

Mapping Wildfires in the Belfast Hills

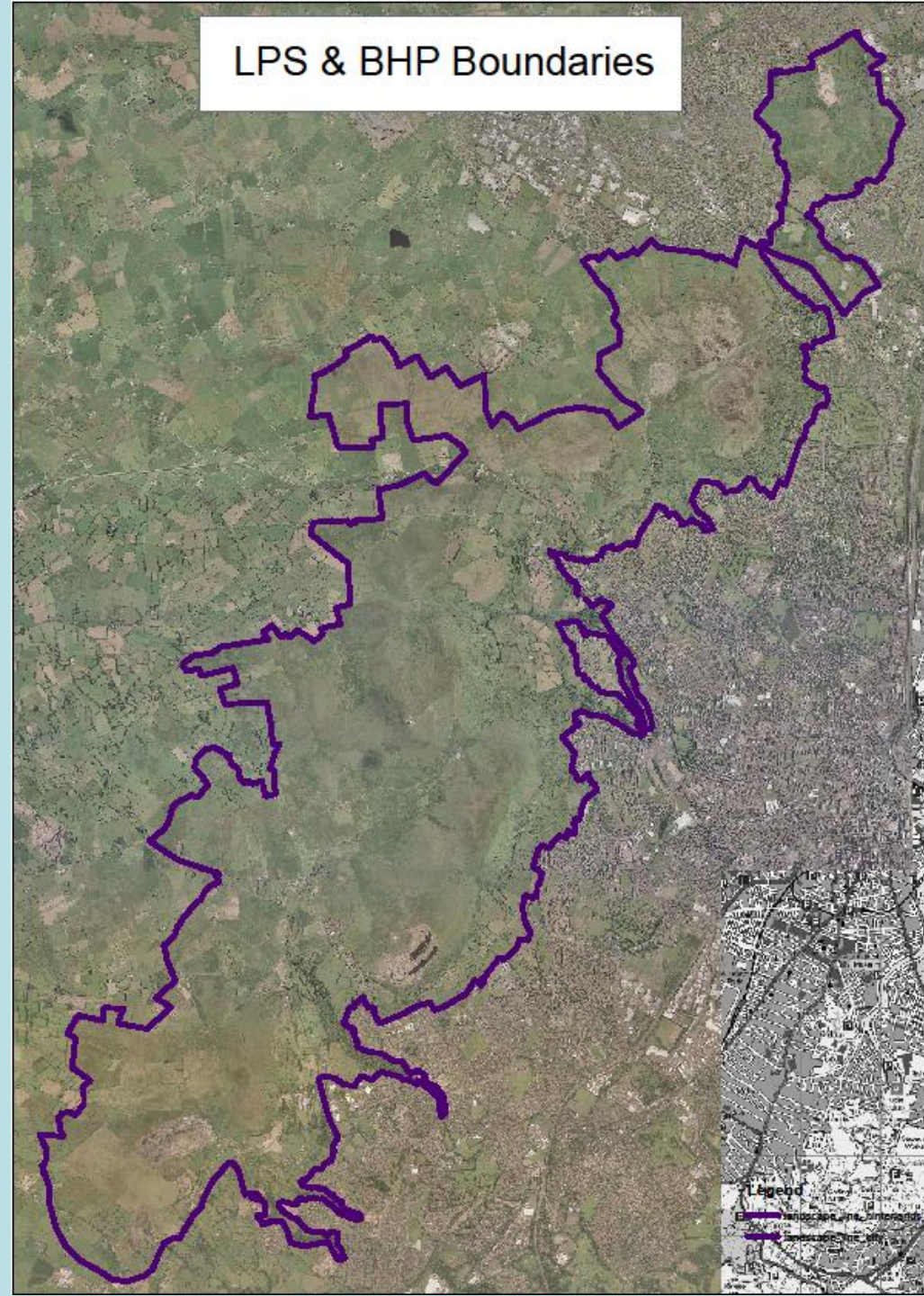


**Fire Mapping
Geolocation Workshop
Carrickdale Hotel
23/3/16**



**Dr Jim Bradley
Partnership Manager**

- **5600 hectares**
- **3 Council areas**
- **Mostly privately owned**
- **Carnmoney Hill**
- **Cave Hill Country Park**
- **Divis**
- **Colin Glen**
- **Slievenacloy ASSI**



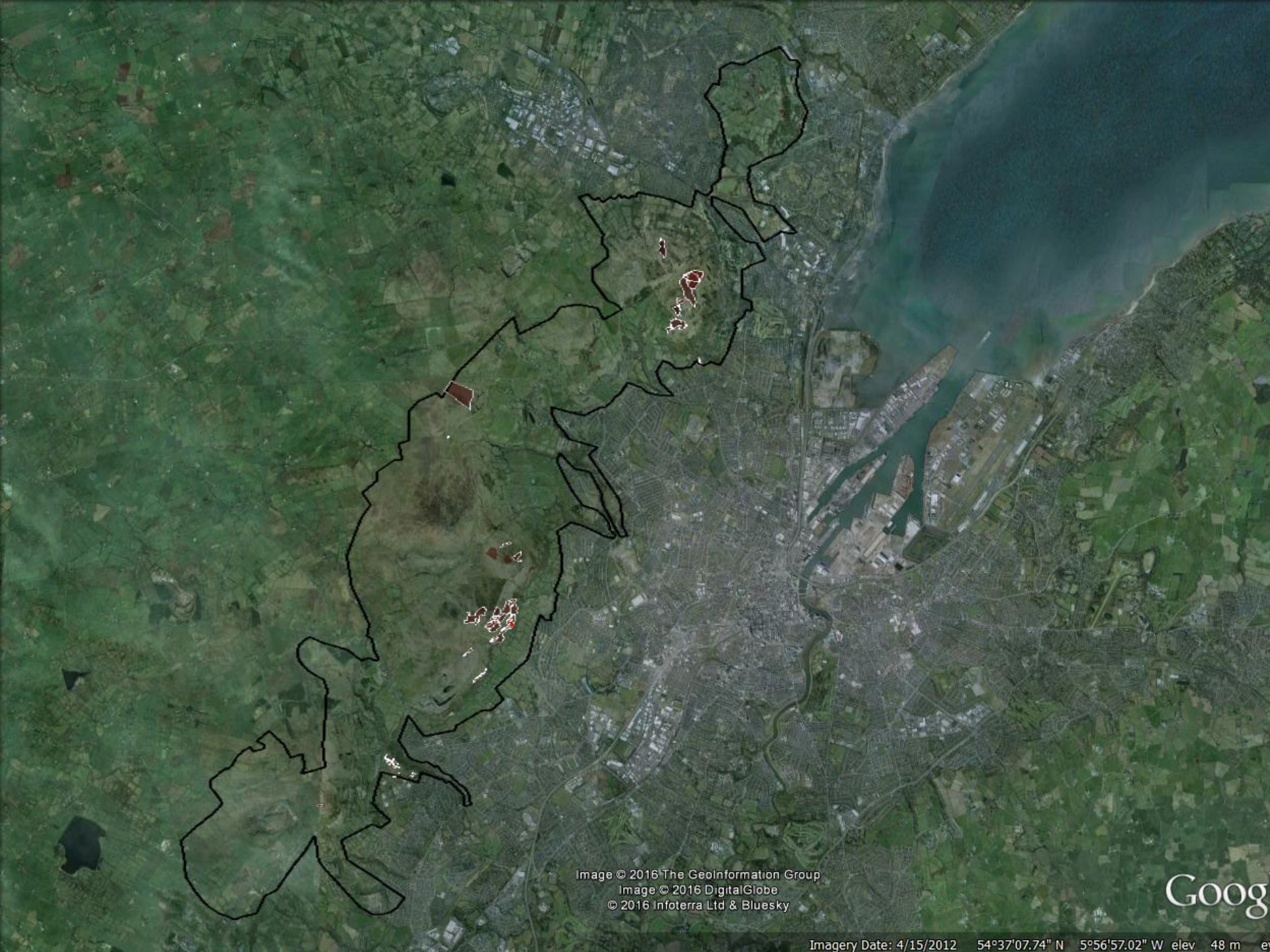


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Goog

Imagery Date: 4/15/2012 54°37'07.74" N 5°56'57.02" W elev 48 m

















Neil Reid











Andrea Mckernon

Yesterday · 🌐

And they're at it again today. Please keep an eye out for anyone acting suspiciously in the hills. There's obviously ones targeting this area and setting fires like on Saturday.

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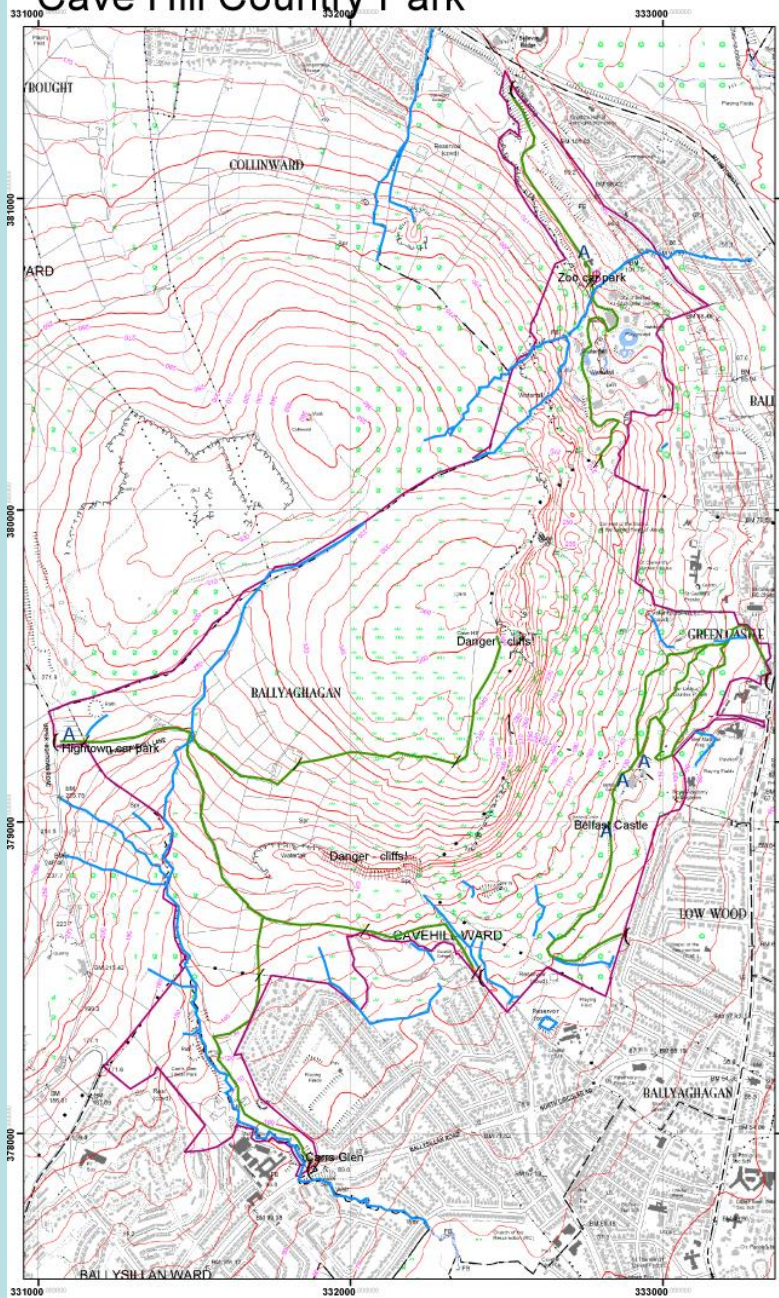








Cave Hill Country Park



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Contact Details:

Fintan Grant,
Belfast City Council
Tel 07920187643
(office hours only)

Legend

- A Car Park
- / gates
- (vehicle entrance
- \$ pedestrian entrances

- water sources
- site boundary
- possible access roads

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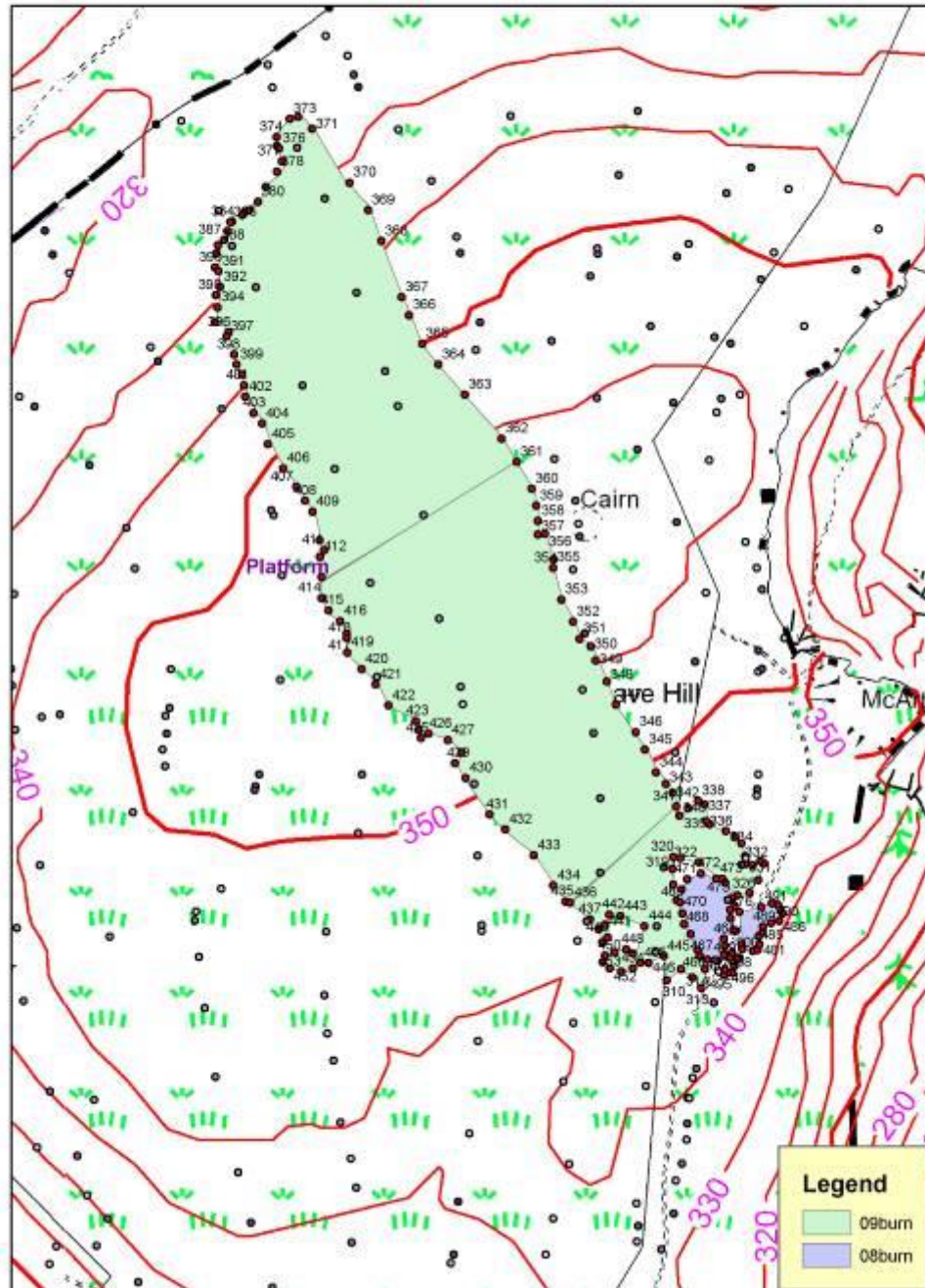
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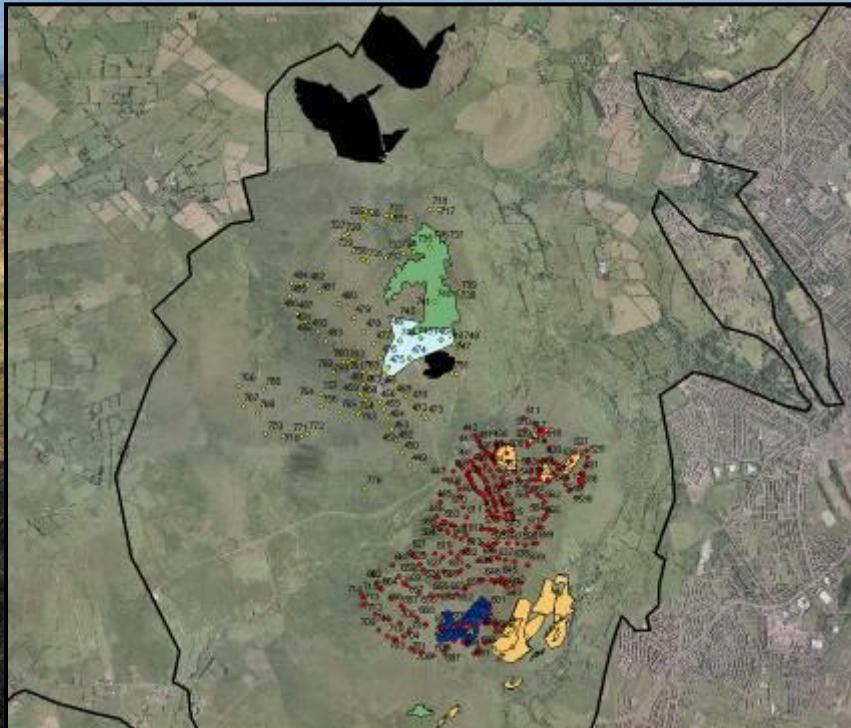


cave hill fire damage



Materials and Methods

- Three study sites: Cave Hill, Divis and Black Mountain.
- A total of 600 sampled plots were surveyed in 2008 and 484 plots in 2011.
- At each point a number of standard measurements were taken within a 2 m².



Materials and Methods

Variable	Description
Coverage	Estimated percentage cover (%) of <i>Calluna vulgaris</i> per 2 m ²
Height	Maximum height (cm) of <i>Calluna vulgaris</i> within 2 m ²
Condition	<i>Calluna vulgaris</i> was categorised as pioneer, building, building-mature, mature, degenerate (dead) or absent.
Sphagnum	Estimated percentage cover (%) of <i>Sphagnum</i> spp. per 2 m ²
Bilberry	Presence (0/1) of <i>Vaccinium myrtillus</i> within 2 m ²
Bell heather	Presence (0/1) of <i>Erica cinerea</i> within 2 m ²
Cross-leaved heather	Presence (0/1) of <i>Erica tetralix</i> within 2 m ²
Devil's-bit scabious	Presence (0/1) of <i>Succisa pratensis</i> within 2 m ²
Grass coverage	Estimated percentage cover (%) of grass per 2 m ²
Grass height	Maximum height (cm) of grass within 2 m ²
Exposed peat	Estimated percentage cover (%) of bare peat per 2 m ²
Peat depth	Maximum depth (cm) of peat at each sample point in 2008
Burning	Presence (0/1) of recent fire
Burning before or after 2008 Survey	Fire is presence before 2008 Survey (1) or later (2)

Table 1 Variables measured at each sample point (2m²) to assess the condition of upland heath during 2011. Moreover, In Cave Hill and Divis the cover and maximum height was measured on another scale (100 m²).

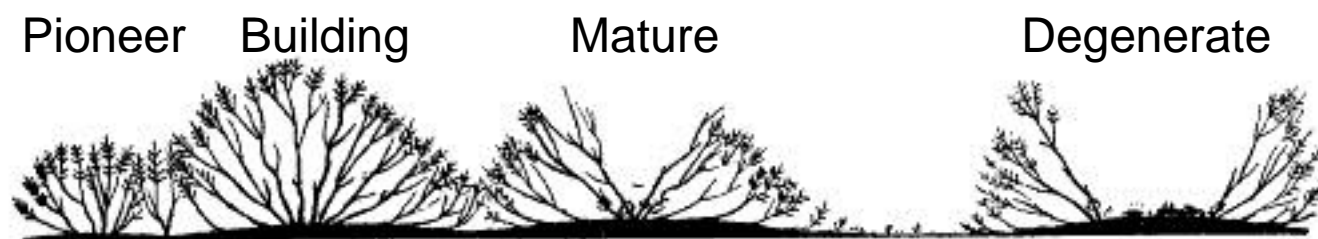
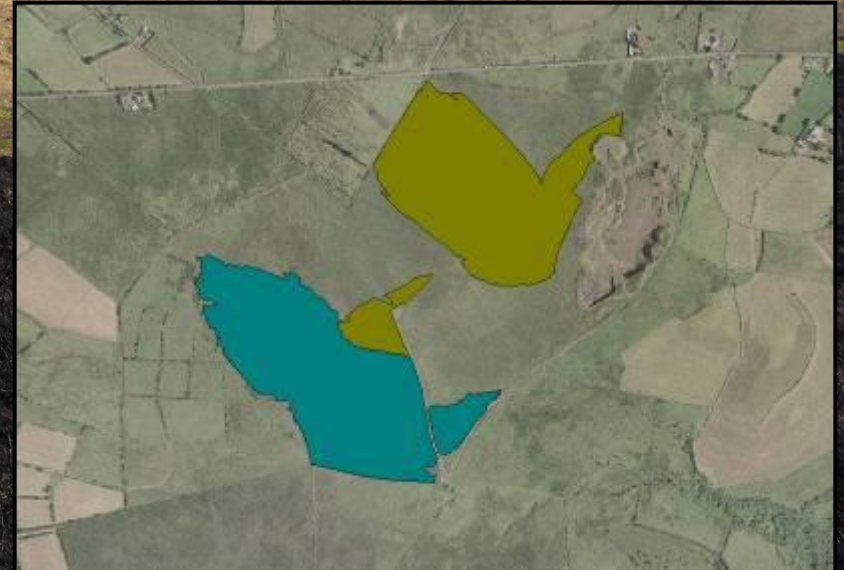


Fig. 2. Diagrammatic profile view of Callunetum showing the four phases.

(0-5 years) (6-15 years) (16-25 years) (26-30 years)

Materials and Methods

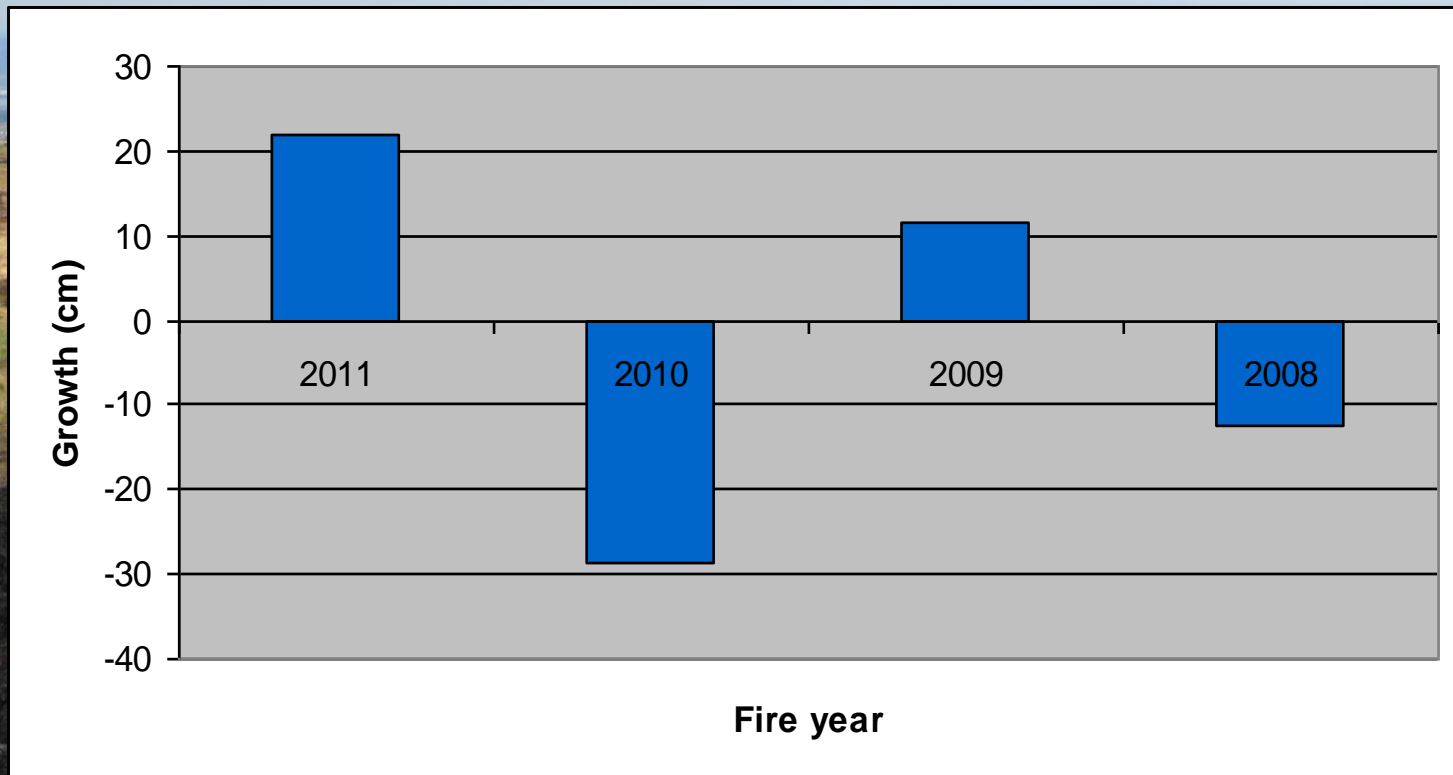


Materials and Methods



Results

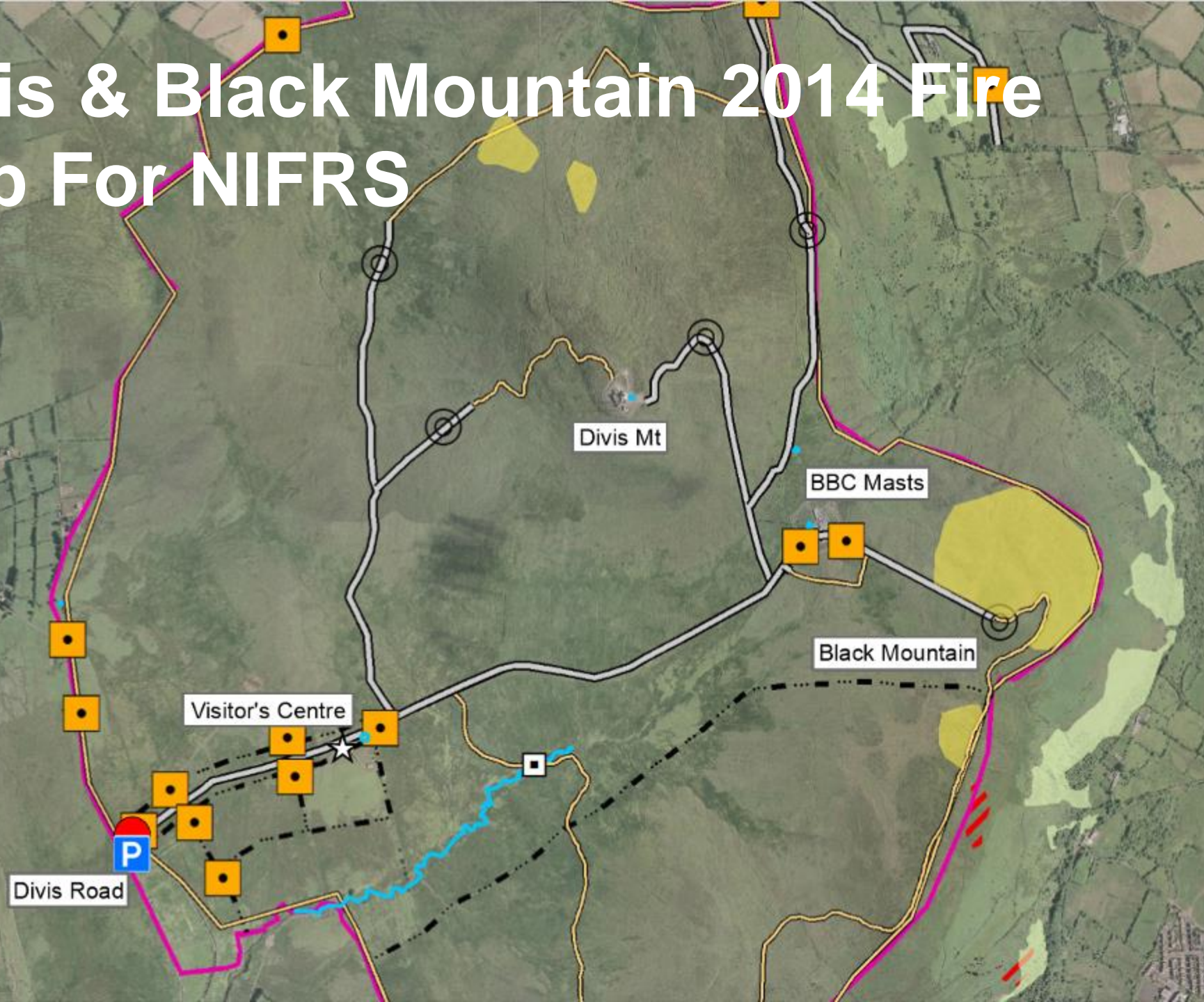
- We can see how in some burned areas *Calluna* is taller than 3 years ago.
- These areas correspond to the same areas with less lost coverage after the fire (2009 and 2011).
- We can assume that in these fires, fire intensity was low.
- This fact suggests that in both of these years some plants survived without major impediments.



Key Factors

- % Heather Cover
- Negative 'correlation' with *Sphagnum* spp.

Divis & Black Mountain 2014 Fire Map For NIFRS



11.6.15 Fire



Wildfire Procedures 2015

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1. When fires are spotted or reported, the details as known must be entered in a Wildfire Record Sheet, detailing location, date, time and any other details known such as ignition point, local wind direction, cause of ignition etc. This will be saved electronically in a new individual Y:\PROJECTS\Wildfires\Fire map info\Burns 201? folder.

2. A date for survey roughly 14 days after fire date should be put in the diary.

3. The Survey will be carried out then with 4 point photos taken and stored in Y:\Photos maps and archive\Photo library\Other\Wildfire Records.

4. The area of burn will be mapped in Google Earth and GIS for the records.

5. The folder should then contain:-

- Wildfire Record Sheet
- Shortcut to pics
- KMZ and GIS files – can be copies

Belfast Hills Wildfire Record Sheet 2015

General Details Site Name:-	
Surveyed by	
Survey Date (> 14 days after fire)	
Date/time of fire (if known)	
Reported by:	
Staff reported to:	
Ignition point (if known)	
Centre Point co-ordinates	

Types of Habitat Affected	
Heathland	
Bogland	
Grassland	

Species Burned (if known)			
Other – please state:			

Severity of Fire

Burn severity		Area indicator characteristic 1	Area indicator characteristic 2 (Not always present)	Vegetation indicator characteristic
0		No evidence of wildfire	-	-
1		40%+ vegetation cover remains in burned area	Both charred and unburned litter present	Top of vegetation burned only
2		2% - 39% vegetation cover remains in burned area	Black char covers most soil in burned area	Some vegetation left with new vegetation sprouting
3		2% - 39% vegetation cover remains in burned area	Black char covers all soil in burned area	Only woody plants still alive with new vegetation sprouting.
4		1% or less vegetation cover remains in burned area	Black char covers the soil	Woody plants burned completely. Soil burned below surface less than 10cm.
5		1% or less vegetation cover remains in burned area	White and/or grey char covers the soil	Woody plants burned completely. Soil burned below surface 10cm or greater. Still warm?

Additional Comments:

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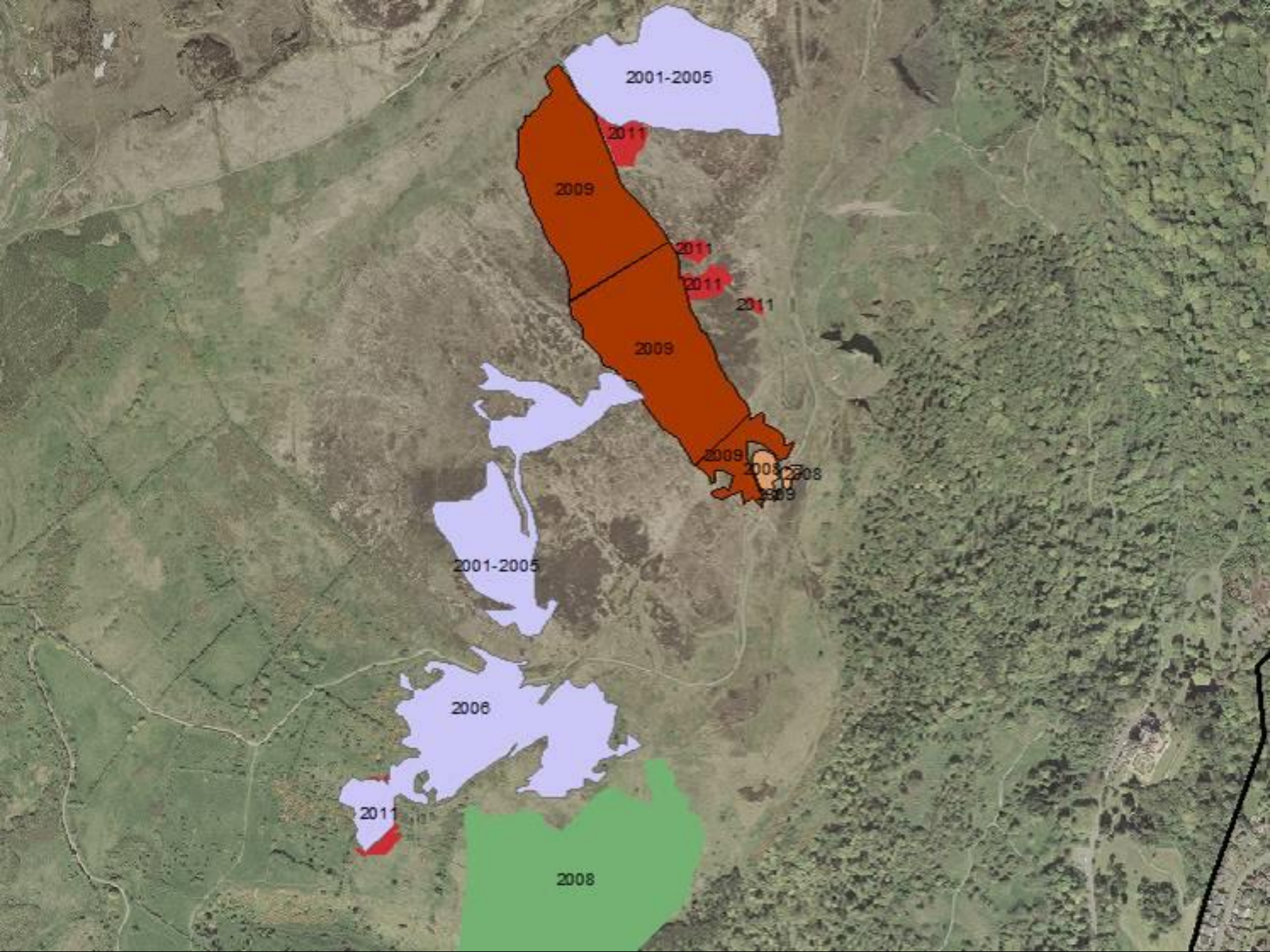
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Next steps

- **Clear agreement on objectives e.g. prediction, prevention or impact measurement?**
- **Common methodology essential**
- **Ongoing Sharing of data and lessons**