

Insch Flood Study

Public Meeting - 25 February 2019

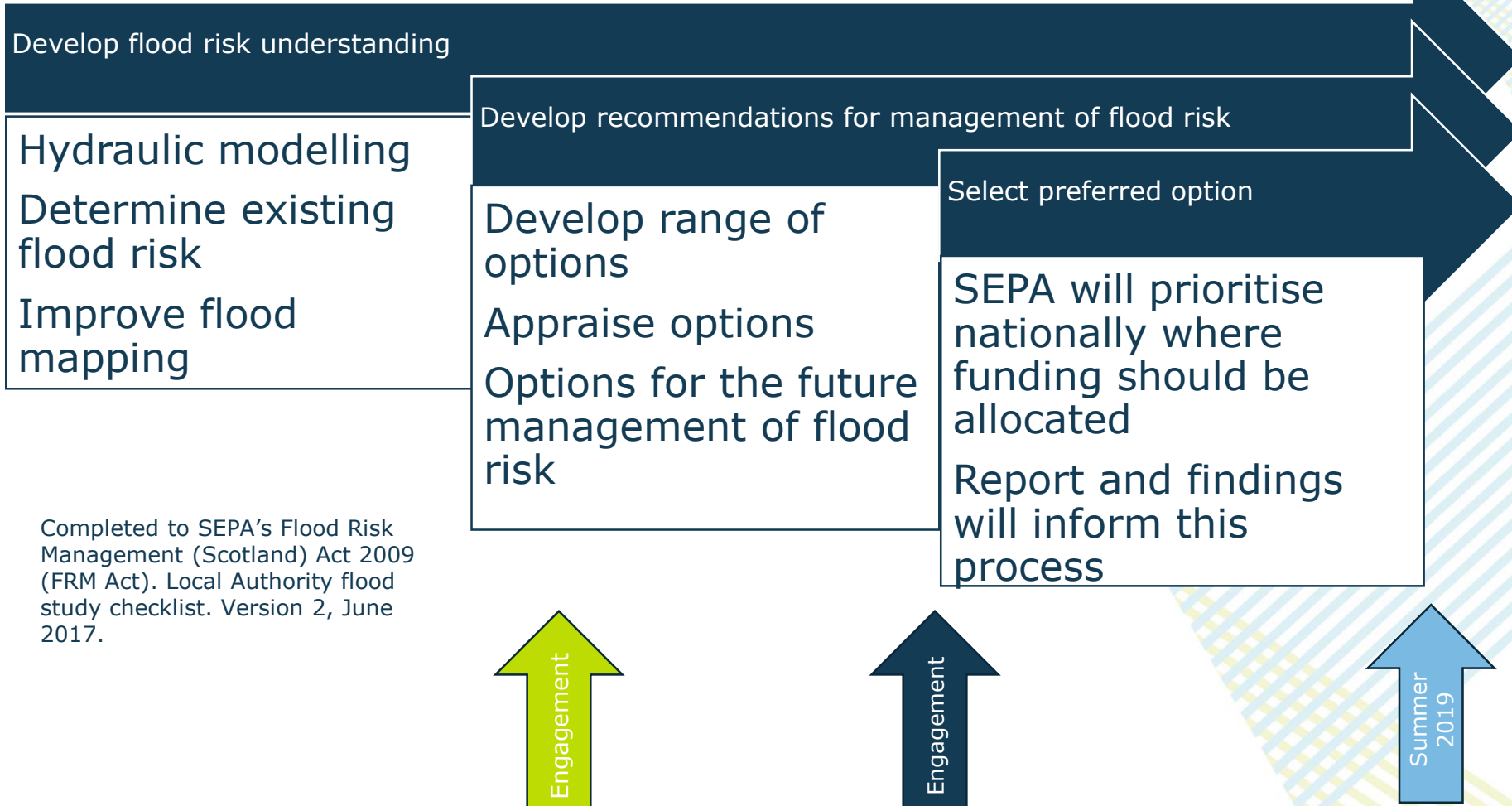
Caroline Anderton (JBA Consulting)

Scott McPhail (Dougal Baillie Associates)

Aim of this evening

- This is the first of two public consultations for the Insch Study.
 - This is a presentation of the study to date.
 - These are not the final results.
 - The data derived for the study to date is used to appraise flood management options.
 - Your inputs are invaluable into verifying the model results before appraisal of management options is completed.
 - The second consultation will be in late Spring 2019 and will be a presentation of the options appraisal process. So that your opinions and ideas will be used to finalise the appraisal.
-

Study objectives



What has been done so far?



Flood review



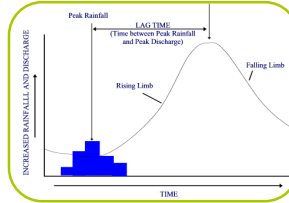
Topographic survey



Asset inspections



Environmental Surveys



Hydrology



Modelling



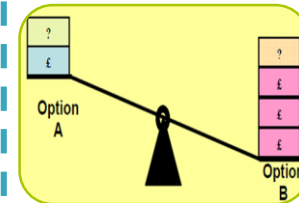
Flood mapping



Properties at risk

Options	Costs	Benefits
Option A	£100,000	£200,000
Option B	£150,000	£250,000
Option C	£200,000	£300,000
Option D	£250,000	£350,000

Options appraisal



Cost-benefit

Now underway

Developing understanding of flood risk

1864
Overtopping of Shevock Burn, resulting in flooding.

1879
Railway line flooded from a burn in Inch.

1930
Overtopping of Shevock Burn resulting in minor damage.

Nov 2002
Highest impact flood on record. A nursing home, with 41 elderly residents, had to be evacuated due to flooding of the Shevock Burn. There was 3ft of water surrounding the property. Residential properties were also effected.

2007
"....firefighters had to pump away flood water threatening a nursing home, which has 39 residents, at Inch.

2008
B9002 flooded due to surface water flooding.

1903
Overtopping of Shevock Burn resulting in minor damage.

1995
Anecdotal evidence of flooding to a nursing home in Inch.

Dec 2015/Jan 2016
26 properties damages as a result of flooding events in December 2015. Rail travel was disrupted.

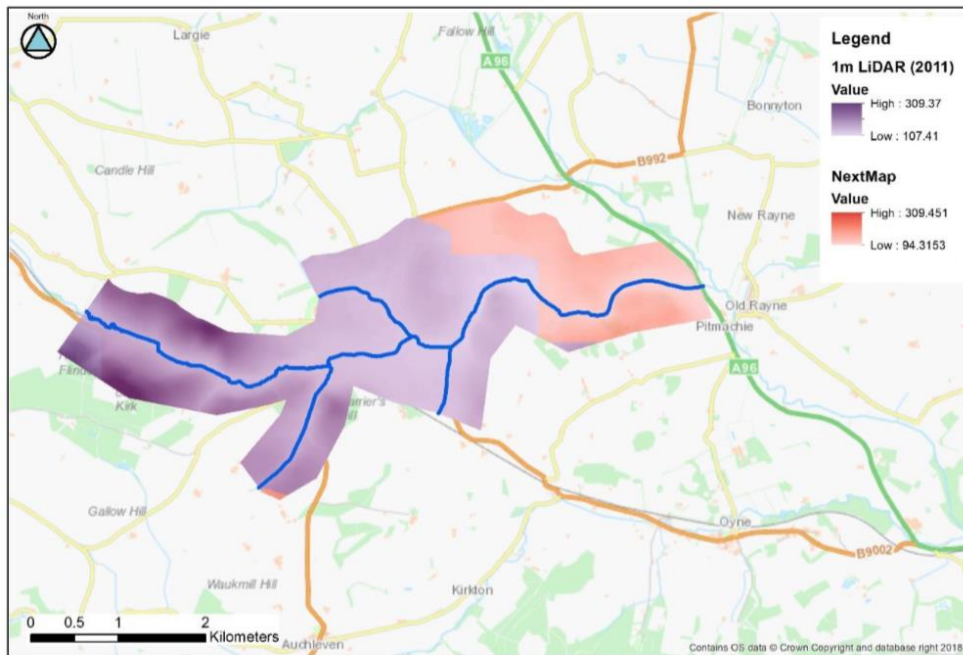
January, 1865
"The Shirach Burn (Urie tributary) at Inch, which, like the dangerous Rothes burn rises rapidly, was sleeping down on the fields below on Thursday and must be worse now, as the wind is blowing very strong"- Edinburgh Courant.

2004
June- Shevock Burn overtopped affecting properties in southwest Inch. August- Valentines Burn overtopped affecting properties in north west Inch. Floods exacerbated by drainage systems being unable to cope.

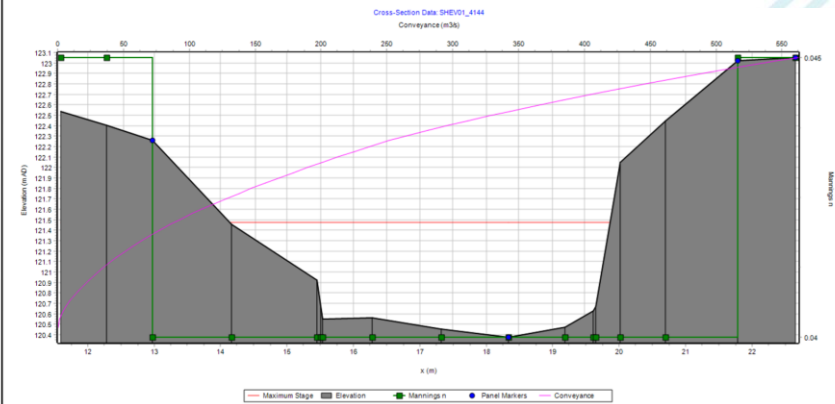
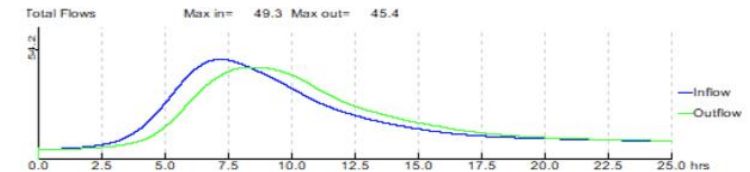


Survey and modelling

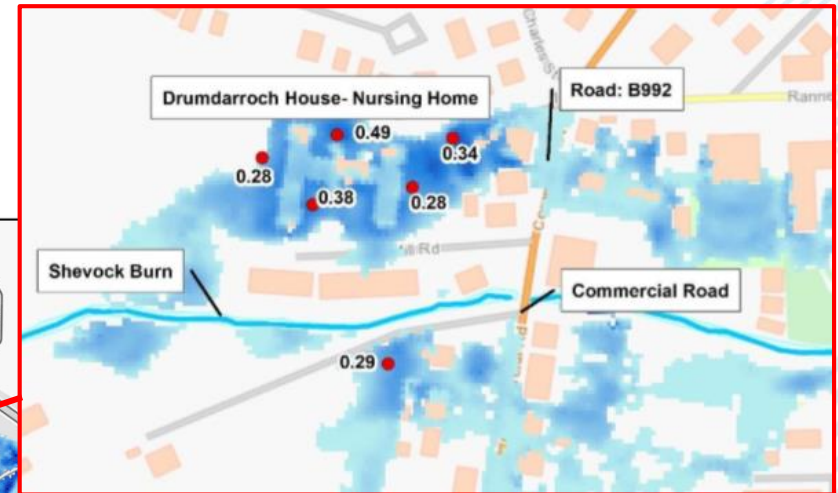
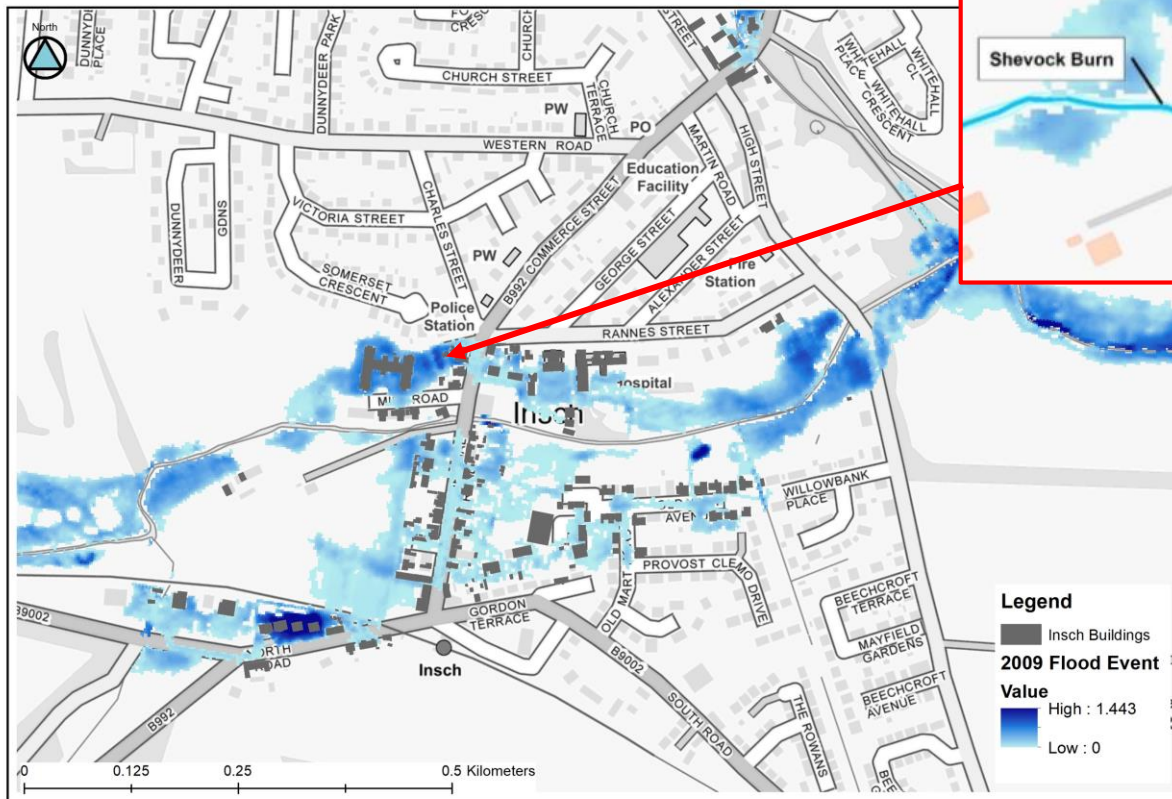
- 109 cross sections surveyed
- Combined with aerial DTM LiDAR



Contains Ordnance Survey (c) Crown Copyright and database rights 2018



Modelled 2009 event



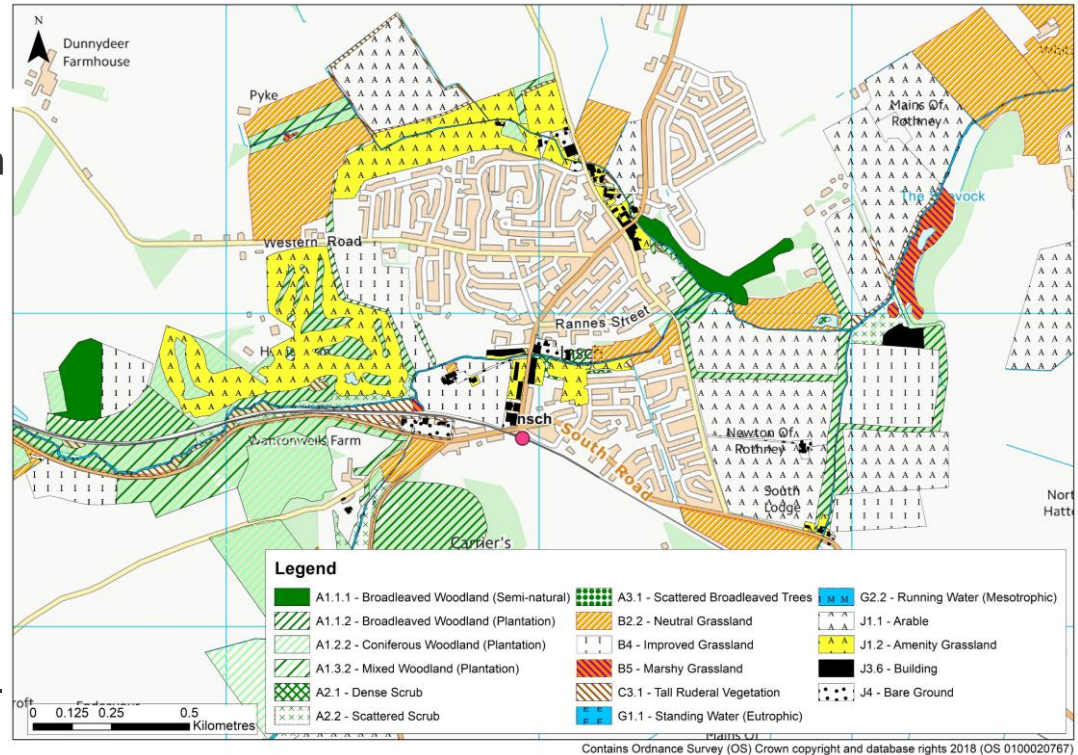
Asset inspections

- Condition
- Blockage risk
- Quick wins



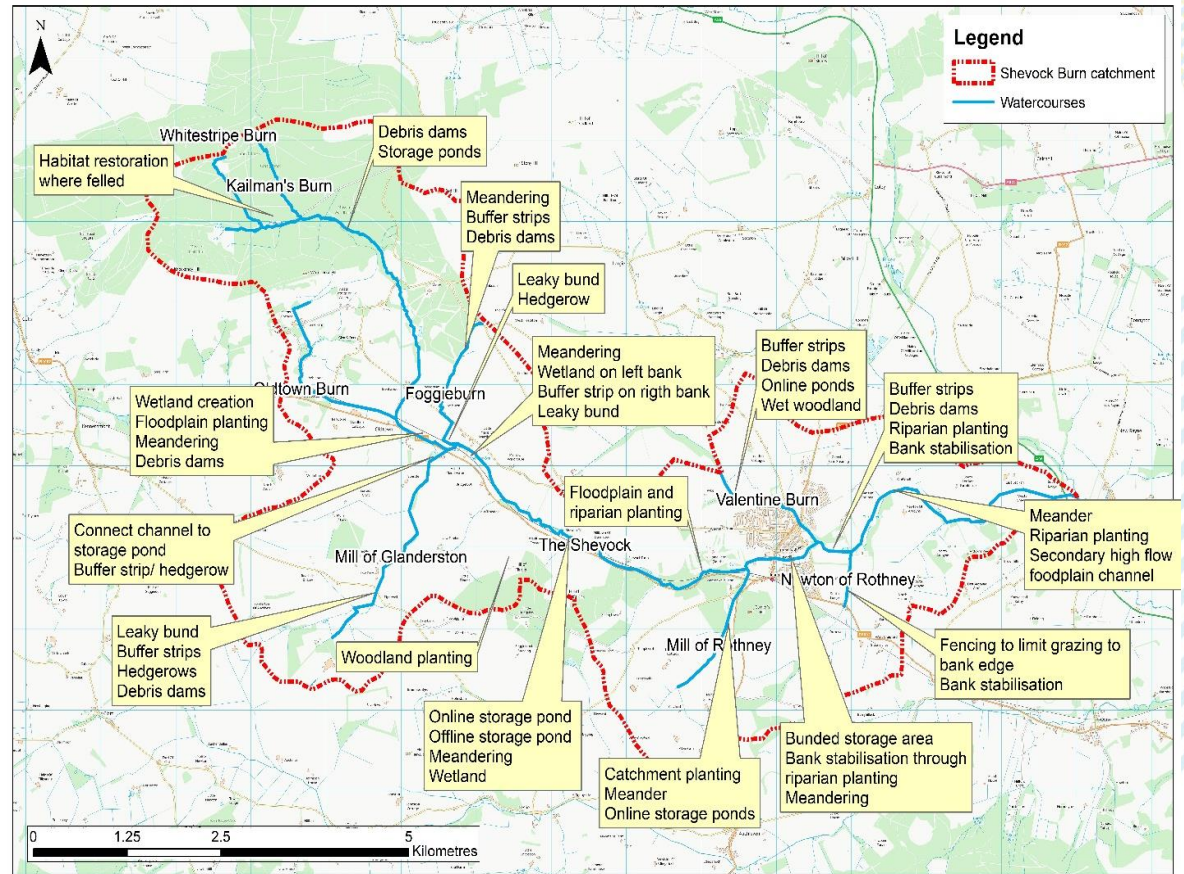
Environmental surveys: ecology

- Evidence of: Badger setts; trees with Bat Roost Potential (BRP) and Brown Hare.
- avoid the need for land-take in semi-natural habitats
- avoid tree and scrub removal (particularly for bats, birds, Red Squirrels)
- minimise in-channel works (Otters, Water Voles, fish)
- no in-channel works between October and March (fish, particularly Salmon)
- avoid night-working in the main active bat season (April - September)



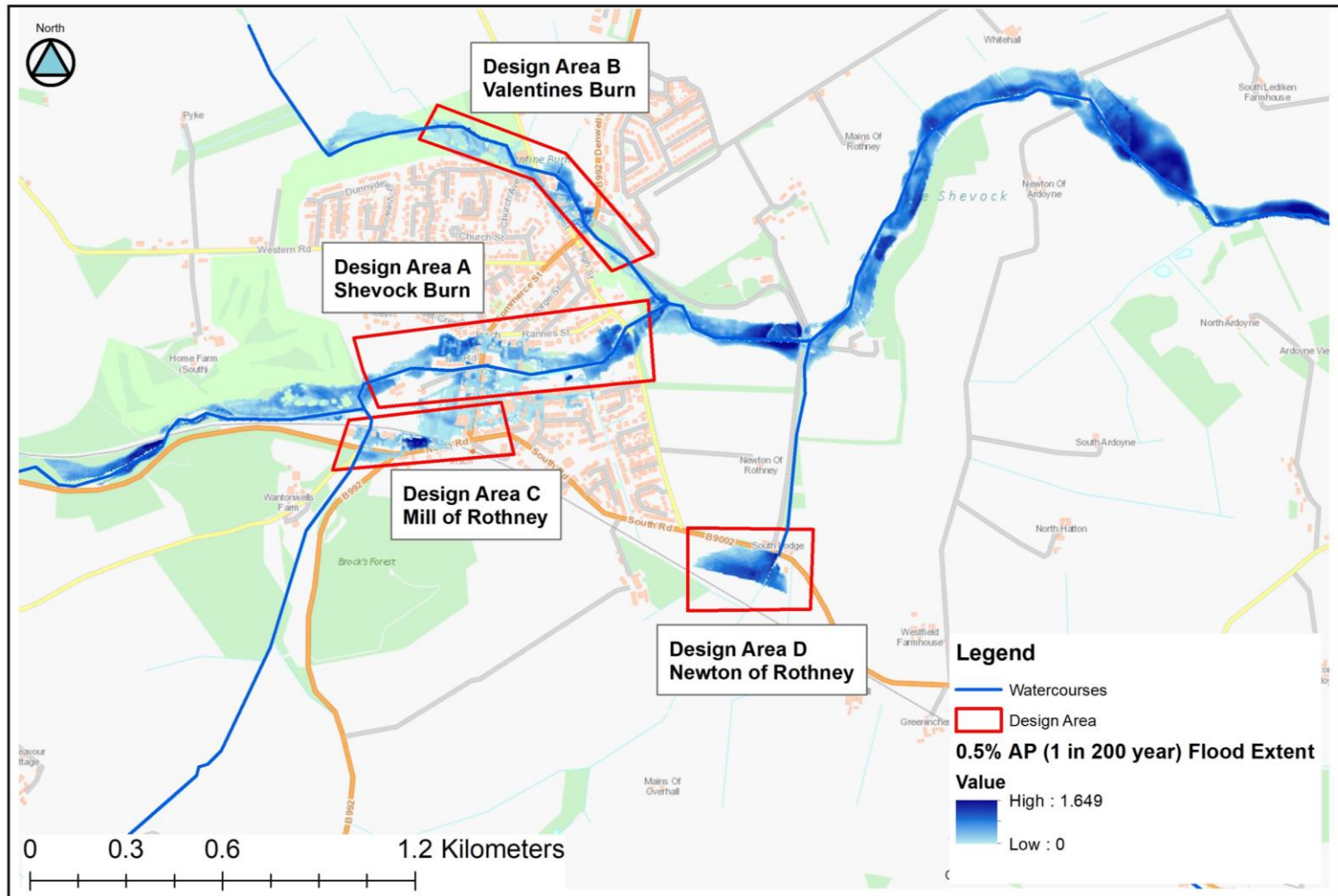
Environmental surveys: Natural flood management

- Increased vegetation cover
- Working within and on the banks of the channel
- Land management
- Runoff management



Contains Ordnance Survey (OS) Crown copyright and database rights 2018 (OS 0100020767)

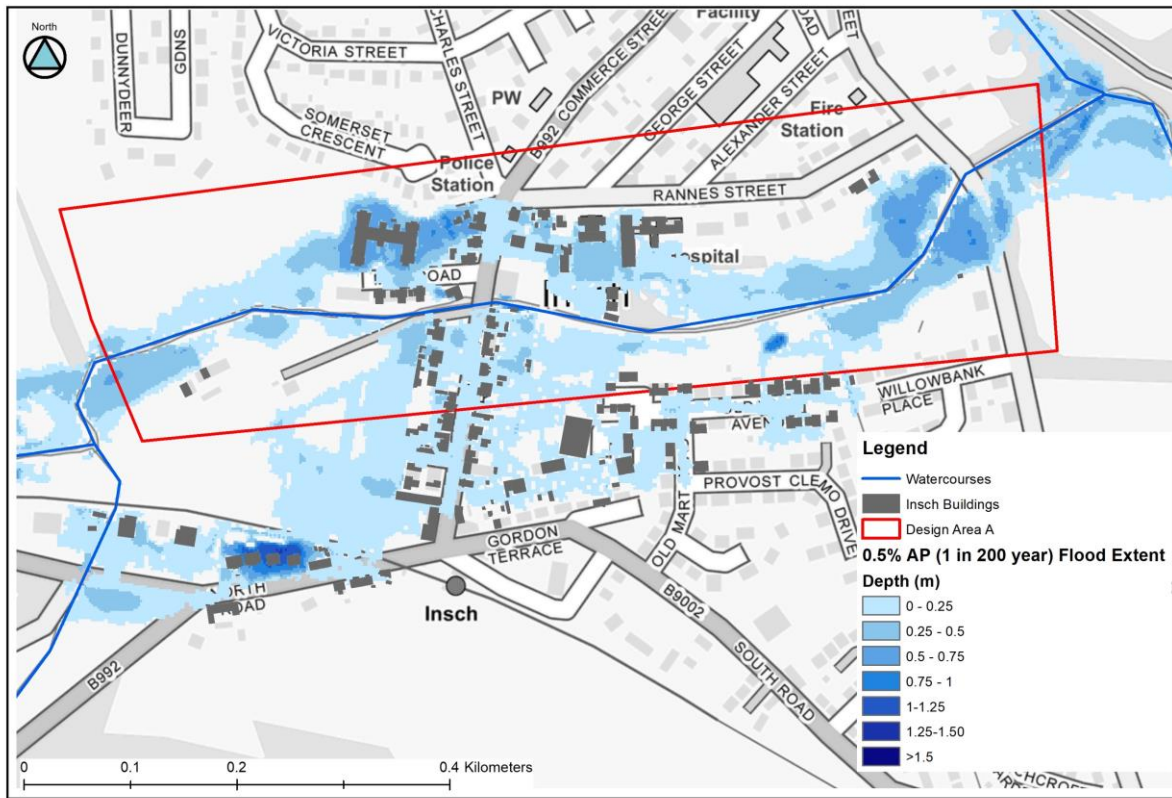
Flood risk mapping



Options appraisal – long list

- Natural Flood Management
 - Storage (engineering)
 - Conveyance
 - Control structures
 - Direct defences
 - Demountable defences
 - Watercourse maintenance
 - Property level protection (resistance and resilience measures)
 - Relocation
 - Flood forecasting and warning
 - Structure modification
-

Area A: Shevock Burn

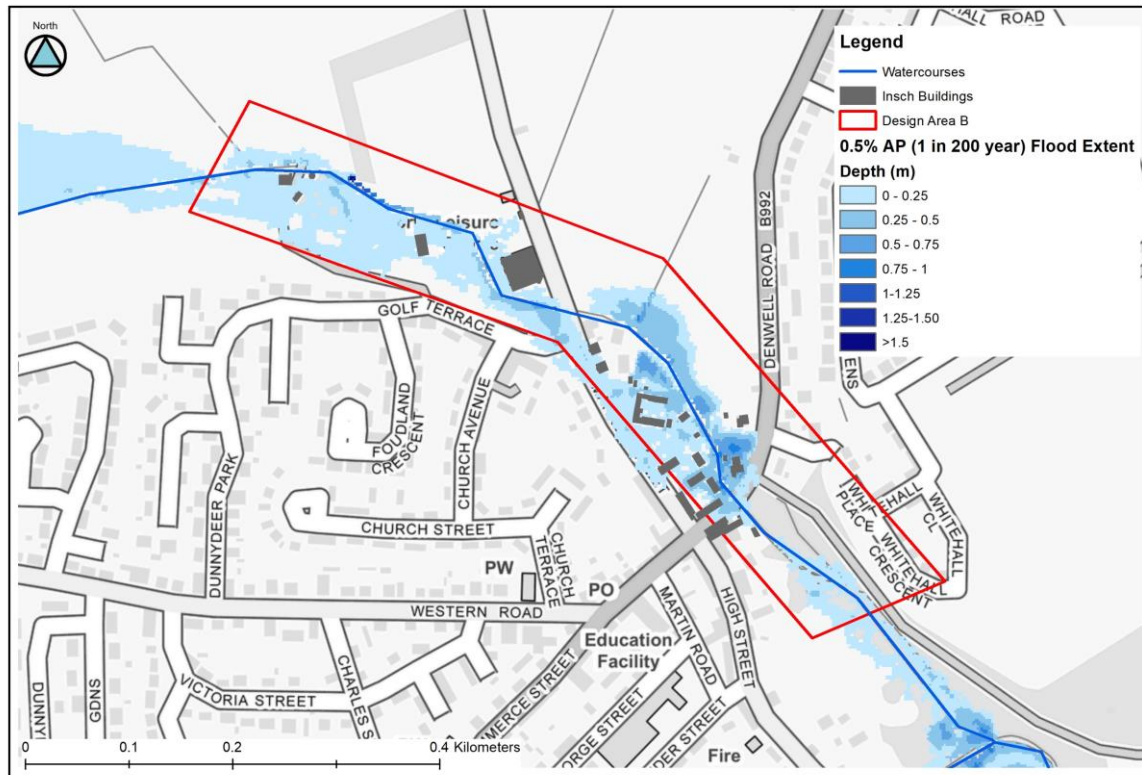


Contains Ordnance Survey data © Crown copyright and database rights (2019) Ordnance Survey (100023423)

- **Natural Flood Management**
- **Storage (engineering)**
- **Conveyance**
- **Control structures**
- **Direct defences**
- **Demountable defences**
- **Watercourse maintenance**
- **Property level protection (resistance and resilience measures)**
- **Relocation**
- **Flood forecasting and warning**
- **Structure modification**

21 properties at risk during 200 year event

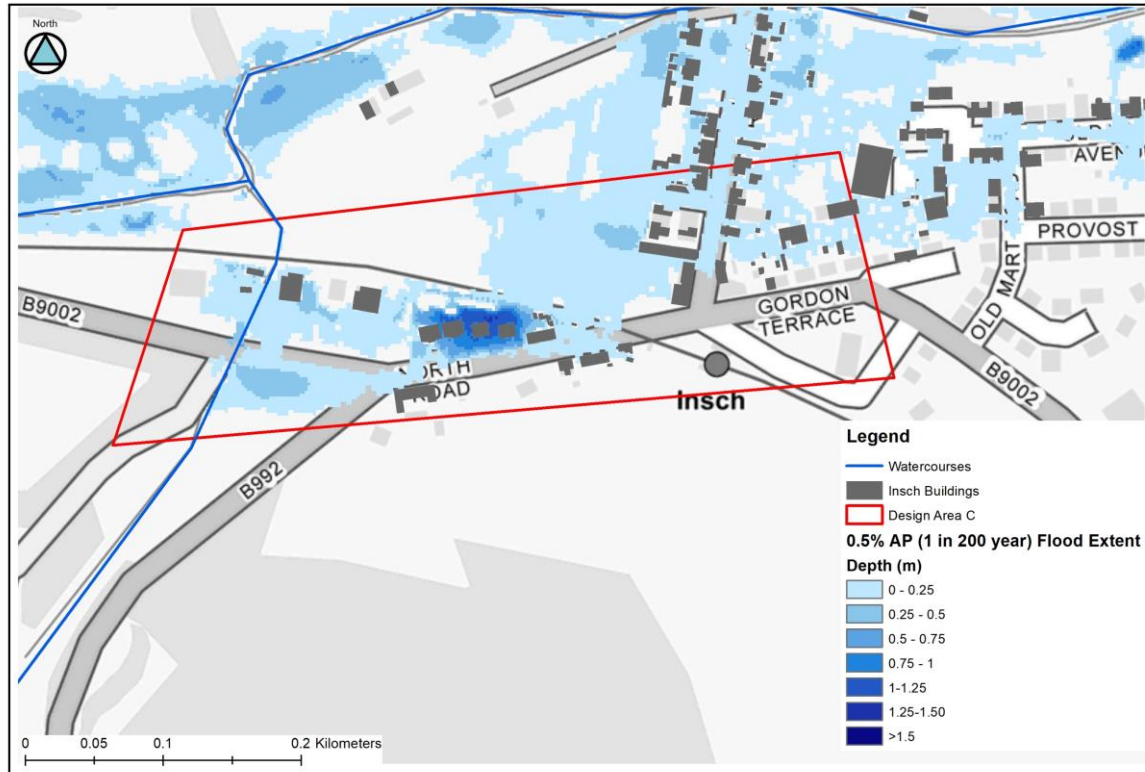
Area B: Valentines Burn



- **Natural Flood Management**
- **Storage (engineering)**
- **Conveyance**
- **Control structures**
- **Direct defences**
- **Demountable defences**
- **Watercourse maintenance**
- **Property level protection (resistance and resilience measures)**
- **Relocation**
- **Flood forecasting and warning**
- **Structure modification**

17 properties at risk during 200 year event

Area C: Mill of Rothney

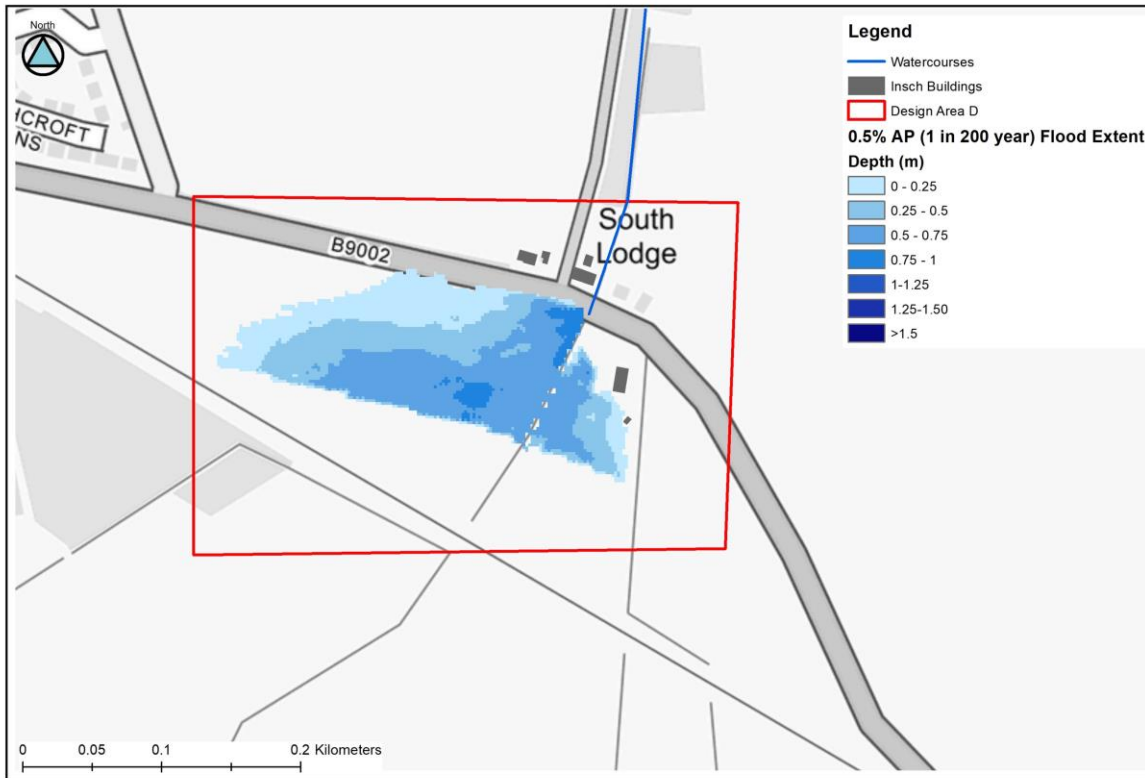


Contains Ordnance Survey data © Crown copyright and database rights (2019) Ordnance Survey (100023423)

- **Natural Flood Management**
- **Storage (engineering)**
- **Conveyance**
- **Control structures**
- **Direct defences**
- **Demountable defences**
- **Watercourse maintenance**
- **Property level protection (resistance and resilience measures)**
- **Relocation**
- **Flood forecasting and warning**
- **Structure modification**

4 properties at risk during 200 year event

Area D: Newton of Rothney



Contains Ordnance Survey data © Crown copyright and database rights (2019) Ordnance Survey (100023423)

- **Natural Flood Management**
- **Storage (engineering)**
- **Conveyance**
- **Control structures**
- **Direct defences**
- **Demountable defences**
- **Watercourse maintenance**
- **Property level protection (resistance and resilience measures)**
- **Relocation**
- **Flood forecasting and warning**
- **Structure modification**

0 properties at risk during 200 year event

Next stages

- **Options appraisal**
 - Long list
 - Short list
 - Model short listed options
 - Cost-benefit analysis
- **Stakeholder engagement**
- **Council to agree preferred option**
- **Preferred option to be presented to the public**