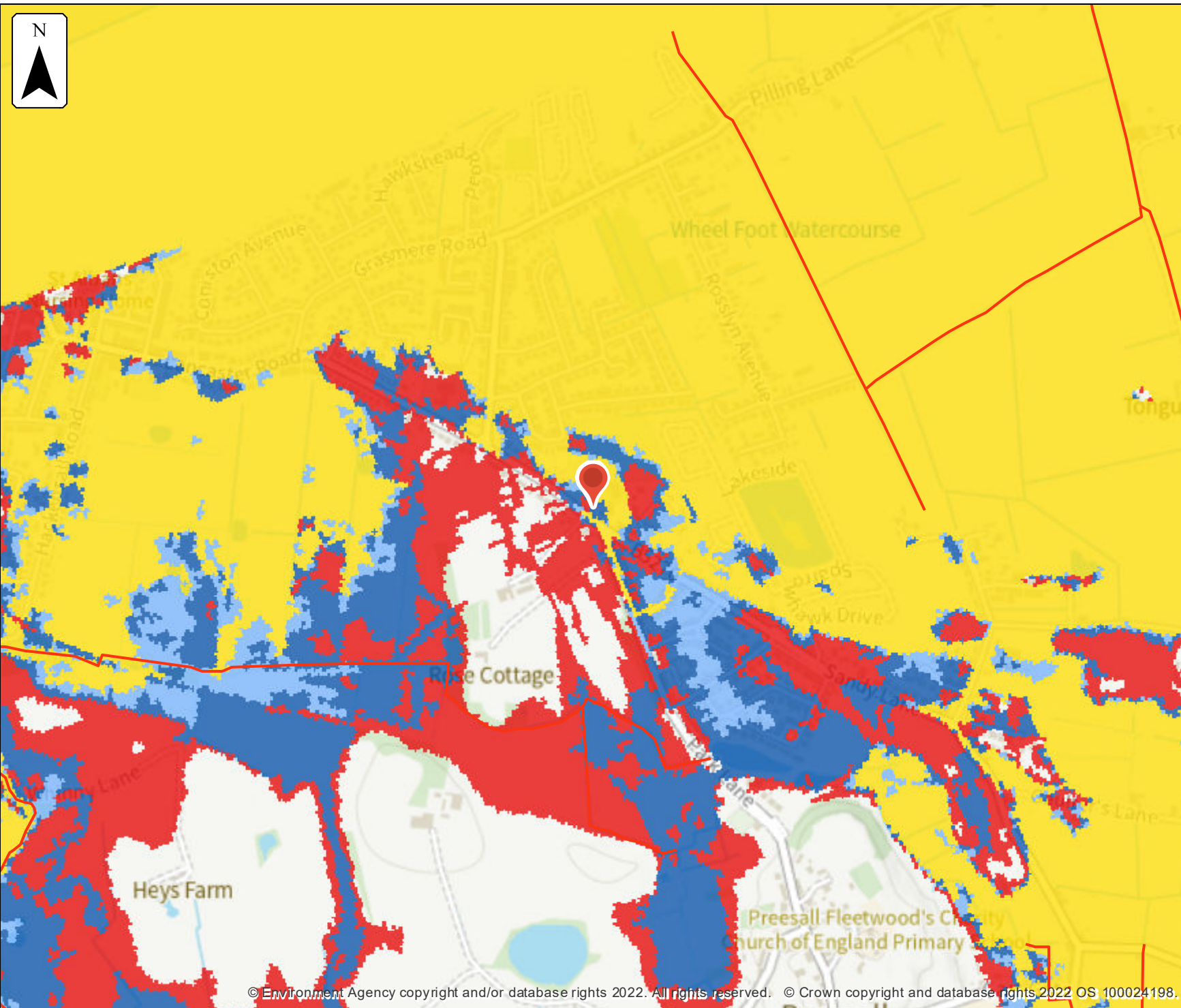
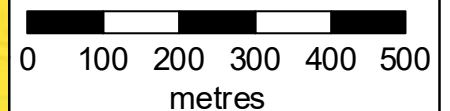
Selected location

Main river

Modelled flood extent

- 1.33% AEP
- 1% AEP
- 0.5% AEP
- 0.1% AEP

Flood extents may not be visible where they overlap other return periods





Defended climate change modelled tidal extent

Location (easting/northing)
336231/448127

Scale Created
1:10,000 14 Sep 2022

Model name
**Lune Estuary Tidal
2014**

 Selected location

 Main river

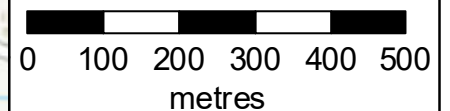
Modelled flood extent

 0.5% AEP (+370mm)

 0.5% AEP (+670mm)

 0.5% AEP (+970mm)

Flood extents may not be visible where they overlap other return periods





Defences removed climate change modelled tidal extent

Location (easting/northing)
336231/448127

Scale Created
1:10,000 14 Sep 2022

Model name
**Lune Estuary Tidal
2014**

Selected location

Main river

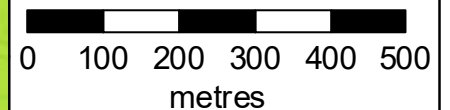
Modelled flood extent

0.5% AEP (+370mm)

0.5% AEP (+670mm)

0.5% AEP (+970mm)

Flood extents may not be visible where they overlap other return periods



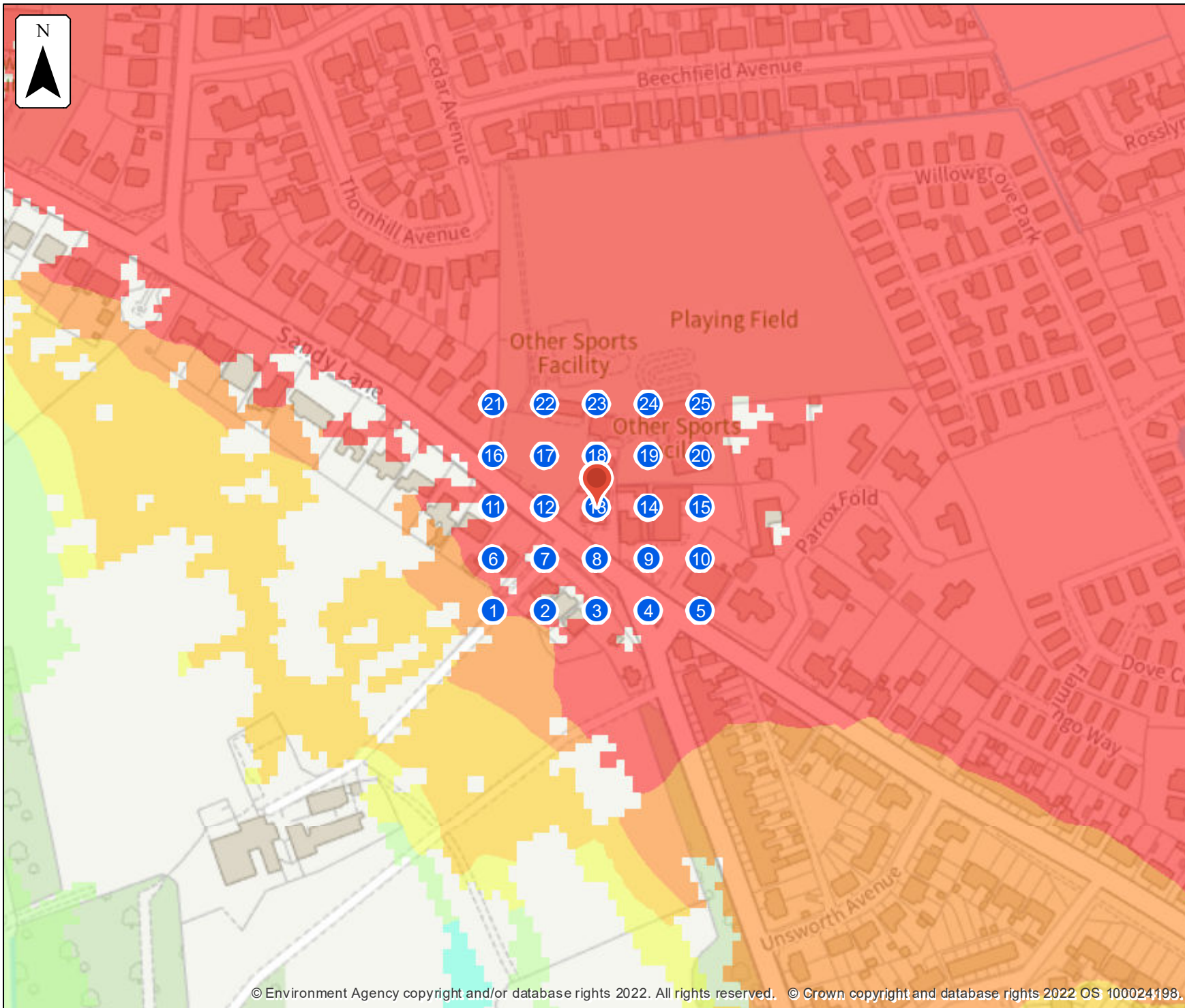


Defences removed modelled tidal extent and height

Location (easting/northing)
336231/448127

Scale Created
1:2,500 21 Sep 2022

Model name
Lune Estuary Tidal 2014



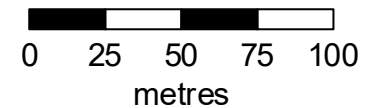
Selected location

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 5.0
- 5.0 - 5.25
- 5.25 - 5.5
- 5.5 - 5.75
- 5.75 - 6.0
- 6.0 - 6.25
- 6.25 - 6.5
- 6.5 - 6.75
- 6.75 - 7.0

This map shows the 0.1% AEP height data



Sample point data

Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	336181	448077					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	336206	448077					NoData	NoData	NoData	NoData	NoData	NoData	0.00	6.78
3	336231	448077					NoData	NoData	NoData	NoData	NoData	NoData	0.08	6.81
4	336256	448077					0.16	6.22	0.25	6.32	0.44	6.50	0.75	6.81
5	336281	448077					NoData	NoData	0.13	6.32	0.27	6.50	0.58	6.81
6	336181	448102					NoData	NoData	NoData	NoData	NoData	NoData	0.15	6.85
7	336206	448102					NoData	NoData	0.01	6.32	0.06	6.50	0.36	6.83
8	336231	448102					0.12	6.22	0.21	6.32	0.38	6.50	0.70	6.82
9	336256	448102					NoData	NoData	NoData	NoData	0.13	6.50	0.45	6.82
10	336281	448102					0.16	6.22	0.26	6.32	0.45	6.50	0.77	6.82
11	336181	448127					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
12	336206	448127					NoData	NoData	0.08	6.32	0.20	6.50	0.50	6.84
13	336231	448127					NoData	NoData	NoData	NoData	NoData	NoData	0.26	6.83
14	336256	448127					NoData	NoData	NoData	NoData	0.23	6.51	0.55	6.83
15	336281	448127					0.31	6.22	0.40	6.32	0.59	6.51	0.91	6.82
16	336181	448152					NoData	NoData	NoData	NoData	0.04	6.51	0.38	6.85

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	336206	448152					NoData	NoData	NoData	NoData	0.10	6.52	0.44	6.85
18	336231	448152					NoData	NoData	NoData	NoData	0.11	6.52	0.44	6.85
19	336256	448152					0.27	6.23	0.36	6.32	0.55	6.51	0.88	6.84
20	336281	448152					0.22	6.23	0.31	6.32	0.50	6.51	0.82	6.83
21	336181	448177					NoData	NoData	0.11	6.36	0.28	6.53	0.61	6.86
22	336206	448177					0.05	6.28	0.10	6.35	0.27	6.52	0.61	6.86
23	336231	448177					0.10	6.27	0.16	6.33	0.35	6.52	0.69	6.86
24	336256	448177					0.24	6.25	0.31	6.32	0.51	6.52	0.84	6.85
25	336281	448177					0.16	6.23	0.24	6.32	0.43	6.51	0.76	6.84

Data in this table comes from the Lune Estuary Tidal 2014 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Defences removed climate change modelled tidal extent and height

Location (easting/northing)
336231/448127

Scale Created
1:2,500 21 Sep 2022

Model name
**Lune Estuary Tidal
2014**

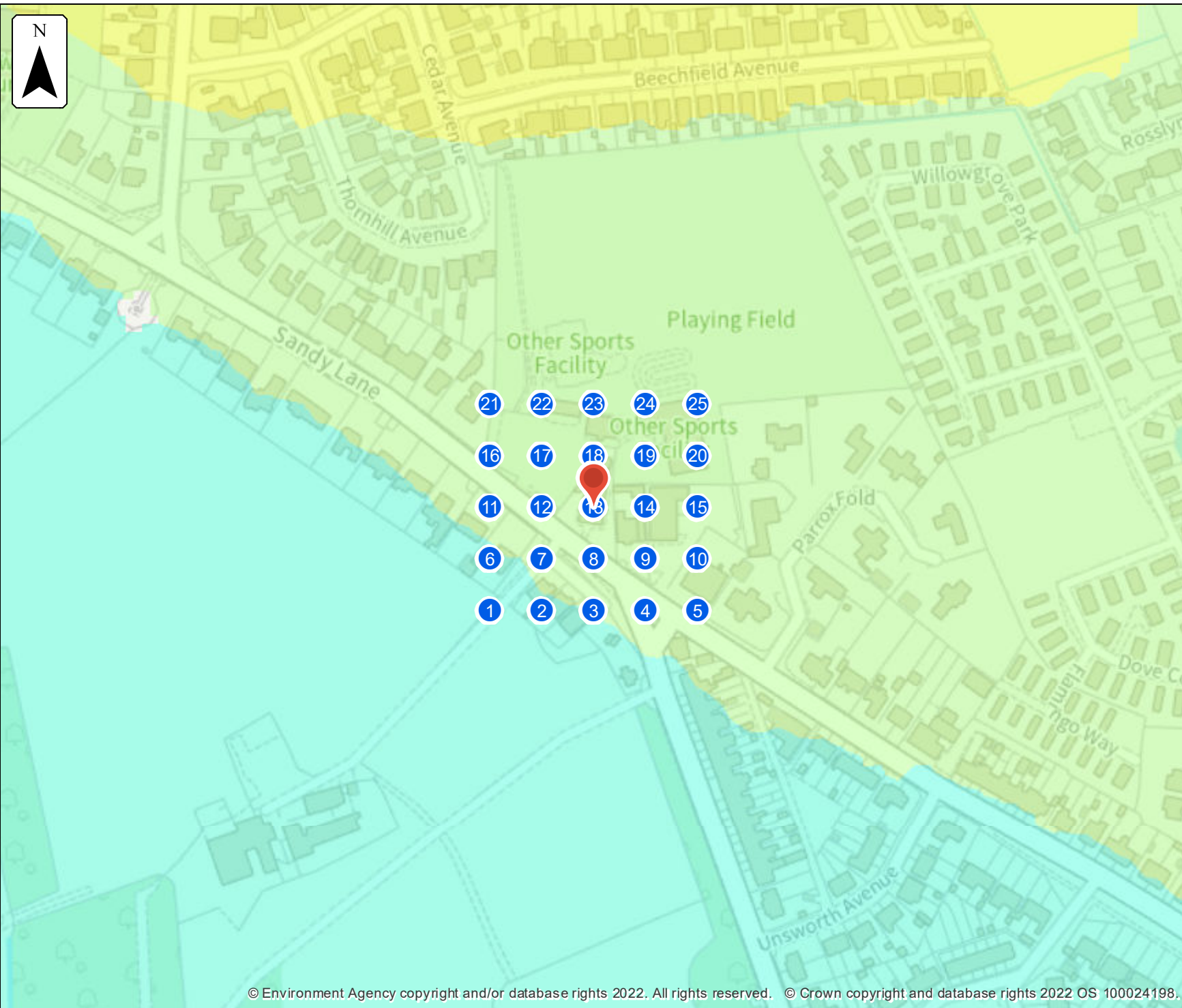
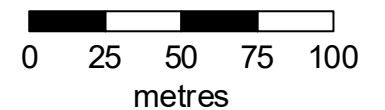
Selected location

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 7.0
- 7.0 - 7.125
- 7.125 - 7.25
- 7.25 - 7.375
- 7.375 - 7.5
- 7.5 - 7.625
- 7.625 - 7.75
- 7.75 - 7.875
- 7.875 - 8.0

This map shows the
0.5% AEP +970mm height data



Sample point data

Defences removed climate change

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
1	336181	448077	0.15	6.79	0.30	6.97	0.69	7.34
2	336206	448077	0.08	6.86	0.22	7.04	0.57	7.35
3	336231	448077	0.13	6.88	0.38	7.12	0.63	7.38
4	336256	448077	0.84	6.89	1.09	7.15	1.35	7.40
5	336281	448077	0.65	6.89	0.92	7.15	1.16	7.40
6	336181	448102	0.21	6.90	0.40	7.10	0.67	7.36
7	336206	448102	0.44	6.90	0.69	7.16	0.94	7.40
8	336231	448102	0.82	6.90	1.04	7.17	1.33	7.40
9	336256	448102	0.59	6.90	0.79	7.16	1.10	7.40
10	336281	448102	0.83	6.90	1.12	7.18	1.35	7.41
11	336181	448127	NoData	NoData	0.40	7.20	0.59	7.42
12	336206	448127	0.68	6.92	0.85	7.19	1.18	7.41
13	336231	448127	0.35	6.91	0.61	7.18	0.85	7.41
14	336256	448127	0.75	6.91	0.90	7.18	1.26	7.42
15	336281	448127	1.00	6.90	1.26	7.18	1.51	7.42
16	336181	448152	0.48	6.94	0.74	7.22	0.98	7.43

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
17	336206	448152	0.55	6.94	0.80	7.22	1.05	7.44
18	336231	448152	0.56	6.93	0.81	7.21	1.06	7.44
19	336256	448152	1.02	6.92	1.24	7.20	1.53	7.43
20	336281	448152	0.90	6.91	1.19	7.20	1.42	7.43
21	336181	448177	0.72	6.95	0.98	7.23	1.22	7.45
22	336206	448177	0.77	6.95	0.98	7.23	1.28	7.45
23	336231	448177	0.82	6.94	1.06	7.23	1.34	7.46
24	336256	448177	0.86	6.94	1.21	7.23	1.38	7.45
25	336281	448177	0.75	6.93	1.14	7.22	1.27	7.45

Data in this table comes from the Lune Estuary Tidal 2014 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Defended modelled tidal extent

Location (easting/northing)
336231/448127

Scale Created
1:10,000 14 Sep 2022

Model name
Wyre Estuary Tidal 2014

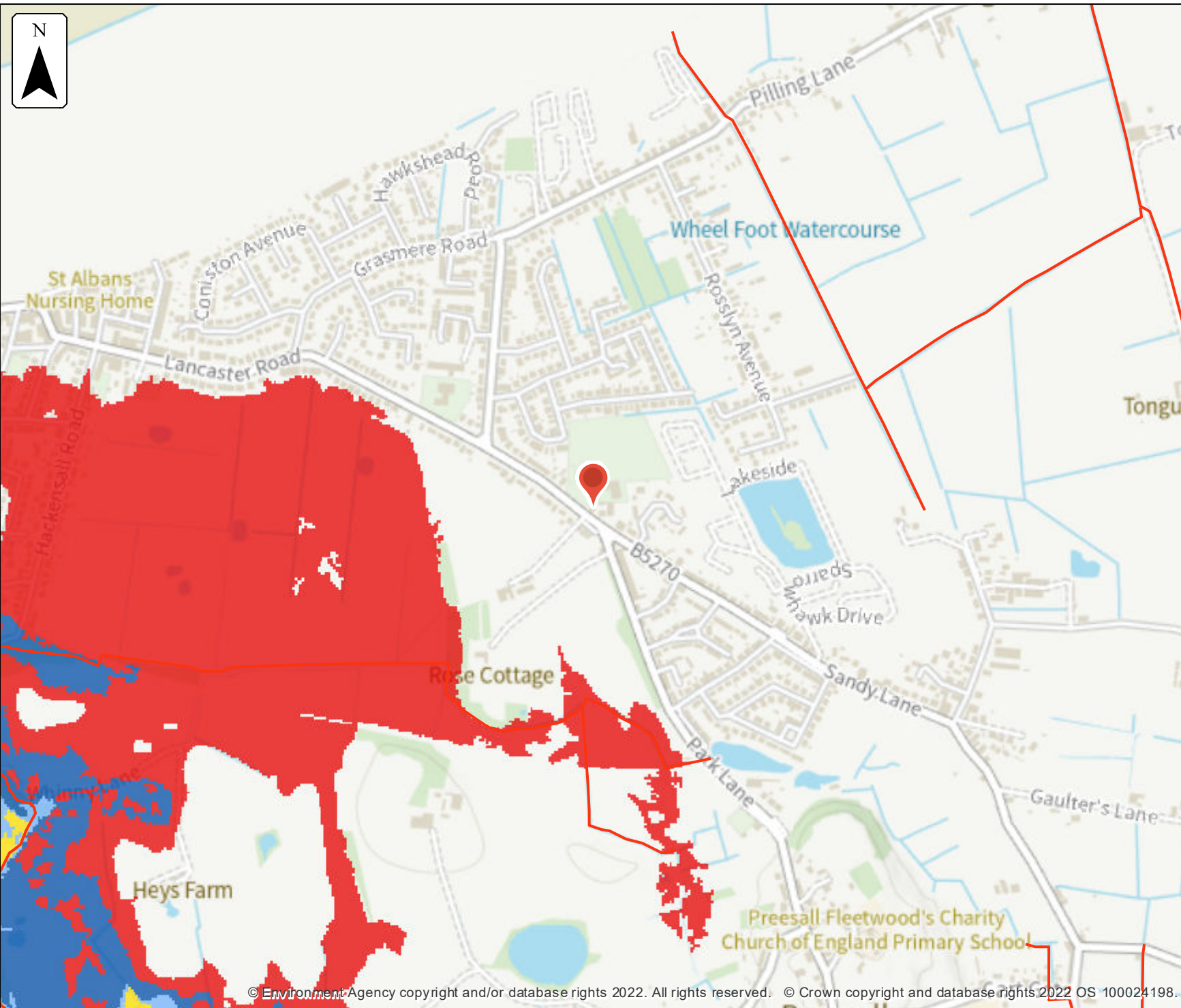
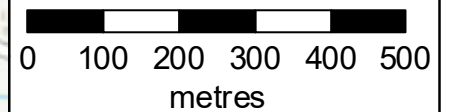
Selected location

Main river

Modelled flood extent

- 1.33% AEP
- 1% AEP
- 0.5% AEP
- 0.1% AEP

Flood extents may not be visible where they overlap other return periods





Defences removed modelled tidal extent

Location (easting/northing)
336231/448127

Scale Created
1:10,000 14 Sep 2022

Model name
**Wyre Estuary Tidal
2014**

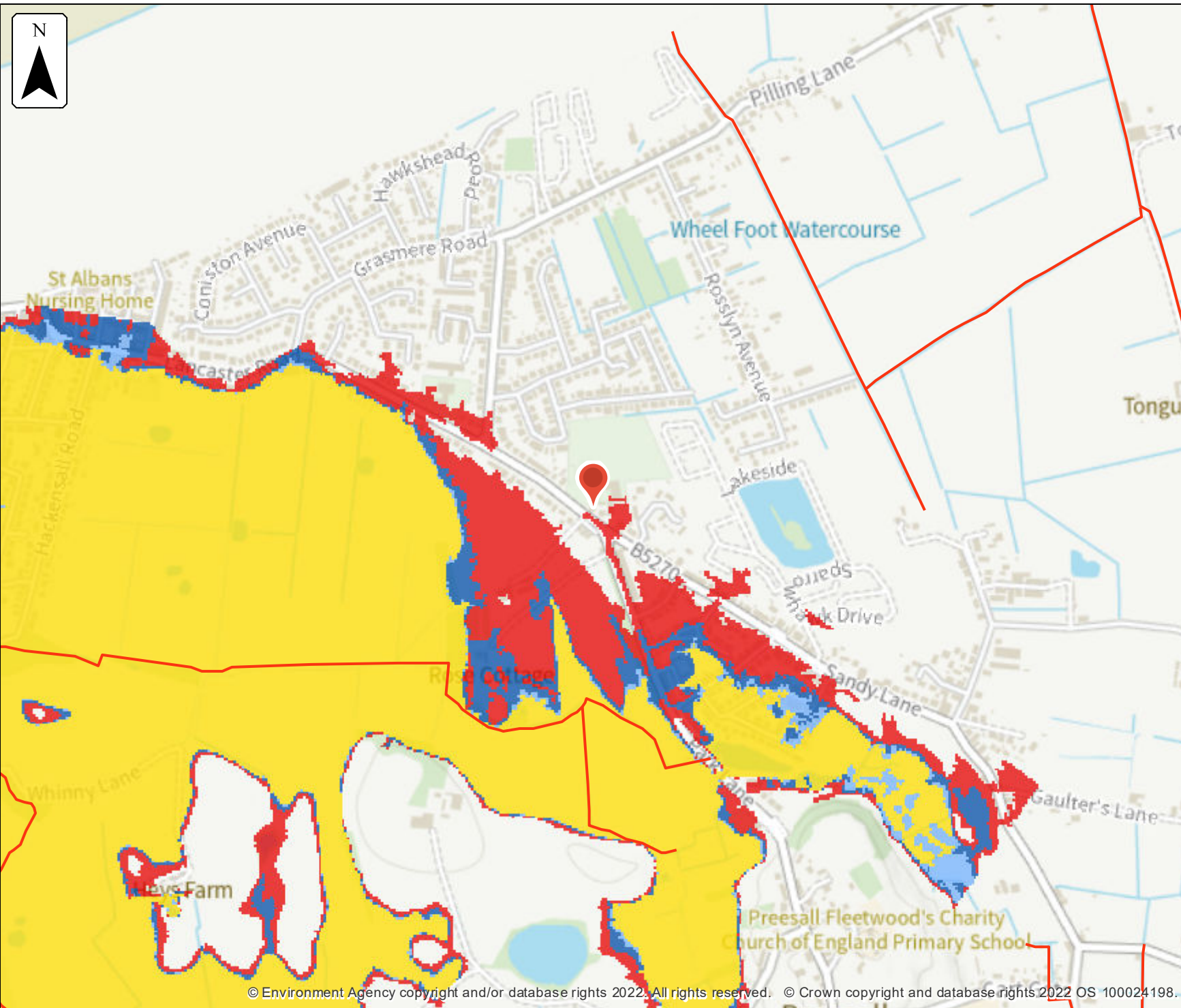
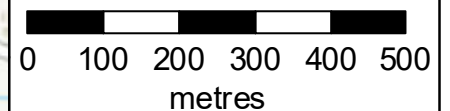
Selected location

Main river

Modelled flood extent

- 1.33% AEP
- 1% AEP
- 0.5% AEP
- 0.1% AEP

Flood extents may not be visible where they overlap other return periods





Defended climate change modelled tidal extent

Location (easting/northing)
336231/448127

Scale Created
1:10,000 14 Sep 2022

Model name
Wyre Estuary Tidal 2014

Selected location

Main river

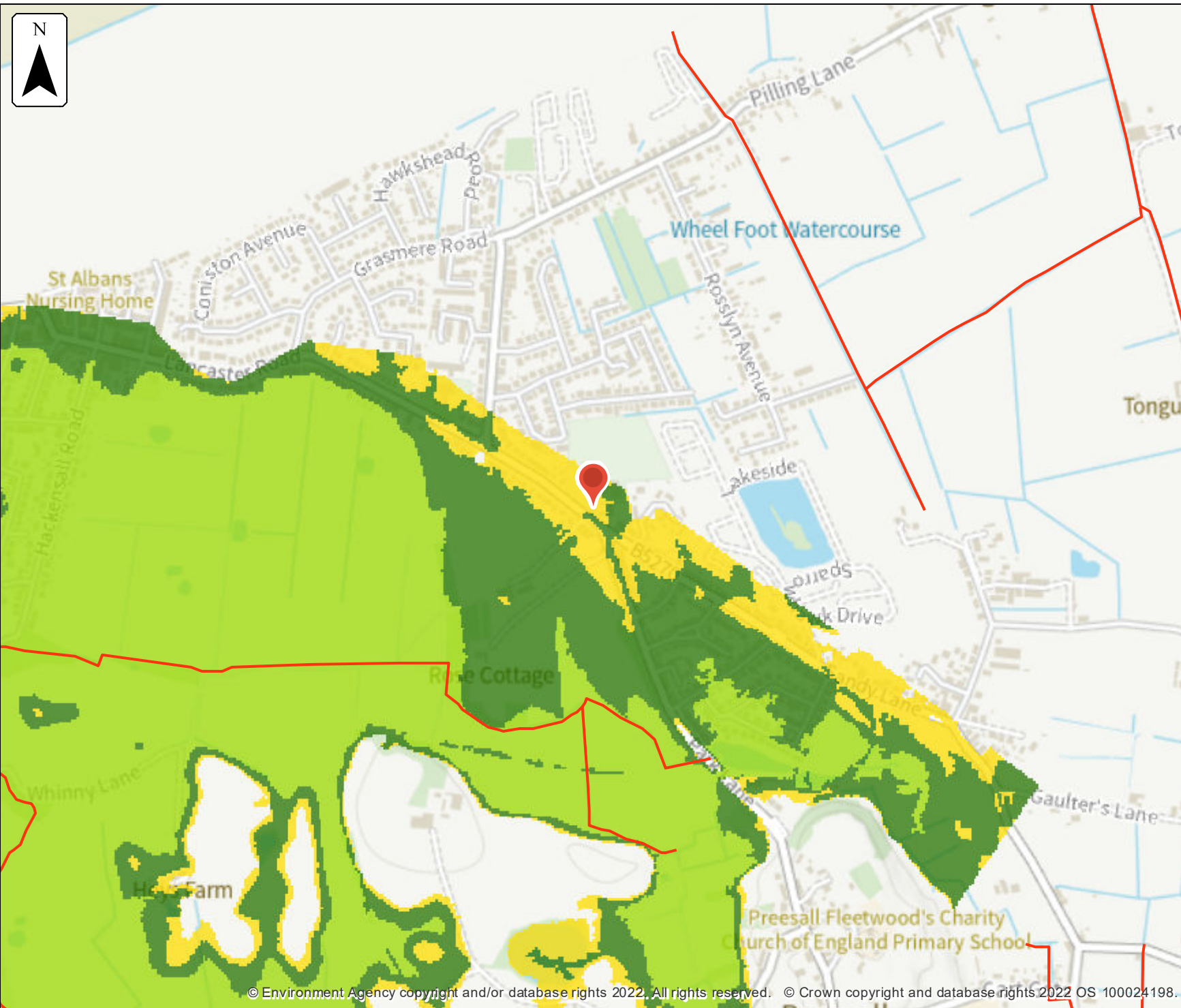
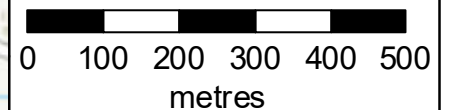
Modelled flood extent

0.5% AEP (+370mm)

0.5% AEP (+670mm)

0.5% AEP (+970mm)

Flood extents may not be visible where they overlap other return periods





Defences removed climate change modelled tidal extent

Location (easting/northing)
336231/448127

Scale Created
1:10,000 14 Sep 2022

Model name
**Wyre Estuary Tidal
2014**

Selected location

Main river

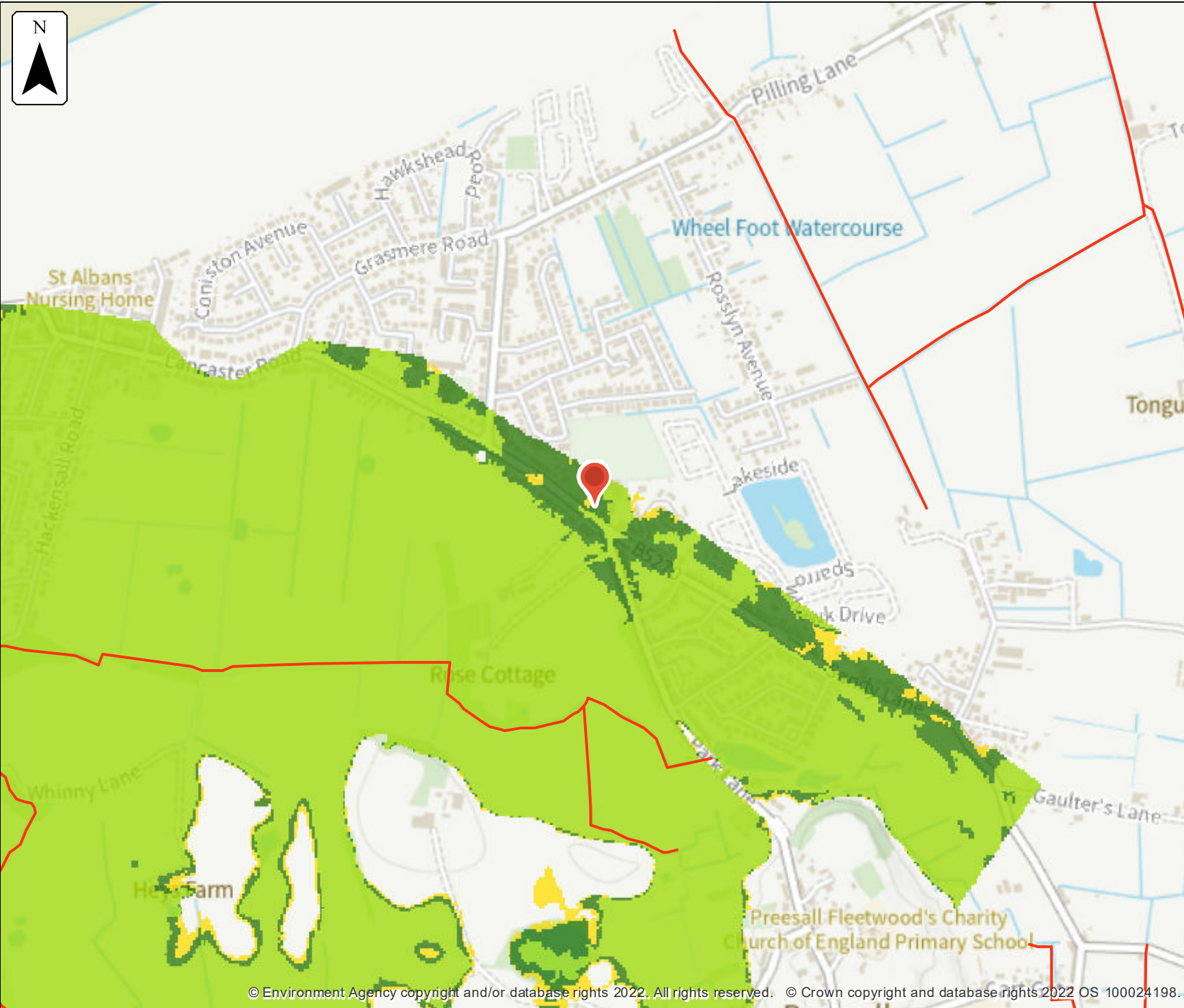
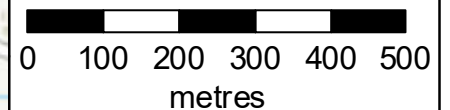
Modelled flood extent

0.5% AEP (+370mm)

0.5% AEP (+670mm)

0.5% AEP (+970mm)

Flood extents may not be visible where they overlap other return periods





Defences removed modelled tidal extent and height

Location (easting/northing)
336231/448127

Scale Created
1:2,500 14 Sep 2022

Model name
Wyre Estuary Tidal 2014

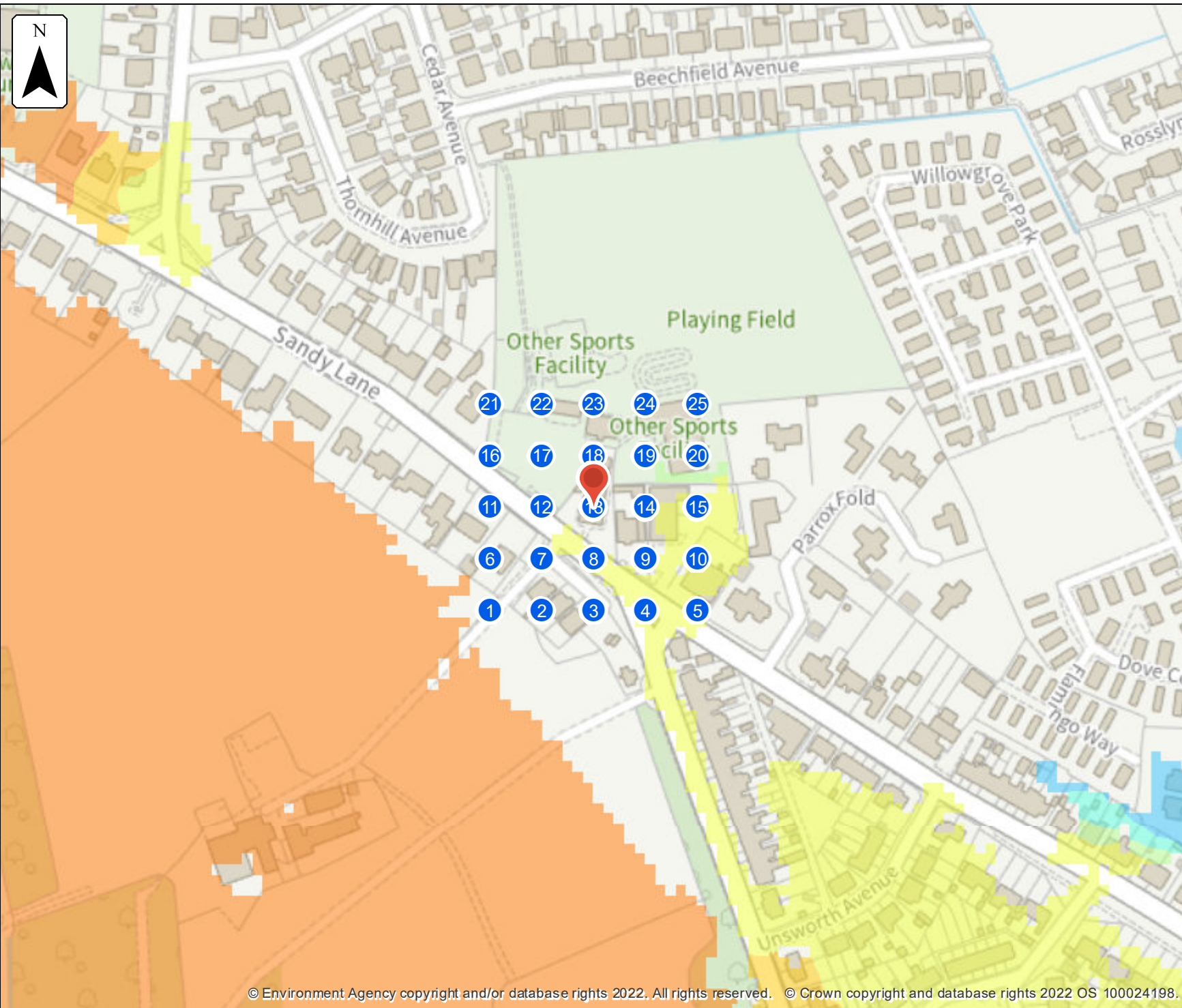
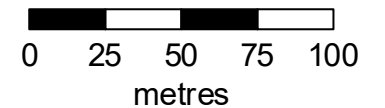
Selected location

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 5.0
- 5.0 - 5.25
- 5.25 - 5.5
- 5.5 - 5.75
- 5.75 - 6.0
- 6.0 - 6.25
- 6.25 - 6.5
- 6.5 - 6.75
- 6.75 - 7.0

This map shows the 0.1% AEP height data



Sample point data

Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	336181	448077					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	336206	448077					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	336231	448077					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	336256	448077					NoData	NoData	NoData	NoData	NoData	NoData	0.14	6.19
5	336281	448077					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	336181	448102					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	336206	448102					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	336231	448102					NoData	NoData	NoData	NoData	NoData	NoData	0.08	6.19
9	336256	448102					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	336281	448102					NoData	NoData	NoData	NoData	NoData	NoData	0.06	6.11
11	336181	448127					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
12	336206	448127					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	336231	448127					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	336256	448127					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	336281	448127					NoData	NoData	NoData	NoData	NoData	NoData	0.18	6.11
16	336181	448152					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	336206	448152					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	336231	448152					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	336256	448152					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	336281	448152					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	336181	448177					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	336206	448177					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	336231	448177					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	336256	448177					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
25	336281	448177					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Wyre Estuary Tidal 2014 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Defended climate change modelled tidal extent and height

Location (easting/northing)
336231/448127

Scale Created
1:2,500 14 Sep 2022

Model name
Wyre Estuary Tidal 2014

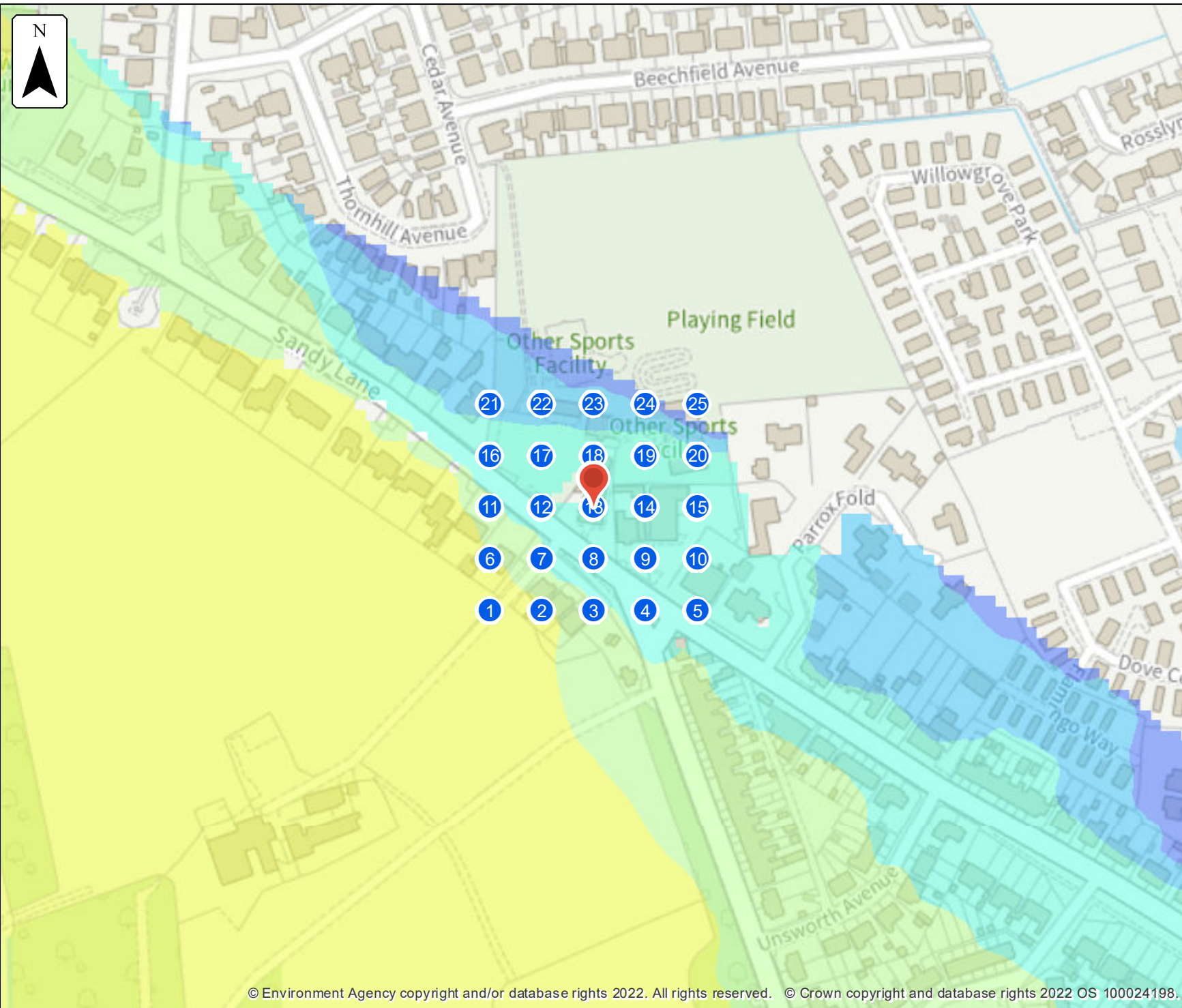
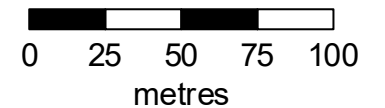
Selected location

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 6.0
- 6.0 - 6.25
- 6.25 - 6.5
- 6.5 - 6.75
- 6.75 - 7.0
- 7.0 - 7.25
- 7.25 - 7.5
- 7.5 - 7.75
- 7.75 - 8.0

This map shows the 0.5% AEP +970mm height data



Sample point data

Defended climate change

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
1	336181	448077	NoData	NoData	NoData	NoData	0.32	7.06
2	336206	448077	NoData	NoData	NoData	NoData	0.21	7.02
3	336231	448077	NoData	NoData	NoData	NoData	0.11	6.82
4	336256	448077	NoData	NoData	0.16	6.22	0.63	6.68
5	336281	448077	NoData	NoData	NoData	NoData	0.42	6.68
6	336181	448102	NoData	NoData	NoData	NoData	0.35	7.00
7	336206	448102	NoData	NoData	NoData	NoData	0.28	6.74
8	336231	448102	NoData	NoData	0.11	6.22	0.57	6.69
9	336256	448102	NoData	NoData	NoData	NoData	0.30	6.63
10	336281	448102	NoData	NoData	0.14	6.20	0.56	6.61
11	336181	448127	NoData	NoData	NoData	NoData	0.03	6.85
12	336206	448127	NoData	NoData	NoData	NoData	0.34	6.69
13	336231	448127	NoData	NoData	NoData	NoData	0.12	6.67
14	336256	448127	NoData	NoData	0.07	6.20	0.36	6.58
15	336281	448127	NoData	NoData	0.27	6.20	0.68	6.61
16	336181	448152	NoData	NoData	NoData	NoData	0.17	6.64

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
17	336206	448152	NoData	NoData	NoData	NoData	0.15	6.56
18	336231	448152	NoData	NoData	NoData	NoData	0.13	6.52
19	336256	448152	NoData	NoData	0.20	6.09	0.66	6.54
20	336281	448152	NoData	NoData	0.07	6.09	0.52	6.54
21	336181	448177	NoData	NoData	NoData	NoData	0.11	6.36
22	336206	448177	NoData	NoData	NoData	NoData	0.19	6.35
23	336231	448177	NoData	NoData	NoData	NoData	0.19	6.29
24	336256	448177	NoData	NoData	NoData	NoData	0.10	6.18
25	336281	448177	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Wyre Estuary Tidal 2014 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Defences removed climate change modelled tidal extent and height

Location (easting/northing)
336231/448127

Scale Created
1:2,500 14 Sep 2022

Model name
**Wyre Estuary Tidal
2014**

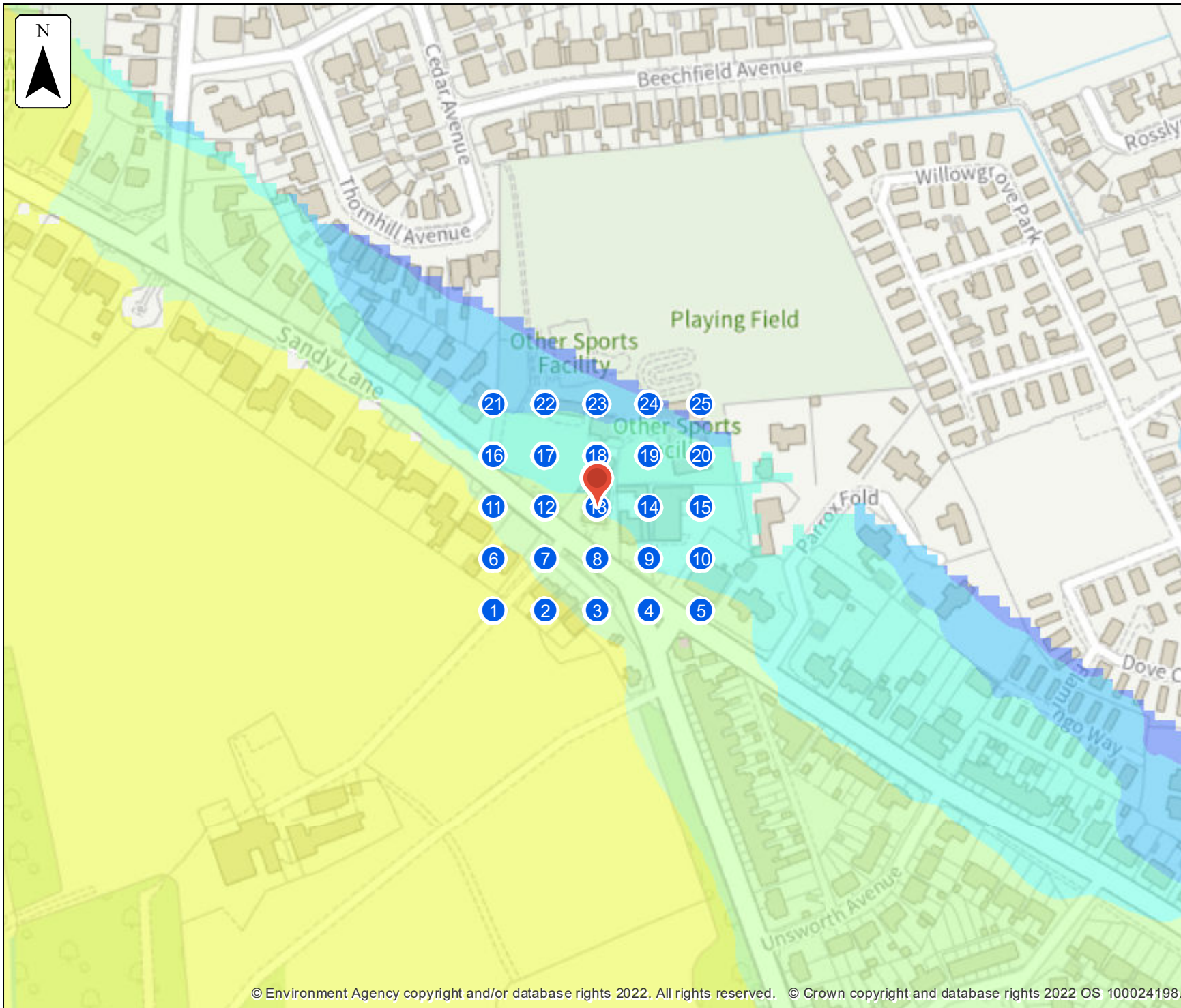
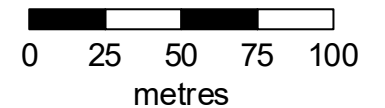
Selected location

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 6.0
- 6.0 - 6.25
- 6.25 - 6.5
- 6.5 - 6.75
- 6.75 - 7.0
- 7.0 - 7.25
- 7.25 - 7.5
- 7.5 - 8.0

This map shows the
0.5% AEP +970mm height data



Sample point data

Defences removed climate change

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
1	336181	448077	NoData	NoData	0.26	7.00	0.41	7.15
2	336206	448077	NoData	NoData	0.16	6.97	0.30	7.11
3	336231	448077	NoData	NoData	0.05	6.76	0.16	6.87
4	336256	448077	0.21	6.26	0.56	6.61	0.72	6.78
5	336281	448077	NoData	NoData	0.35	6.60	0.52	6.77
6	336181	448102	NoData	NoData	0.29	6.94	0.44	7.08
7	336206	448102	NoData	NoData	0.22	6.68	0.35	6.81
8	336231	448102	0.15	6.26	0.50	6.61	0.67	6.79
9	336256	448102	NoData	NoData	0.22	6.56	0.39	6.73
10	336281	448102	0.18	6.23	0.48	6.54	0.65	6.70
11	336181	448127	NoData	NoData	NoData	NoData	0.06	6.90
12	336206	448127	NoData	NoData	0.28	6.63	0.43	6.79
13	336231	448127	NoData	NoData	0.06	6.61	0.21	6.76
14	336256	448127	0.09	6.23	0.29	6.51	0.44	6.66
15	336281	448127	0.31	6.23	0.61	6.54	0.77	6.70
16	336181	448152	NoData	NoData	0.11	6.58	0.25	6.71

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
17	336206	448152	NoData	NoData	0.09	6.49	0.23	6.63
18	336231	448152	NoData	NoData	0.07	6.46	0.21	6.61
19	336256	448152	0.27	6.16	0.59	6.48	0.74	6.62
20	336281	448152	0.14	6.16	0.46	6.48	0.60	6.62
21	336181	448177	NoData	NoData	0.05	6.31	0.18	6.43
22	336206	448177	NoData	NoData	0.14	6.29	0.26	6.42
23	336231	448177	0.01	6.09	0.14	6.25	0.24	6.35
24	336256	448177	0.02	6.10	0.09	6.17	0.17	6.25
25	336281	448177	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Wyre Estuary Tidal 2014 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Cumbria and Lancashire Environment Agency team at inforequests.cmblnc@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for