

Ellon Flood Study

Public Meeting - 3 December 2018

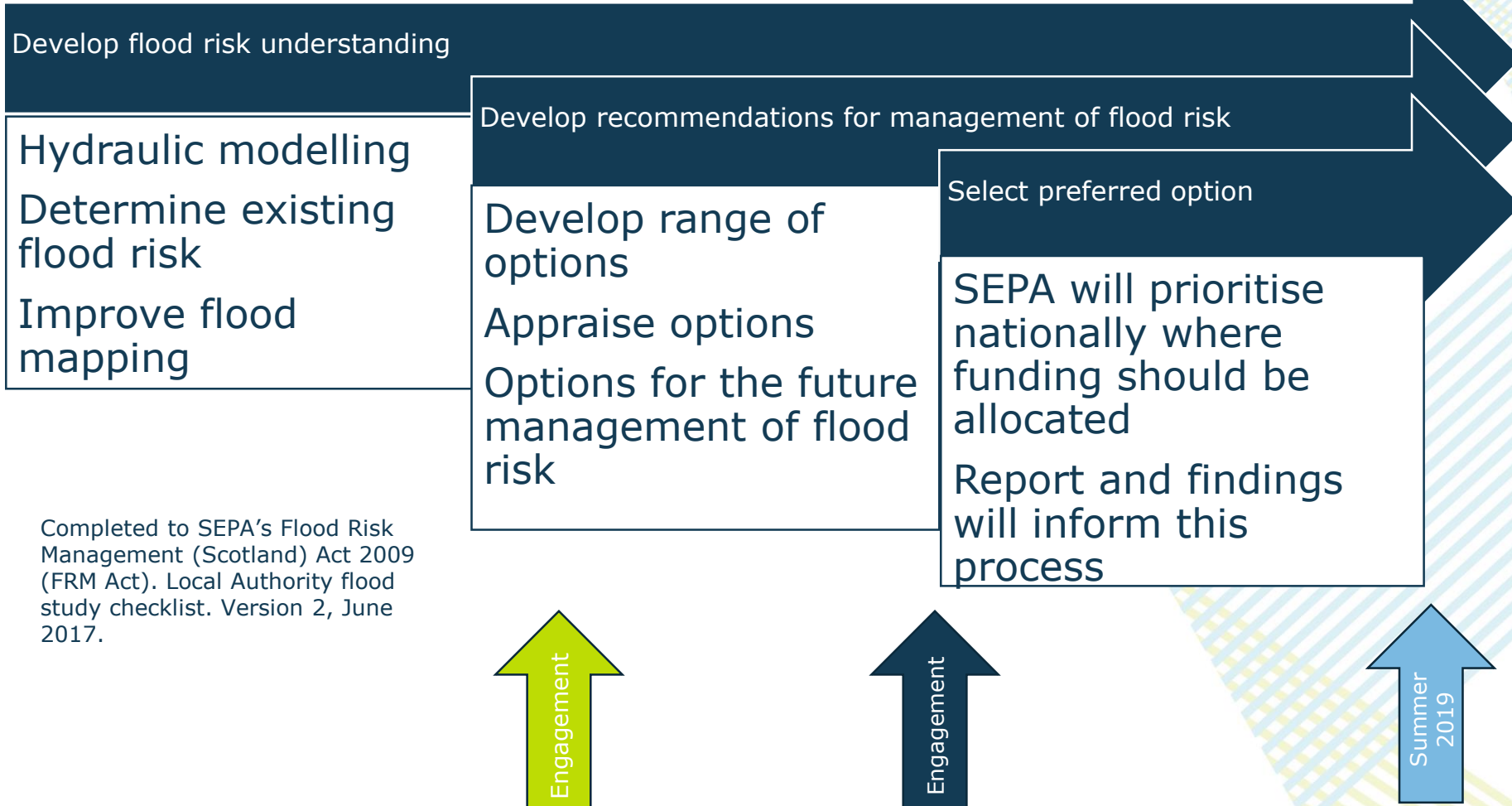
Caroline Anderton (JBA Consulting)

Scott McPhail (Dougal Baillie Associates)

Aim of this evening

- This is the first of two public consultations for the Ellon Flood 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 the 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.
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Study objectives



What has been done so far?



Flood review



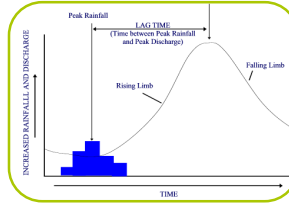
Topographic survey



Asset inspections



Environmental Surveys



Hydrology



Modelling



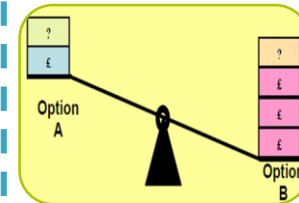
Flood mapping



Properties at risk



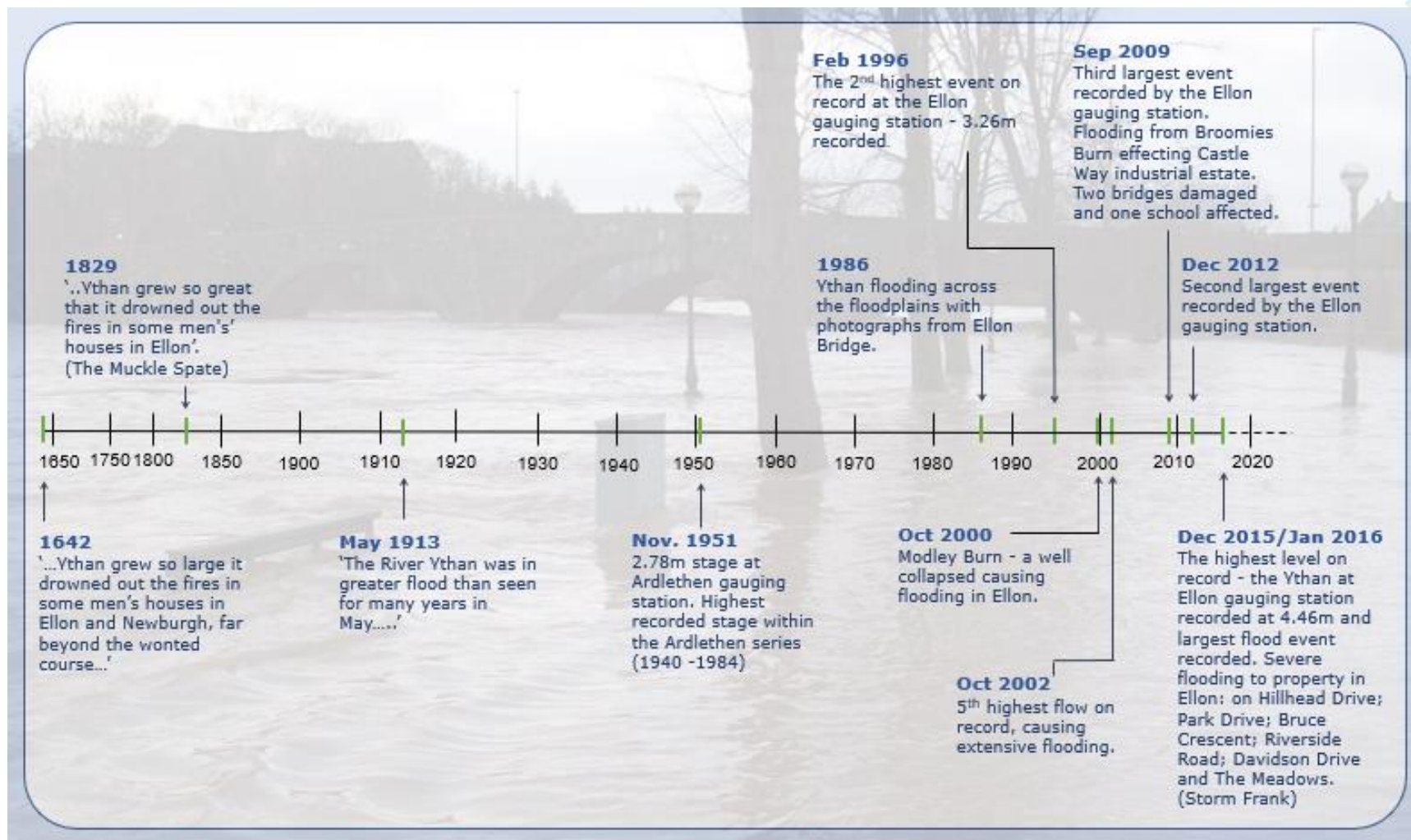
Options appraisal



Cost-benefit

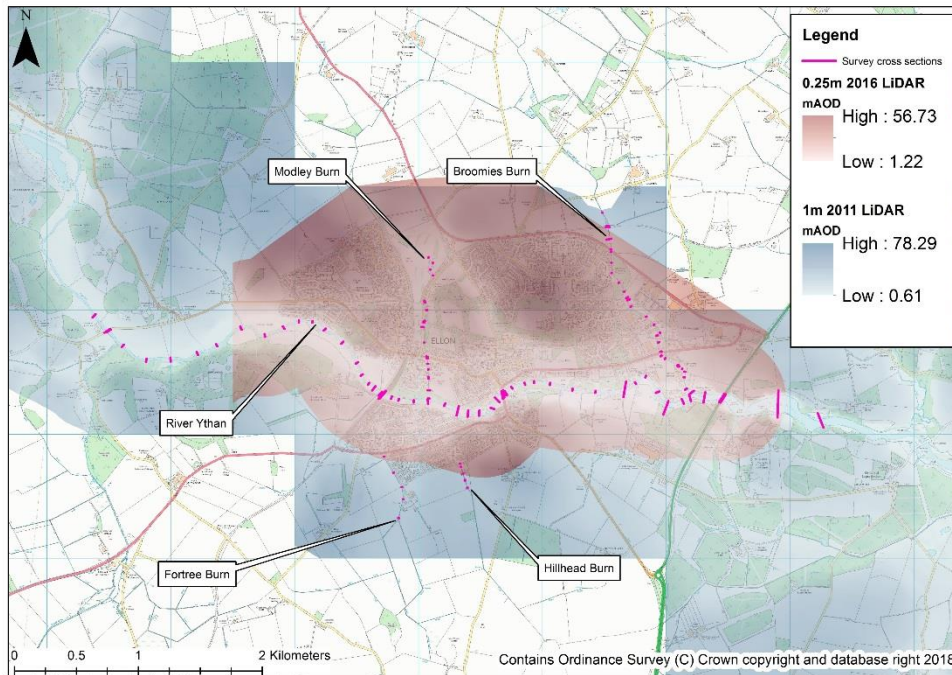
Now underway

Developing understanding of flood risk

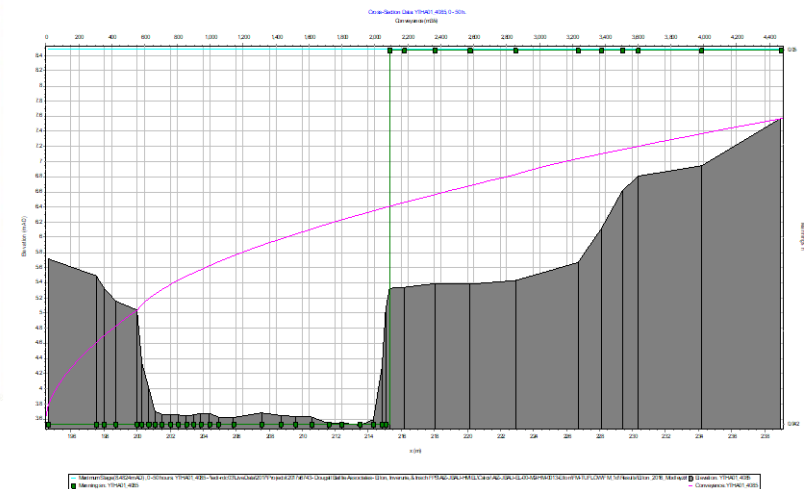
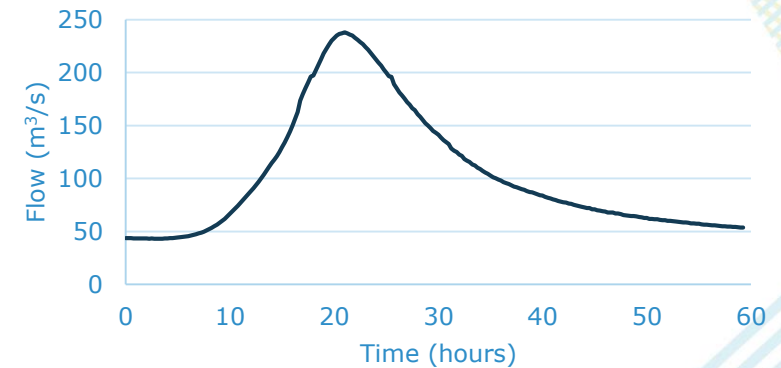


Survey and modelling

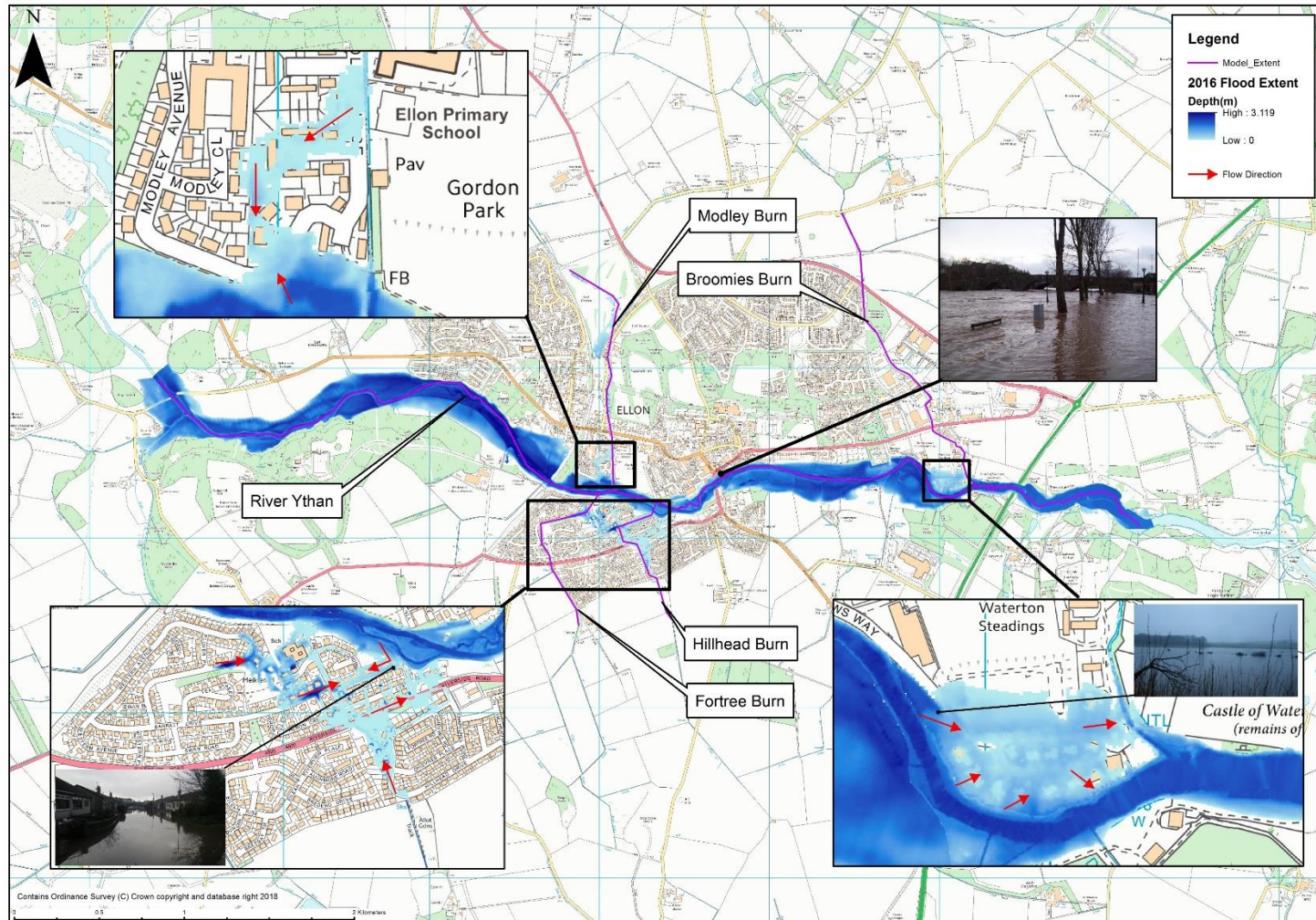
- 112 cross sections surveyed
- Combined with aerial DTM LiDAR



2016 Event Inflow Hydrograph

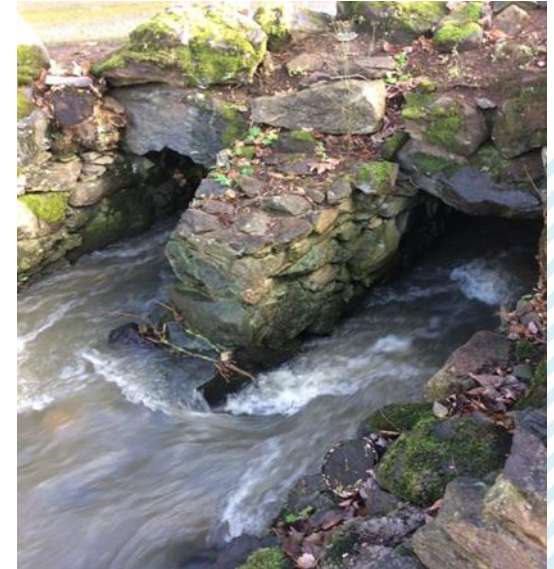


Modelled Storm Frank (January 2016)



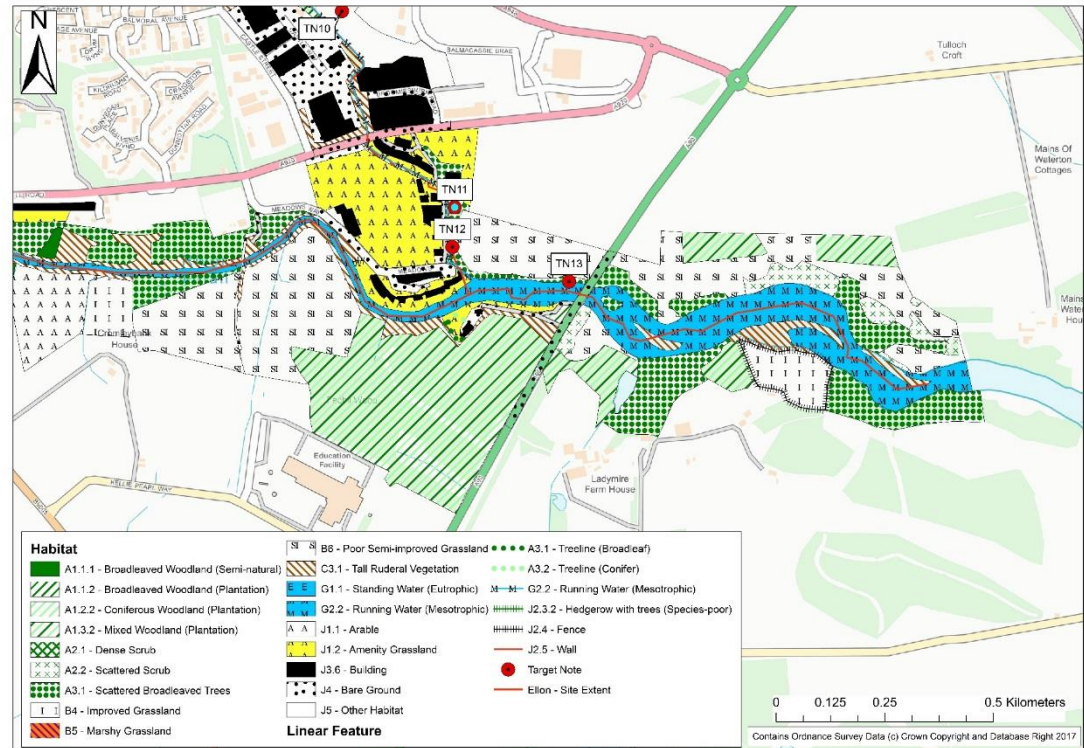
Asset inspections

- Condition
- Blockage risk
- Quick wins



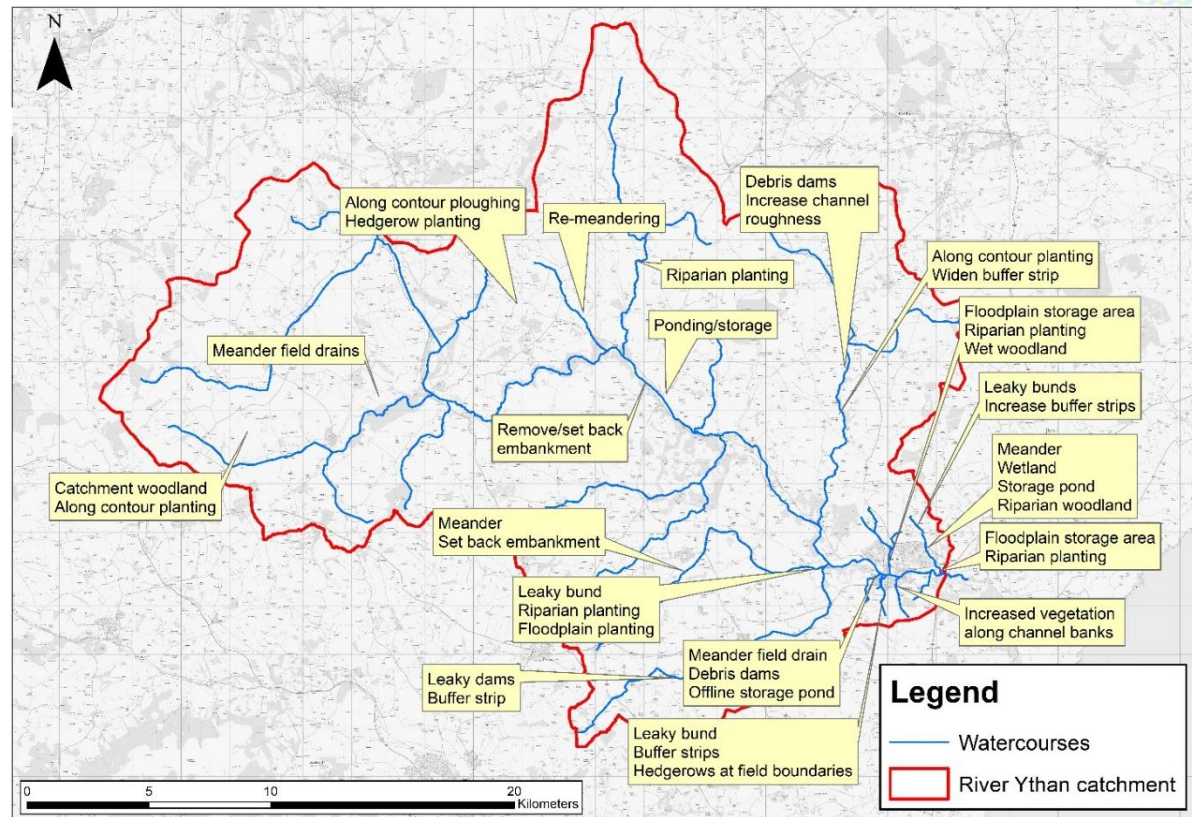
Environmental surveys: ecology

- 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)



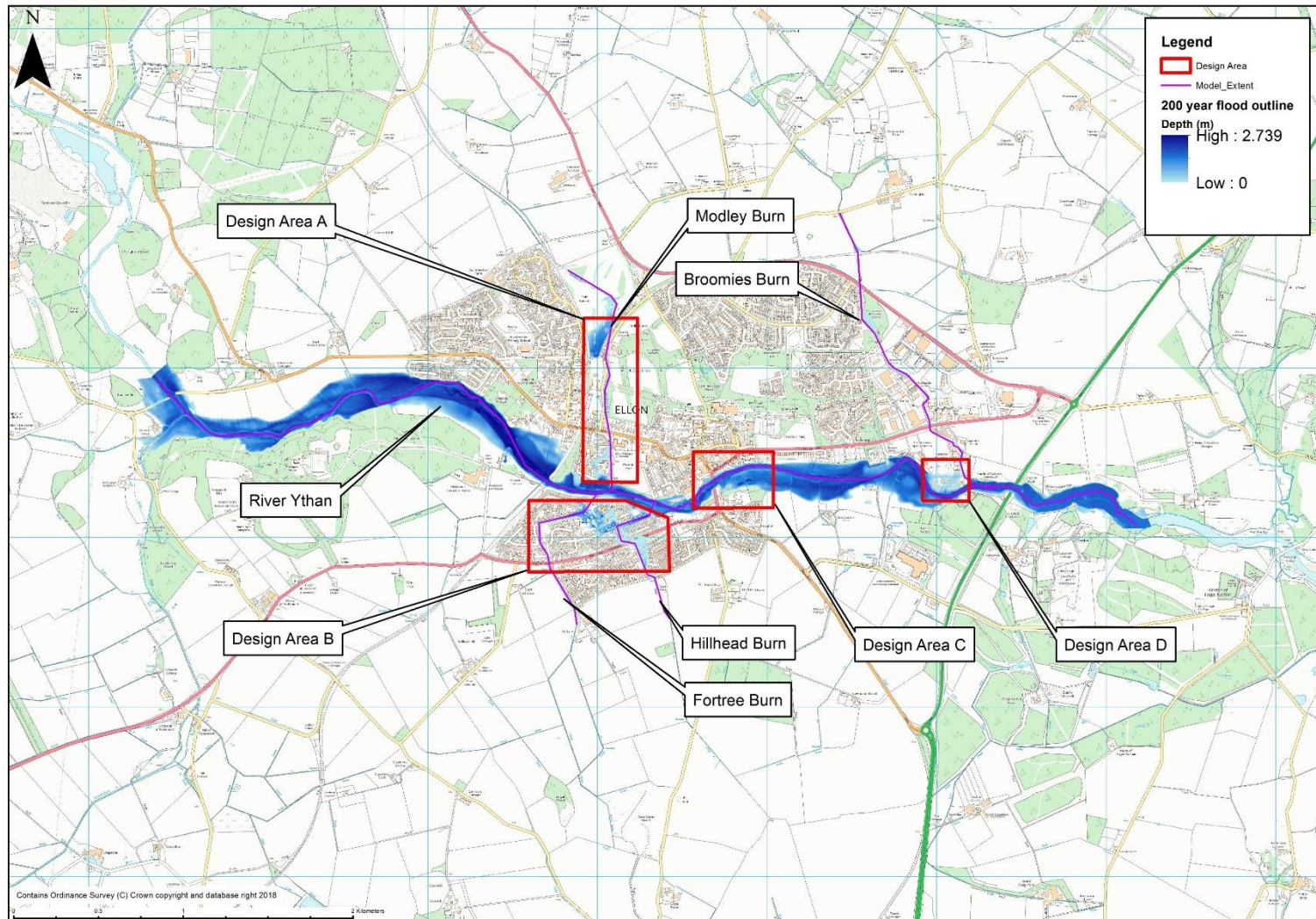
Environmental surveys: Natural flood management

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



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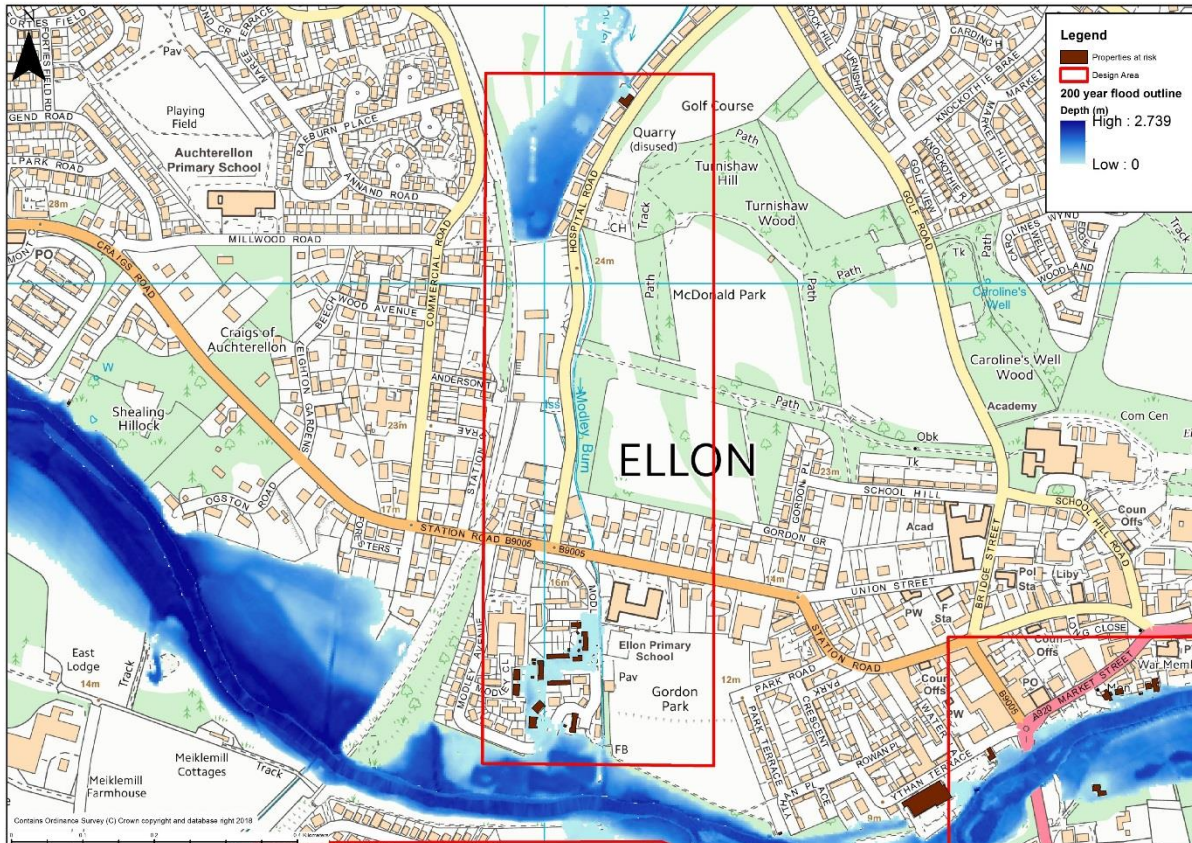
Flood risk mapping



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: Modley 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**

37 properties at risk during 200 year event

Area B: Hillhead and Fortree Burns



- **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**

96 properties at risk during 200 year event

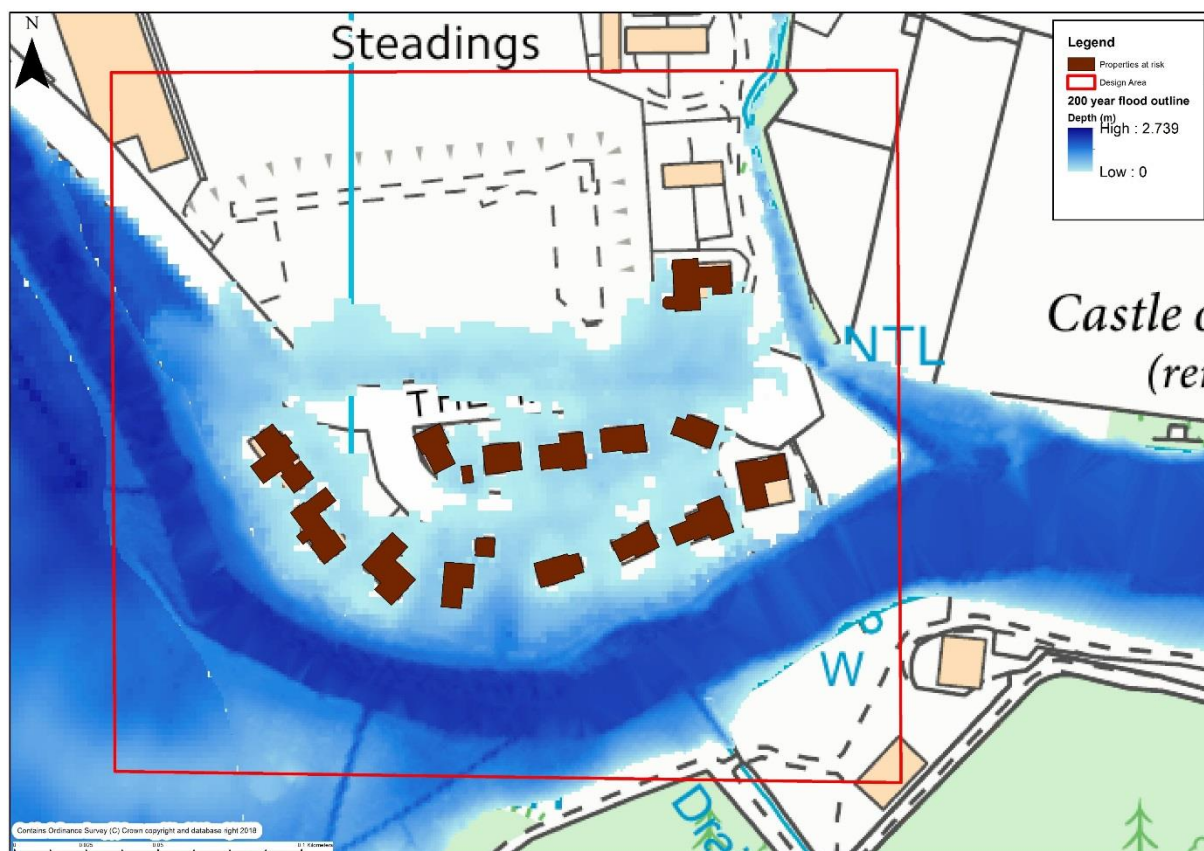
Area C: Old Bridge of Ellon



- **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 D: The Meadows



- **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**

14 properties at risk during the 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**