

# Habitat Monitoring

Helen Bibby  
SAC Conservation Services

Ardlussa Estate, Isle of Jura

# Why monitor upland habitats?



- High impacts can lead to damage
  - Loss of grazing value
  - Loss of value for wildlife
  - Degraded landscape
  - Water quality and flood attenuation can be reduced

# Why monitor habitats?



- Impacts may only cause damage over a long time period
- Visible damage may be the result of historical, not current impacts



# Large scale indicators





# Large scale indicators





# Large scale indicators





## Fixed Point Photography





## Fixed Point Photography



# Best Practice Habitat Impact Assessment



- Standardised quantitative method using samples of habitat
- Relatively easy/expert knowledge not required
- Measures small scale indicators
- Allows changes in impact levels over time to be measured
- Provides a measure of CURRENT impacts

# Samples



- Variation across areas of habitats means samples must be representative
- Too few samples:
  - may be unrepresentative of habitat as a whole
  - may hide variation across the site
- Too many samples – time constraints



# Quadrat – Best Practice Guide



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2 metres x 2 metres, minimum 30  
Quadrats per 'habitat area'



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# What is a 'Habitat Area'?



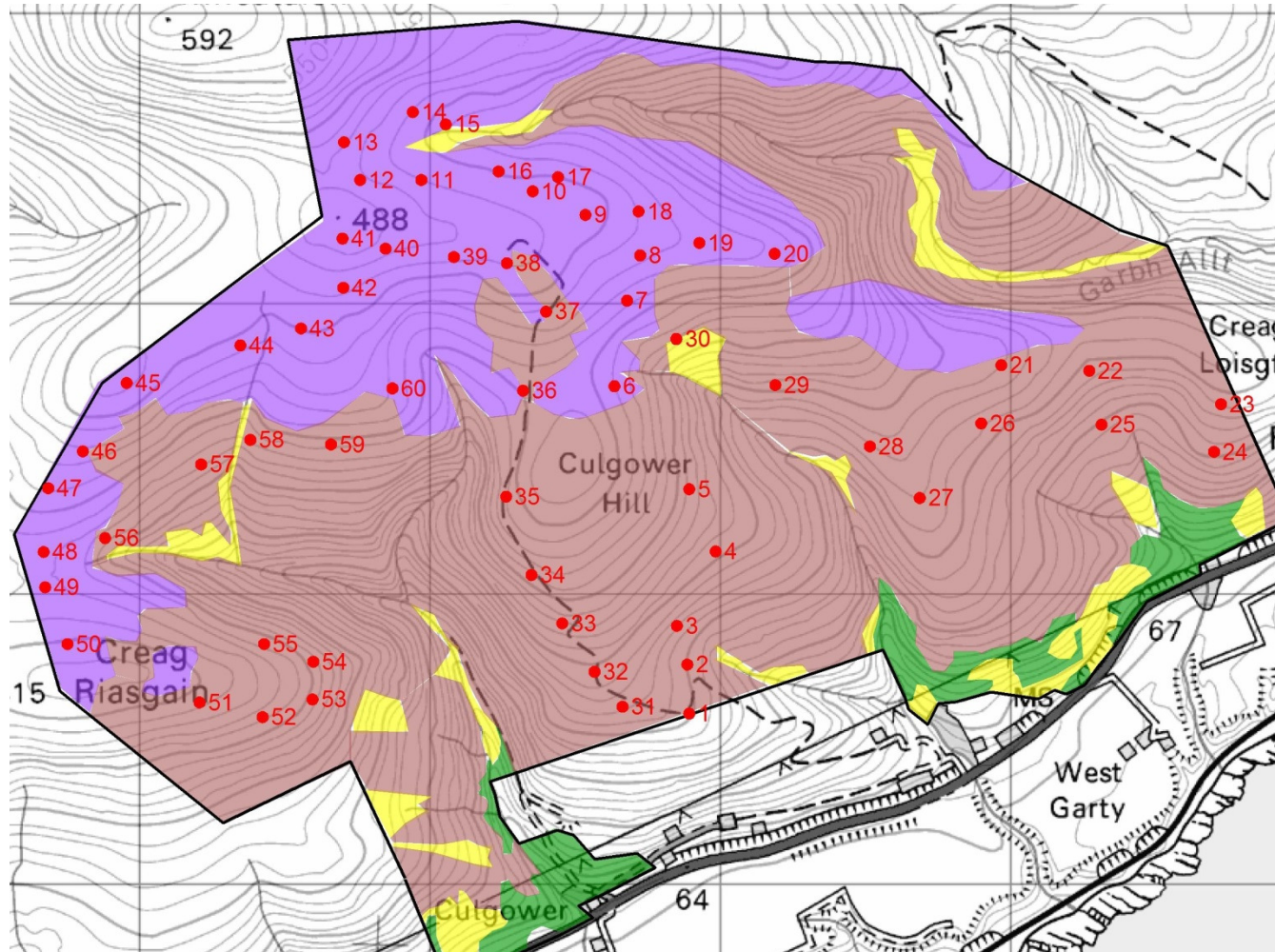
## Broad habitat

- Dwarf Shrub Heath (? divide into wet and dry)
- Blanket Bog
- (Flush and spring)
- (Native Woodland)
- (Willow Scrub)
- (Tall Herbs)

May need further subdivision in larger areas  
2 - 3 plots per square kilometre?

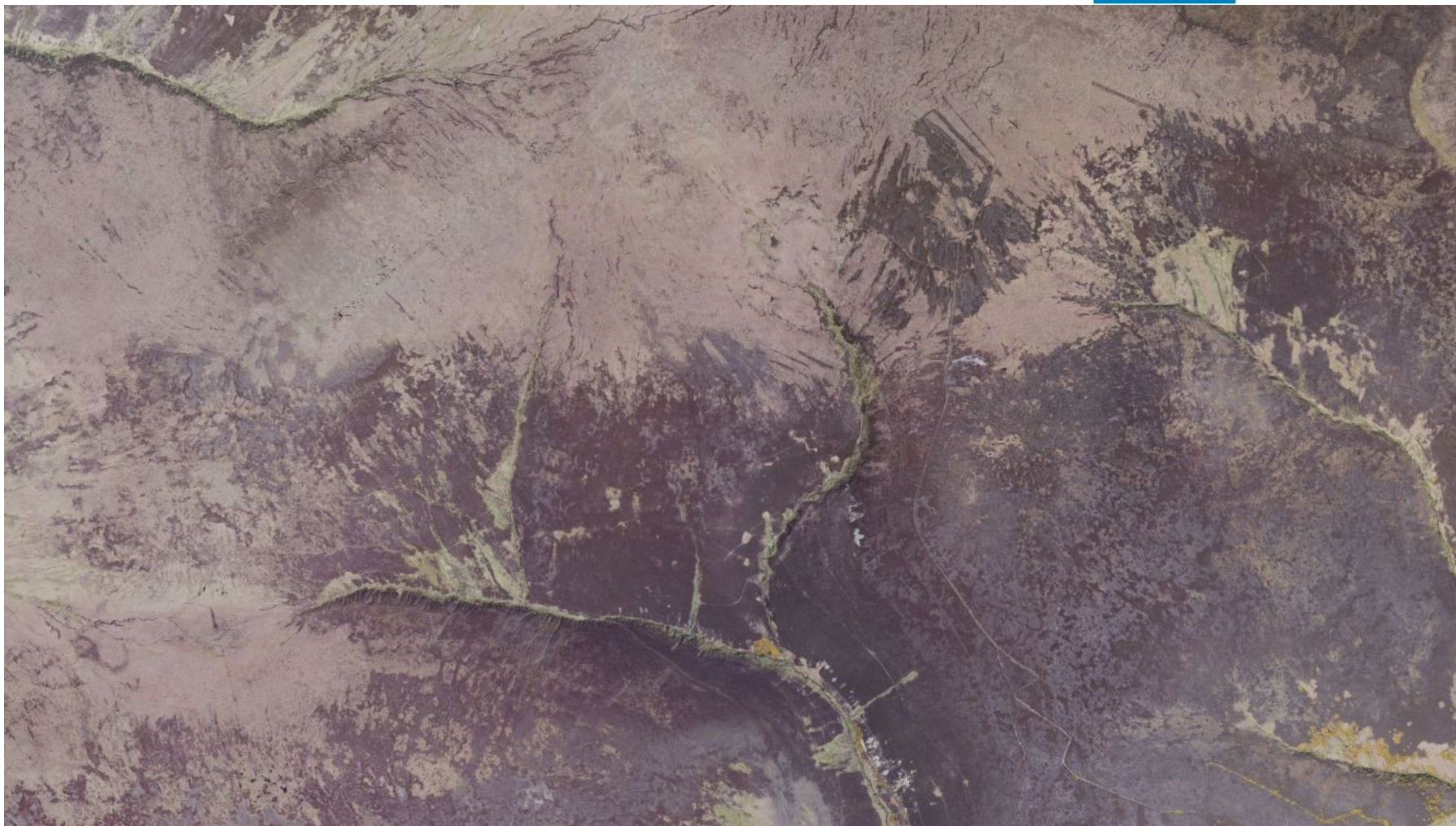


# Map of Habitat Areas





# Use of Aerial Imagery



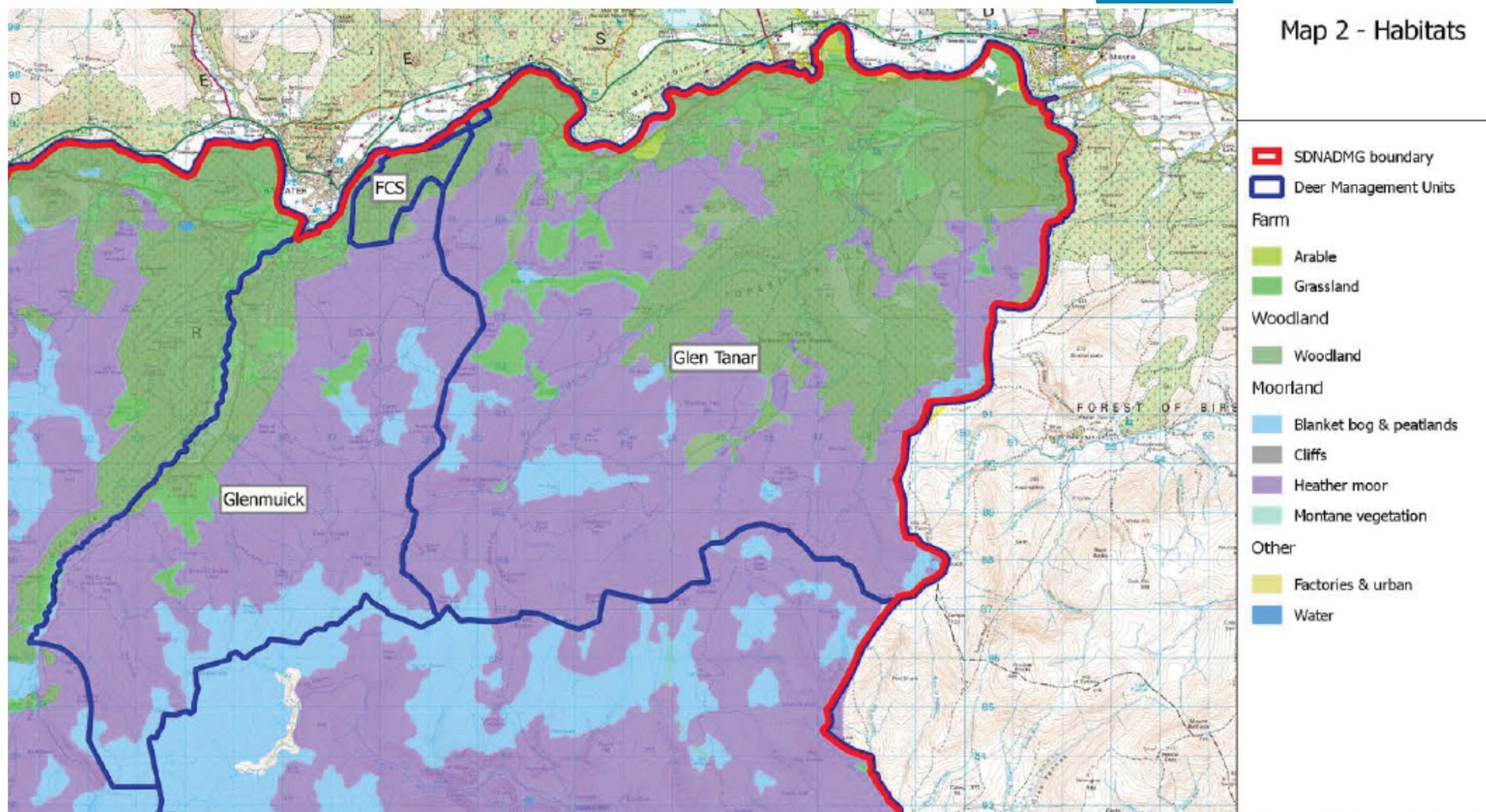


# Habitat Map



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Map 2 - Habitats



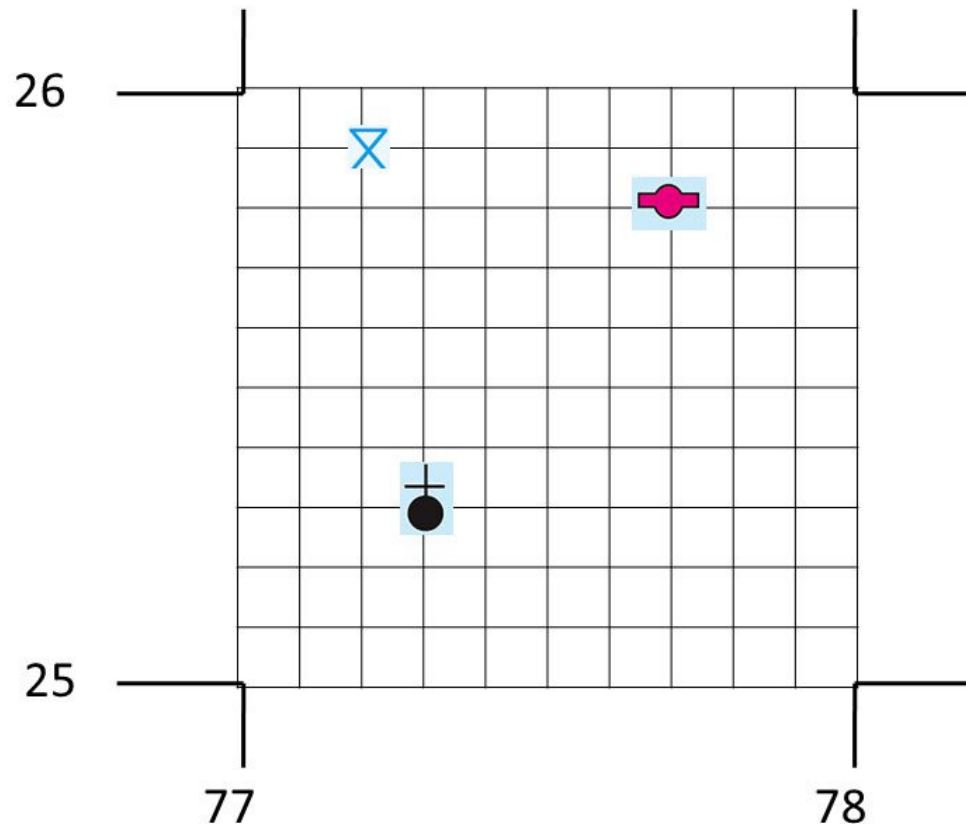
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# Locating Quadrats

In order to give something a six-figure grid reference, imagine the larger square split into one hundred smaller squares. Then add numbers 1 to 10 between the main lines.





# Marking Quadrats

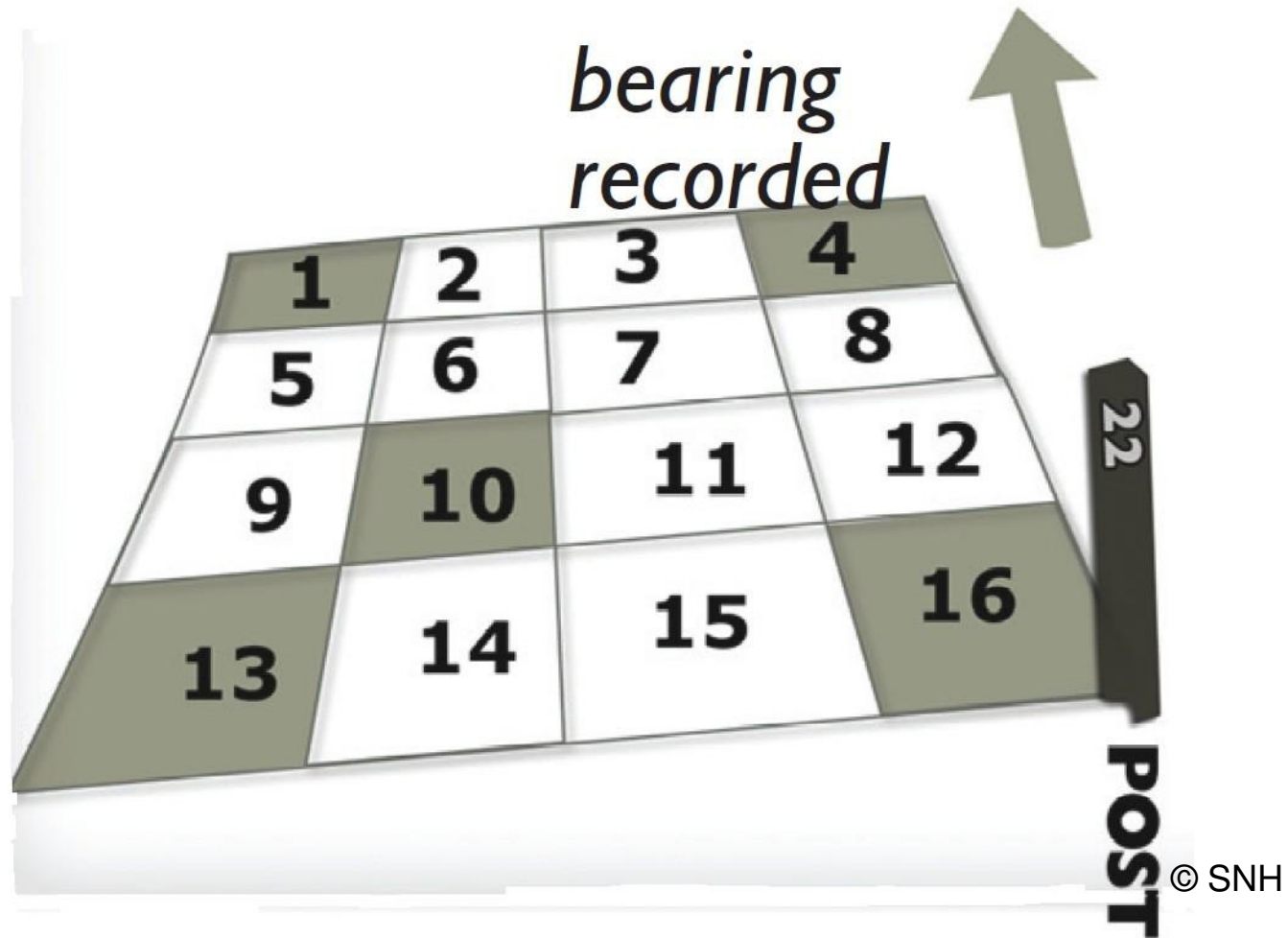


- 5 x 5 x 20cm posts

# Best Practice Measurements

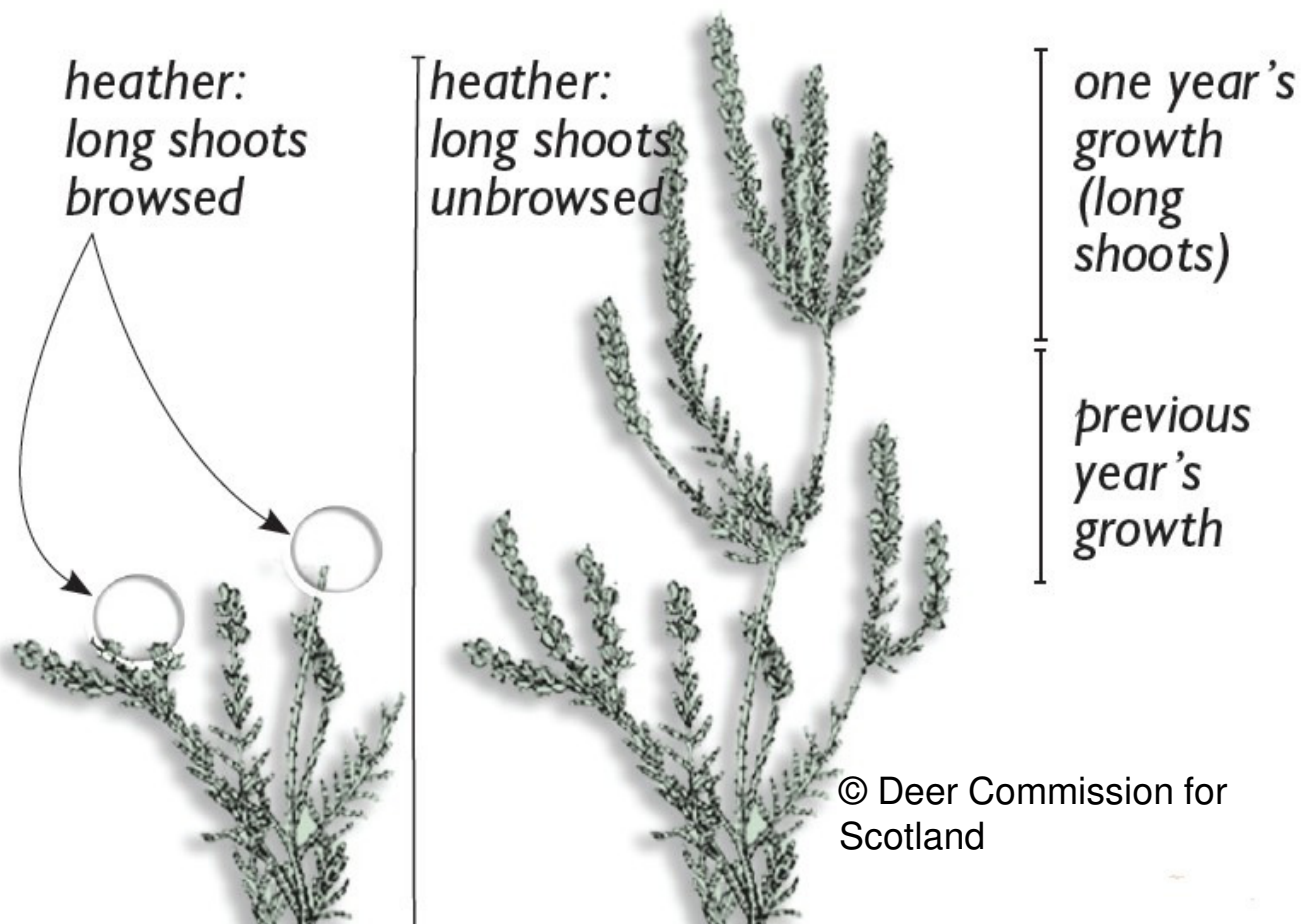


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# Browsing

- 3-4 handfuls of heather within each of the five shaded subplots in each plot



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# Browsing



- LIGHT: <33% long shoots browsed
- MODERATE: 33-66% long shoots browsed
- HEAVY: >66% long shoots browsed
- Categorise plot according to the most frequent category of quadrats.



## DWARF SHRUB HEATH DATA SHEET

Estate/ site:

Dates:

Recorders:

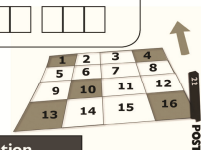
Year:

Plot  
number:

Digital photo  
numbers:

GPS:

Grid ref:



Quadrat	% last years heather shoots browsed	Heather present?	Vegetation height (cm)
1	<33 <input type="checkbox"/> 33 – 66 <input type="checkbox"/> >66 <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="text"/>
2		Yes <input type="checkbox"/> No <input type="checkbox"/>	
3		Yes <input type="checkbox"/> No <input type="checkbox"/>	
4	<33 <input type="checkbox"/> 33 – 66 <input type="checkbox"/> >66 <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="text"/>
5		Yes <input type="checkbox"/> No <input type="checkbox"/>	
6		Yes <input type="checkbox"/> No <input type="checkbox"/>	
7		Yes <input type="checkbox"/> No <input type="checkbox"/>	
8		Yes <input type="checkbox"/> No <input type="checkbox"/>	
9		Yes <input type="checkbox"/> No <input type="checkbox"/>	
10	<33 <input type="checkbox"/> 33 – 66 <input type="checkbox"/> >66 <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="text"/>
11		Yes <input type="checkbox"/> No <input type="checkbox"/>	
12		Yes <input type="checkbox"/> No <input type="checkbox"/>	
13	<33 <input type="checkbox"/> 33 – 66 <input type="checkbox"/> >66 <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="text"/>
14		Yes <input type="checkbox"/> No <input type="checkbox"/>	
15		Yes <input type="checkbox"/> No <input type="checkbox"/>	
16	<33 <input type="checkbox"/> 33 – 66 <input type="checkbox"/> >66 <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="text"/>

Heather stem breakage:

Light/moderate ☐ Heavy ☐

Deer dung present: Yes ☐ No ☐

Hare dung present: Yes ☐ No ☐

Average height:

Comments:



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# Browsing

- Give a score of 1 for light, 2 for moderate, 3 for heavy browsing
- Add the scores for the five subplots and divide by 5 to get average browsing score

Subplot 1	Subplot 2	Subplot 3	Subplot 4	Subplot 5	Whole Plot
Light	Light	Heavy	Moderate	Moderate	Moderate
1	1	3	2	2	$9 \div 5 = 1.8$

# Vegetation Height



- 3-4 measurements with a tape measure in each of the five shaded subplots in each plot
- Average the heights across plot.





# Blanket Bog - Trampling



- Bare ground with hoof prints
- Record how many of 16 sub-plots





# Blanket Bog – Bog Moss

- Present or absent
- Record how many of 16 sub-plots have sphagnum





# Dwarf-shrub heath - Heather distribution



- Record presence of ling heather or blaeberry in each of 16 subplots
- Summarise per plot (how many subplots have heather/blaeberry)







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OFFENDING COMMAND: ~  
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