Appendix F

Managing Upland Habitats with Differing Grazing Requirements - **A Practical Guide**

ACKNOWLEDGEMENTS
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AIM

This Guide provides practical information for land managers who are undertaking upland habitat management particularly on designated sites, although the principles are applicable more widely.

It aims to give guidance on management where important upland habitats have different requirements to maintain nature conservation interests and meet statutory requirements. In the case of designated sites the land manager will have to work with SNH to agree a management approach.

This Guide includes the following:

1. A description of 14 upland habitat types.
2. Information on the changes to management that might be needed where the influence of herbivores on habitats is either too much or too little.
3. Guidance as to what is a grazing conflict and steps to help resolve conflicts.
4. A list of the habitat management tools available together with guidance on deciding which to use.
5. Case studies showing worked examples with potential solutions.

INTRODUCTION

Upland farms and estates support a range of habitats that are important for their wildlife interest and landscape value. These habitats have been created and or managed by farmers and estates over many generations. Most of these habitats need a particular

level of grazing or other management (muirburn, action of trampling), to maintain their wildlife interest and to prevent natural succession to other habitat types.

Approximately 15% of upland areas in Scotland are designated as special for their wildlife value. Under the Habitats Directive the public agencies are obliged to 'avoid deterioration' of all the European interests on Special Areas of Conservation (SAC). It is also a Government objective to maintain the habitats on SACs and Sites of Special Scientific Interest (SSSIs) in 'favourable condition'.

Favourable condition requires the presence of the typical species and the natural processes that are expected for a given habitat type. On designated sites, favourable condition has a specific meaning as assessed by Site Condition Monitoring, but the principles of good or favourable condition are applicable more widely to the same semi-natural habitat types. Condition is assessed using a number of indicators, for example, sward height, the amount of disturbed bare ground, the proportion of grazed shoots or leaves[1].

Some habitat types require very low levels of grazing or no grazing at all in order to be in favourable condition. Other vegetation types require relatively high levels of grazing and are vulnerable to under-grazing. There is a range of vegetation types that fit somewhere between these two extremes.

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[1] Information on assessing favourable condition of designated habitats can be found at:
http://www.jncc.gov.uk/pdf/CSM_upland.pdf
http://www.jncc.gov.uk/pdf/CSM_woodland.pdf

A single hill can sometimes have habitat types that require low grazing levels (e.g. montane willow scrub) and habitat types that require higher grazing levels (e.g. calcareous grassland) within the same area. This situation may produce conflicting management requirements. When this occurs, it may be hard to devise a management regime that will maintain all the habitats in favourable condition, all of the time.

This guide provides advice on when such situations might arise and how farmers and upland managers might deal with them if they do. The format is set out step-by-step along with the case studies and guidance tables in the appendices.

STEPS TO IDENTIFYING IF THERE IS A HABITAT CONFLICT AND FINDING A SOLUTION

STEP 1 - Recognize the different habitat types

Determine the habitat types present on your management unit and if they are subject to any conservation designations[2]. Outwith designated sites you may need to carry out a survey to establish what habitats are present. The upland habitat types referred to in this guide are described in Appendix 1. Often different names may be given for habitat types, so try to look at the descriptions along with the name for guidance. The habitats have been colour coded to make it easier to follow them through the next steps.

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[2] Seek advice from SNH or refer to http://www.snh.org.uk/snhi/ SiteLink and http://www.jncc.gov.uk/Publications/JNCC312/UK_habitat_list.asp

STEP 2 - Gather background information

Gather together the available information on the site. This may include reference to habitat surveys, site condition reports, impact assessments along with historical and present day stock numbers.

STEP 3 - Habitat condition

Determine if the current management is appropriate to the habitats present. If the land is designated this information will include whether the habitat is deemed to be in favourable or unfavourable condition and why this is the case. Discussion with your local Scottish Natural Heritage (SNH) contact may help to clarify any concerns.

There may be situations where some habitats are in favourable condition and some are unfavourable. The management required to maintain all habitats in favourable condition may be conflicting. The case studies will provide examples of this.

STEP 4 - Decide if there is likely to be a conflict between habitats in terms of their grazing requirements

Grazing management can conflict when habitat types that require higher levels of grazing occur next to or in the same management area as habitat types that require lower levels of grazing.

Each set of conflicting habitats will have its own geographical position, its own grazing history and levels of use by livestock and deer, and its own variation in habitat extent and altitude. Each conflict will be different

and site specific and the best answer will often be a compromise dependent on the above factors.

Different habitats have different vulnerabilities and different attractiveness to grazing animals and this will affect grazing pressure. Appendix 2 shows the habitat types with their vulnerability and attractiveness to grazing. It provides help in deciding what changes in the grazing regime might be appropriate.

Decide if each habitat type is accessible to grazing animals or not. For example, a tall herb community that is restricted to cliff ledges, or a fenced woodland, are not available to large herbivores. In these cases conflicts may not actually be occurring. If there is not likely to be a conflict between different habitats, then the grazing animal density can be adjusted to bring each of the habitats towards favourable condition. If there is likely to be a conflict between the needs of different habitat types, then look at the management tools available in step 5.

STEP 5 - Habitat management tools to assist with resolving grazing conflicts between habitats

Use Appendix 4 - 'Tool Box' to think about some of the different management tools and constraints / considerations available to find the most suitable management.

Use the considerations column to remind you of the practical implications of the change. Ensure that any management change does not negatively affect other habitat types.

Use the tables in Appendix 3 - 'Management options for habitats with too much (3.1) or too little grazing (3.2)' to assist with the selection of management tools.

STEP 6 - Extensive management objectives & timescales

Normally the aim would be to manage an upland unit in an extensive practical manner and not to micro-manage each particular habitat. Hence a decision needs to be taken on the overall direction of management with clear objectives and timescales. This may prioritise some habitats over others.

There are several principles to consider:

- Consider and decide on the relative importance of the habitats present. This may be informed on designated sites by statutory obligations or elsewhere by national[3] or local biodiversity priorities and private objectives.
- Consider the relative size of habitats. It is not always appropriate to change the whole management system to improve a habitat that is very small.
- Take into account the grazing tolerances of habitats. Some habitats may withstand a period of lower/ higher grazing for a limited timescale.
- Timescale of management is important. It is not ideal to make large scale changes too quickly. If a habitat requires stock reduction, due to hefting

[3] http://www.ukbap.org.uk/newprioritylist.aspx

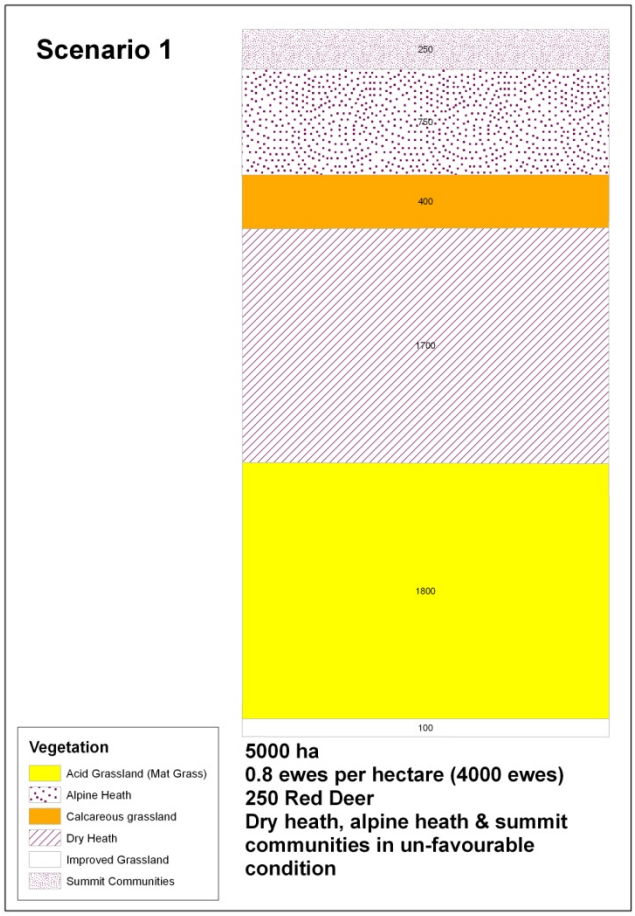
behaviour, it may be best to do this over a few years and monitor the changes rather than all at once.

The following example scenarios might help plan how management could be changed to resolve a grazing conflict.

STEP 7 - Case studies

The case studies (Scenarios 1 and 2) are presented here as examples of situations that may occur. In each scenario there is a greatly simplified distribution of habitats. Habitats are colour coded with the size (ha) of each included.

They are presented here with solutions and considerations that were explored during a practical Upland Management Workshop. However, there is never a single correct answer to upland management as each situation is different and management may be very complex.



How could you manage this area of SSSI land in order to bring the dry heath and alpine heath into favourable condition, but also maintain the calcareous and acid grasslands in favourable condition? The habitats are unfavourable due to too much grazing.

Habitats present range from low ground, improved grassland to summit habitats on the hill tops as depicted.

STEP 1 - Recognize the different habitat types

Look at Appendix 1 'Description of upland habitat types' and find the closest description to the case study vegetation – see table below.

Scenario 1 Vegetation Type	This Guidance Habitat Type	Extent of Habitat (ha)	Habitat Condition
Summit communities	Alpine summit communities of moss, sedge and three-leaved rush	250	unfavourable
Alpine heath	Alpine dwarf-shrub heath	750	unfavourable
Calcareous grassland	Upland calcareous grassland	400	favourable
Dry heath	Sub-alpine dry dwarf-shrub heath	1700	unfavourable
Acid grassland (Mat grass)	Acid grassland (Mat grass)	1800	favourable
Improved grassland	Improved Grassland	100	Guided by GAEC [4]

[4] Good Agricultural and Environmental Condition see http://www.scotland.gov.uk/Topics/farmingrural/Agriculture/grants/Schemes/ccompliance

STEP 2 - Gather background Information

5000 ha hill farm with 4000 ewes, a stocking rate of 0.8 ewes per hectare and 250 red deer, (i.e. 5 deer per km^2). Therefore overall there is a combined stocking of approximately 0.13 LU per ha[5].

STEP 3 - Habitat condition – see table above.

STEP 4 - Decide if there is likely to be a conflict between habitats in terms of their grazing requirements

Monitoring indicates that three designated habitats are in unfavourable condition and two in favourable condition within the same unit. Looking at the stocking levels at a combined 0.13 LU per ha indicates there is likely to be a relatively high grazing pressure on the sensitive vegetation types.

Appendix 2 indicates that calcareous grassland is vulnerable to too little grazing but that it is a very attractive habitat to herbivores. In this case there may or may not be a conflict between habitats in terms of their grazing requirements due to these preferences. However, the current grazing management needs to be reviewed to address the unfavourable condition of the dry heath, summit communities and alpine heaths.

Appendix 3, Table 3.1 suggests that for the summit and alpine heath communities a summer reduction can be used and for dry heath a reduction in winter grazing is

[5] Where 1 ewe is equal to 0.15 LU and 1 red deer is equivalent to approximately 0.25 LU [i.e. (0.8 x 0.15) + (0.05 x 0.25) = 0.13]

needed. Hence a common remedy is a year-round reduction in grazing pressure.

STEP 5 - Habitat management tools to assist with resolving grazing conflicts between habitats

Using Appendix 4 'Tool Box' and the tables in Appendices 2 and 3 the following management is suggested:

1. Reduce deer numbers
2. Reduce summer grazing for summit communities and alpine heath
3. Away winter hoggs & ewes to reduce grazing on dry heath
4. Stock disposal of 800 to 1000 ewes (to c.0.6 ewes per ha)
5. Introduce cattle for summer grazing of the lower altitude grasslands

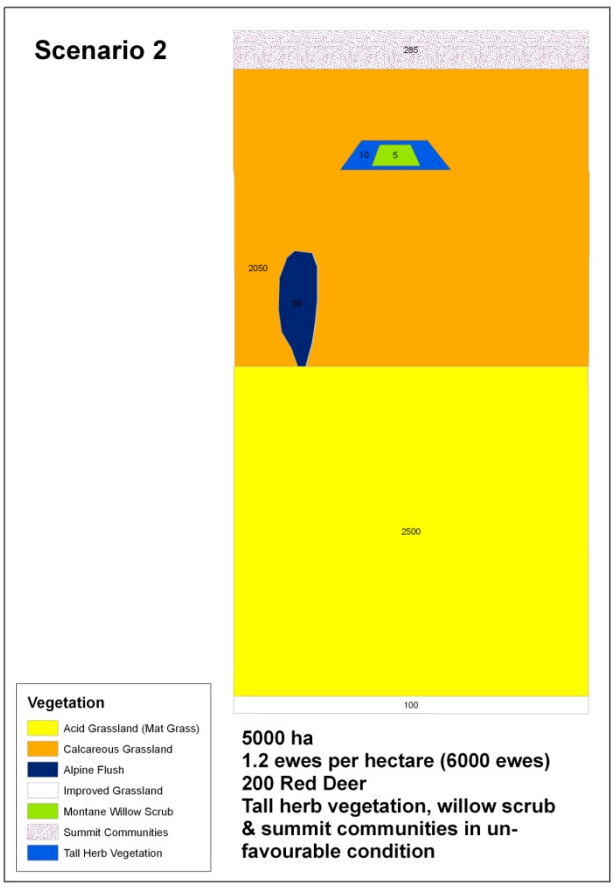
For each solution the considerations need to be addressed, for example away wintering is a cost to the business as is stock disposal and only if suitable attainable grants were available might this be considered.

Cattle grazing could only be considered if the fencing, handling facilities and animal health and welfare issues could be met.

STEP 6 - Extensive management objectives & timescales

Principles	
Habitat Importance	Alpine summit communities, alpine dwarf-shrub heath, upland calcareous grassland and sub-alpine dry dwarf-shrub heath are all SSSI interests and hence the most important habitats.
Extent of Habitats	Very large area of unfavourable habitats - 2700 ha out of 5000 ha upland unit.
Habitat Tolerance	As calcareous grassland is very attractive to grazing animals it is assumed that if livestock and deer numbers are reduced this habitat would still be favoured and grazed.
Timescale	Reducing deer numbers, reducing summer grazing, stock disposal, away wintering and introduction of cattle need not all be done at once. From a practical perspective, try reducing deer and sheep numbers in the first 3 years and look at the result. This could be followed by away wintering and more deer reduction if needed.

The objective was to move the unfavourable habitats to favourable condition by reducing grazing pressure while keeping the calcareous grassland adequately grazed. One conclusion is to reduce the sheep and deer numbers in the first 3 years then re-monitor the site.



How could you manage this area of non-designated land in order to bring the tall herb, willow scrub and summit communities into favourable condition, but also maintain adequate grazing on the calcareous grassland and alpine flushes?

STEP 1 - Recognize the different habitat types

Look at Appendix 1 'Description of upland habitat types' and find the closest description to the vegetation present in the case study area – see table below.

Scenario 2 Vegetation Type	This Guidance Habitat Type	Extent of Habitat (ha)	Habitat[6] condition
Summit communities	Alpine summit communities of moss, sedge and three-leaved rush	285	unfavourable
Tall herb vegetation	Tall herb vegetation	10	unfavourable
Montane willow scrub	Montane willow scrub	5	unfavourable
Calcareous grassland	Upland calcareous grassland	2050	favourable
Alpine flush	Alpine flush	50	favourable
Acid grassland (Mat grass)	Acid grassland (Mat grass)	2500	favourable
Improved grassland	Improved Grassland	100	Guided by GAEC

[6] In this case, favourable condition is not referred to in the specific sense of designated sites, but condition can be assessed using the same range of indicators as used in SCM assessments.

STEP 2 - Gather background Information

5000 ha hill farm with 6000 ewes, a stocking rate of 1.2 ewes per hectare and 200 red deer.

STEP 3 - Habitat condition – see table above

STEP 4 - Decide if there is likely to be a conflict between habitats in terms of their grazing requirements

The average overall herbivore density of 0.19 LU per ha[7] represents a high pressure for the sensitive vegetation types. However, the relative area of the preferred calcareous and acid grasslands is much greater, hence the summit communities may not experience these densities. The willows and tall herbs occur in small patches surrounded by calcareous grassland and are also attractive to grazing.

Appendix 3, Table 3.1 suggests the common requirement for summit communities to remedy overgrazing is a reduction in all-year-round grazing pressure and or a reduction in summer grazing. For tall herb and montane willow scrub either removing grazing animals completely or reducing grazing all year round to a very low level is needed.

Appendix 2 indicates that calcareous grassland is vulnerable to too little grazing but that it is a very attractive habitat to herbivores. The alpine flush habitat type has a relatively low vulnerability to too little grazing and is fairly attractive to grazing animals.

It is possible that some reduction in grazing may not cause deterioration of the grasslands, but a reduction in

[7] (1.2 x 0.15) + (0.04 x 0.25) = 0.19

grazing sufficient to bring the tall herbs and willows into good condition is likely to cause deterioration of the calcareous grasslands. This is the conflict hence a decision needs to be taken as to which habitats the management will be geared towards and over what time period.

STEP 5 - Habitat management tools to assist with resolving grazing conflicts between habitats

Using Appendix 4 'Tool Box' and the tables in Appendices 2 and 3 the following management options are suggested:

1. Fence off the tall herb and montane scrub from sheep.
2. Reduce grazing pressure on the summit communities, montane scrub and tall herb habitats by reducing sheep numbers.
3. Improve the in-bye land to carry more sheep in the summer to help reduce pressure on the summit communities.

For each solution the considerations need to be addressed, for example is the tall herb and scrub actually accessible to sheep and what are the practicalities of fencing?

For practical purposes, any stock reduction should be undertaken in a controlled manner over several years and will require monitoring to see if the levels are right or require further changes.

Improving the in-bye may be costly with new drainage and fertilisers needed. Improving grassland older than 10 years needs to be checked with SGRPID with

reference to the Environment Impact Assessment Regulations and GAEC.

STEP 6 Extensive Management Objectives & Timescales

Principles	
Habitat Importance	Alpine summit, tall herb, montane willow scrub, upland calcareous grassland and alpine flush are the most important habitats; as although not designated they match with UK Biodiversity Action Plan habitats[8] and are types recognised by the Habitats Directive (Annex 1 habitats).
Extent of habitats	Relatively small area of unfavourable habitats - 300 ha out of 5000 ha upland unit.
Habitat Tolerance	As calcareous grassland is very attractive to grazing animals it is assumed that if livestock and deer numbers were reduced this habitat would still be favoured and grazed.
Timescale	Removing grazing from tall herb and scrub, and reducing grazing on the summit communities is considered here. Only a small area is unfavourable. Fencing therefore may be a good solution as this will least

[8] UK BAP types: Mountain Heaths and Willow Scrub, Upland Calcareous Grassland and Upland Flushes, Fens and Swamps. Annex 1 types: see http://www.jncc.gov.uk/Publications/JNCC312/UK_habitat_list.asp

	affect other communities, however there may be practical difficulties of fencing in such locations. Timescale can be immediate with small scale grazing reductions at a later date if needed.

The objective was to move the unfavourable habitats to favourable condition by reducing grazing pressure while keeping the calcareous grassland adequately grazed.

One conclusion is to fence the tall herb and scrub from the grazers and to reduce summer grazing by livestock and deer (by reducing numbers or occupancy) following this if summit communities require it.

APPENDIX 1
Description of some common upland habitat types

Alpine dwarf-shrub heath	Consists of mats of low-growing vegetation, up to about 10 cm thick, dominated by heather and blaeberry, but sometimes also with prostrate juniper, robust lichens or woolly fringe-moss. Normally occurs around 600-750m above sea level but occasionally can be found as low as 300m in very exposed areas.
	
Alpine flush	Alpine flushes comprise mixtures of small sedges, small rushes, small herbs and mosses which grow on open ground where water flows at high altitudes. These are usually quite fragmented and usually small.
	

Alpine summit communities of moss, sedge and three-leaved rush 	Short vegetation with mosses, sedges, rushes or grasses depending on the degree of wind-exposure and snow lie experienced. These mossy heaths are often mat-like, and appear as mottled patches of vegetation. This is the predominant kind of vegetation on British mountains at high altitudes of above around 750m occurring above the zone dominated by dwarf-shrubs.
Montane willow scrub 	Consists of moderately tall vegetation, up to 1m, consisting of willow shrubs, a variety of herbs and mosses, and dwarf shrubs. Willow is generally the most abundant species. It normally occurs where there is protection from browsing and is mostly present as small fragmentary stands on steep slopes, broken ground and cliff ledges. This habitat could be more extensive where the geology is suitable if browsing levels allowed.

Moss, dwarf-herb, and grass-dominated snow-bed 	Cover is largely composed of a short carpet or crust dominated by mosses. Vascular plants are usually sparse, although stiff sedge, tufted hair-grass and mountain willow can sometimes be frequent. It is usually found above 600m. Associated with these are scattered grass tussocks, cushion and mat-forming herbs and mosses.
Sub-alpine dry dwarf-shrub heath 	Contains more than 25% dwarf shrubs such as heather and blaeberry in relatively dry conditions. A little purple moor-grass may occur amongst the heather.

Blanket bog and valley bog 	Blanket bogs tend to be dominated by mixtures of *Sphagnum* bog mosses, cotton-grass, dwarf shrubs, and occasionally lichens. Usually found on peat over 0.5m deep.
Upland calcareous grassland 	Found on base rich soils derived from calcareous rocks. Although normally dominated by bent and fescue grasses, it usually contains a high diversity of plant species, many of which are only found on areas of base rich soil, such as wild thyme, alpine lady's-mantle and mountain avens.

Tall herb vegetation 	Tall vegetation dominated by tall herbaceous flowering plants. It can be species rich, but sometimes just one species is dominant. This vegetation usually occurs where there is protection from grazing, on steep slopes and cliff ledges. The range of occurrence is wide, from 300m upwards. Again this habitat could be more extensive subject to grazing pressures and would likely occupy the same ground as calcareous grasslands.
Wet heath 	Contains more than 25% dwarf shrubs such as heather and cross-leaved heath in relatively wet conditions. Purple moor-grass and deer-grass are often abundant.

Upland woodland (upland mixed ash, upland birch, upland oak, Caledonian pinewood) 	Dominated by a variety of trees and shrubs which may be stunted due to the wind at higher altitudes. Species composition relates to soil type, wetness and management history. Structure is again influenced by management history including grazing and protection, either naturally or through fencing. Woodland provides important winter food and shelter for wild herbivores in particular.

*The habitats with photographs are commonly Natura or SSSI notified interests (under varying names), the broad habitat types described below are generally not part of the designated interest.

Acid grassland (mat grass)	Species poor acid grassland dominated by mat grass. Less than 25% dwarf shrubs.
Acid grassland (bents & fescues)	Generally unenclosed hill land on acid soil dominated by fine-leaved grasses. Generally species poor grading into heath. Less than 25% dwarf shrubs.
Improved grassland	Dominated by sown species such as ryegrass and white clover. Sward has been modified by heavy grazing, drainage, fertilisers, lime, slurry or manure. Often if site has been drained then will have been ploughed and reseeded or slot seeded. Hence sward will have lost many of the herbs associated with semi-natural communities.

APPENDIX 2
Vulnerability of each habitat type to too much or too little grazing along with attractiveness to herbivores

Feature name	Vulnerability to too much grazing	Vulnerability to too little grazing	Attractiveness to herbivores
Upland calcareous grassland	Low	Medium	High
Sub-alpine dry dwarf-shrub heath	Low/ Medium	Low/ Medium	Medium
Blanket bog and valley bog	Medium	Low	Low/ Medium
Alpine dwarf-shrub heath	Medium	Low	Medium
Wet heath	Medium	Low	Low/ Medium
Moss, dwarf-herb, and grass-dominated snow-bed	Medium	Low	Low/ Medium
Alpine flush	Medium / High	Low	Medium/ High
Upland woodland	High	High-long-term Low-short-term	High
Alpine summit communities of moss, sedge and three-leaved rush	Medium/ High	Low	Low/ Medium
Tall herb vegetation	High	Not an issue	High
Montane willow scrub	Very High	Not an issue	High

Source "Developing guidance for managing extensive upland grazing where habitats have differing requirements" SAC

APPENDIX 3 - Useful management options for habitats with too much or too little grazing

The tables below give examples of tools that are useful for the management of different habitats with different grazing levels.

Table 3.1: Situations where habitats have too much grazing

Habitat Type	Management options to address high grazing and trampling impacts
Upland calcareous grassland	Reduction in summer grazing, especially flowering and seeding periods Reduction in all-year-round grazing Introduction of cattle coupled with reduction in sheep
Alpine dwarf-shrub heath	Reduction in summer grazing pressure. Reduction in all-year-round grazing pressure
Blanket bog and valley bog	Reduction in winter grazing pressure Reduction in all-year-round grazing pressure
Sub-alpine dry dwarf-shrub heath **Wet heath**	Reduction in winter grazing pressure Reduction in all-year-round grazing pressure Muirburn[9] (care to be taken on wet heath)
Moss, dwarf-herb, and grass-dominated snow-bed **Alpine flush** **Alpine summit communities of moss, sedge and three-leaved rush**	Reduction in summer grazing pressure Reduction in all-year-round grazing pressure
Tall herb vegetation **Montane willow scrub**	Removal of grazing animals Reduction in all-year round grazing to very low levels
Upland woodland	Reduction in summer grazing pressure and removal of winter grazing pressure. Introduction of cattle grazing coupled with reduction in sheep grazing.

[9] N.B. muriburn will reduce the available vegetation in the short-term, but may improve the grazing in the medium to long-term.

Table 3.2: Situations where habitats have too little grazing

Habitat type	Management options to address the low level of grazing and trampling impacts
Upland calcareous grassland	Increase in all-year-round grazing pressure Increase in late summer-autumn grazing? Introduction of cattle grazing
Sub-alpine dry dwarf-shrub heath	Muirburn (care to be taken on wet heath) Increase in summer grazing pressure
Wet heath	
Alpine flush	Unlikely to be a major issue Increase in all-year-round grazing pressure
Blanket bog and valley bog	Unlikely to be a major issue
Alpine dwarf-shrub heath	
Moss, dwarf-herb, and grass dominated snow-bed	
Alpine summit communities of moss, sedge and three-leaved rush	
Tall herb vegetation	
Montane willow scrub	
Upland woodland	Introduction of cattle grazing in the summer

APPENDIX 4 - The Tool Box

Habitat management tools including practical considerations needed when deciding on the best balance of management tools to use

Management tool type	Tool specific	Considerations
Overall herbivore grazing	Single grazers: Sheep, cattle or deer Combination of sheep/cattle/deer - age - breed No grazing Variations of above	• Overall economic viability • Is it practical – are the animals available • Will this affect or be affected by neighbouring farms/owners • Animal health and welfare • Fencing may be needed • Requirement for maintenance • Buildings (sheds for over wintering) • Tracks (quad bike tracks to provide winter feeding on site) • Availability of grants
Seasonal (temporal) grazing	Winter grazing Summer grazing Avoiding flowering / seeding season	• Does this fit into practical farm management (e.g. if off-wintering is required is there somewhere for the sheep to be off-wintered) • Will this affect or be affected by neighbouring farms/owners • Fencing may be needed • Animal health and welfare • Extra gathering. Which may affect neighbours
Grazing densities	Stock reduction Cattle increase / introduction Deer control	• Handling infrastructure • Animal health and welfare • Availability of grants • Tracks or use of ATVs for extraction. • Best Practice Guidance

APPENDIX 4 - The Tool Box (continued)

Management tool type	Tool specific	Considerations
Distribution of grazing	Moving sheep regularly with dogs – shepherding Diversionary feeding (short-term measure) Use stock that know the ground – such as hefting Fencing (conventional stock fence, deer fence, electric fence) Targeted deer control	• Availability of skilled labour • Will this affect or be affected by neighbouring farms/owners • Availability of management expertise/guidance • Health and Safety • Impact on other wildlife & habitats • Animal health and welfare • Availability of grants • Access issues from hill paths cutting through hefts for gathering • Tracks or use of ATVs for extraction.
Heather management	Burning to encourage heather regeneration. Swiping (machine) to encourage heather regeneration.	• Availability of skilled labour • Availability of management expertise/guidance • Health and Safety • Requirement for long-term maintenance • Availability of grants
Bracken management to increase available forage area	Spraying (chemical control) Mechanical (cutting, crushing)	• Availability of skilled labour • Requirement for long-term maintenance • Availability of grants
Drainage	More - improving drainage may improve grazing on an area as a diversionary tactic. Less - Blocking drains as part of habitat restoration on bogs may discourage grazing.	• Availability of skilled labour • Availability of grants • Requirement for long-term maintenance

APPENDIX 4 - The Tool Box (continued)

Management Tool type	Tool specific	Considerations
Inbye improvement	Fertiliser / Lime Reseeding, to encourage stock onto specific areas.	• Economic viability • Regulations/ GAEC
Woodland/ Forestry	Plantations, shelter belts to provide alternative food and shelter. Native woodland.	• Availability of management expertise/guidance • No planting on peat over 0.5m depth • Requirement for maintenance • Impact on the landscape • Availability of grants
Collaboration with neighbours	Deer control Sheep management hefts	• Management/lack of on neighbouring land