



Deer Management in Scotland:
Report to the Scottish Government
from Scottish Natural Heritage 2016
Annexes





Scottish Natural Heritage
Dualchas Nàdair na h-Alba

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Deer Management in Scotland: Report to the Scottish Government from Scottish Natural Heritage in 2016

Annexes

October 2016

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Annexes

Annex 1 ADMG Benchmark Categories

Benchmark Categories (15 categories subdivided into 45 criteria).

1. Area and boundaries

- 1.1. Identify the appropriate boundaries for the group to operate in
- 1.2. Define appropriate sub populations where applicable

2. Membership

- 2.1. All property owners within a deer range should be members of a DMG, including private and public land owners; also, where possible, agricultural occupiers, foresters, crofters and others on adjoining land where deer may be present. In some cases this may extend to householders with private gardens

3. Meetings

- 3.1. DMGs should meet regularly. Two formal meetings per year is the norm but more frequent interaction between members, between meetings, should be encouraged
- 3.2. For effective collaborative management to take place it is important that all DMG Members should attend every meeting or be represented by someone authorised to make appropriate decisions on their behalf
- 3.3. In addition to landholding Members, including public sector owners, public agencies such as SNH and Forestry Commission Scotland should be in attendance and other relevant authorities such as Police Scotland may be invited to attend DMG meetings
- 3.4. Meetings should operate to an agenda and be accurately minuted. Attendees should be encouraged to participate and agreed actions and decisions should be recorded
- 3.5. Group can demonstrate a capacity to deal with issues between meetings as they arise, and to provide an ongoing source of communication and advice as required

4. Constitution & Finances

- 4.1. All DMGs should have a Constitution which defines the area of the Group, sets out its purpose, its operating principles, membership and procedures, in addition to providing for appointing office bearers, voting, raising subscriptions and maintaining financial records
- 4.2. Good management and budgeting of finances

5. Deer Management Plans

- 5.1. All DMGs should have an up to date, effective and forward looking Deer Management Plan (DMP)
- 5.2. The DMP should record all the land management objectives within the DMG area
- 5.3. Where applicable, the plan should include a rolling 5 year population model
- 5.4. Appropriate use of maps to illustrate relevant detail

- 5.5. The DMP should identify the public interest aspects of deer management
- 5.6. DMP should make appropriate reference to other species of deer within the DMG area, and provide a level of detail proportionate to this interest
- 5.7. It should include a list of actions that deliver the collective objectives of DMG Members as well as public interest objectives. These actions should be updated annually
- 5.8. It is important that all DMG Members should play a full part in the planning process and in the implementation of agreed actions
- 5.9. The DMP may identify potential conflicts and how they can be prevented or addressed to ensure an equitable approach to the shared deer population
- 5.10. Relevant local interests should be consulted on new DMPs and advised of any changes as they come forward

6. Code of Practice on Deer Management

- 6.1. The Code should be endorsed by all DMGs and referenced in both the Constitution and Deer Management Plan of every Group. The terms of the Code should be delivered through the Group Deer Management Plan

7. ADMG Principles of Collaboration

- 7.1. The Principles of Collaboration should be incorporated into all DMG Constitutions and Deer Management Plans

8. Best Practice

- 8.1. All deer management should be carried out in accordance with Best Practice
- 8.2. All Deer Management Plans should reference and follow WDBP which will continue to evolve

9. Data and Evidence gathering - Deer Counts

- 9.1. Accurate deer counting forms the basis of population modelling. An ethos that reflects this should be in evidence
- 9.2. As publicly-funded aerial counts are now exceptional, DMGs should aim to carry out a regular well planned coordinated foot count of the whole open range deer population. The norm is to count annually
- 9.3. Recruitment and mortality counts are also essential for population modelling.
- 9.4. Other census methods may be required in some circumstances; e.g. dung counting in woodland or other concealing habitats, or on adjoining open ground

10. Data and evidence gathering - Culls

- 10.1. All DMGs should agree a target deer population or density which meets the collective requirements of Members without detriment to the public interest
- 10.2. The cull should be apportioned among Members to deliver the objectives of the DMP and individual management objectives while maintaining the agreed target population and favourable environmental condition
- 10.3. The Group cull target should be reviewed and, if necessary, adjusted annually

11. Data and evidence gathering - Habitat Monitoring

- 11.1. DMGs should carry out habitat monitoring. Habitat Impact Assessments (HIA) measure progress towards agreed habitat condition targets on both designated sites and the wider deer range

- 11.2. HIAs should be carried out on a systematic and regular basis. A three-year cycle is the norm but many find annual monitoring useful
- 11.3. Data is required on other herbivores present and their impact on the habitat
- 11.4. DMPs should include a section on habitat monitoring methods and procedures and record annual results so as to measure change and record trends

12. Competence

- 12.1. It is recommended that in addition to DSC 1 deer managers should also attain DSC 2 or equivalent
- 12.2. Deer managers supplying venison for public consumption are required to certify carcasses as fit for human consumption to demonstrate due diligence. "Trained Hunter" status is required for carcass certification

13. Training

- 13.1. All DMGs should have a training policy and incorporate it in the DMP
- 13.2. All DMG Members or those acting on their behalf should undergo the necessary training to demonstrate Competence
- 13.3. The training policy should promote and record continuing professional development through Best Practice Guidance

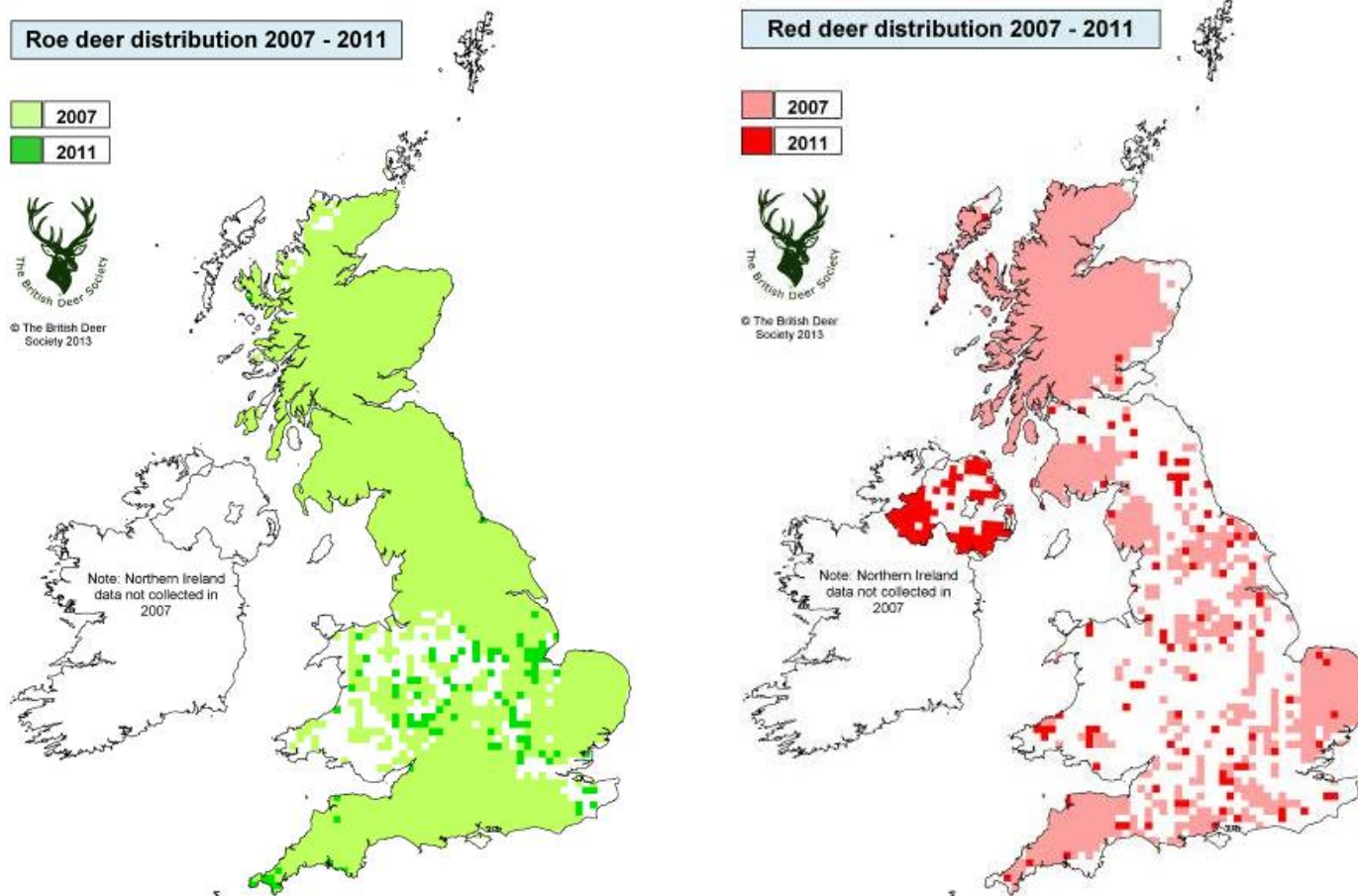
14. Venison Marketing

- 14.1. Membership of the Scottish Quality Wild Venison scheme is recommended by ADMG
- 14.2. There is evidence of collaborative venison production within the Group

15. Communications

- 15.1. DMGs should include a Communications Policy in their DMP. External communication should be directed at parties not directly involved but with an interest in deer management including individuals, local bodies such as community councils, local authorities, local media and other specialist interests
- 15.2. An annual communication programme suitable to local circumstances is advised. This might include a DMG website or a page on www.deer-management.co.uk, an annual Newsletter, annual open meeting, or attending local meetings by invitation
- 15.3. A Deer Management Plan should be accessible and publicly available, and local consultation during its development is advised

Annex 2 Wild Deer Distribution Maps

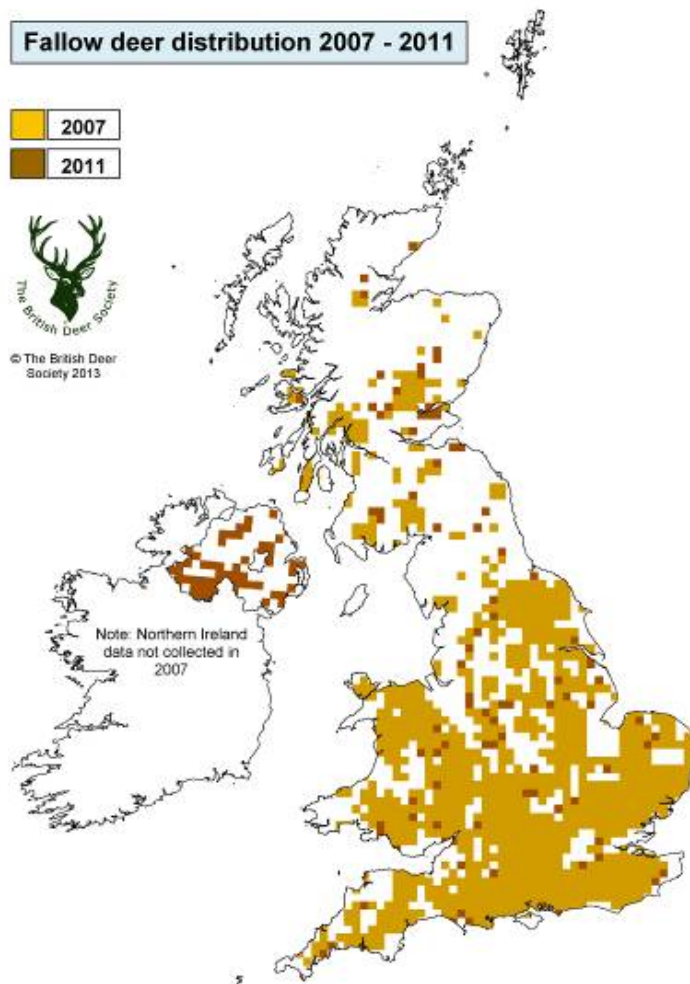


Maps of UK-wide red deer and roe deer distribution as recorded in 2007 and 2011, compiled by the British Deer Society in 2013. Distribution in 2011 is additional to 2007 and thus both maps show range expansion.

Fallow deer distribution 2007 - 2011



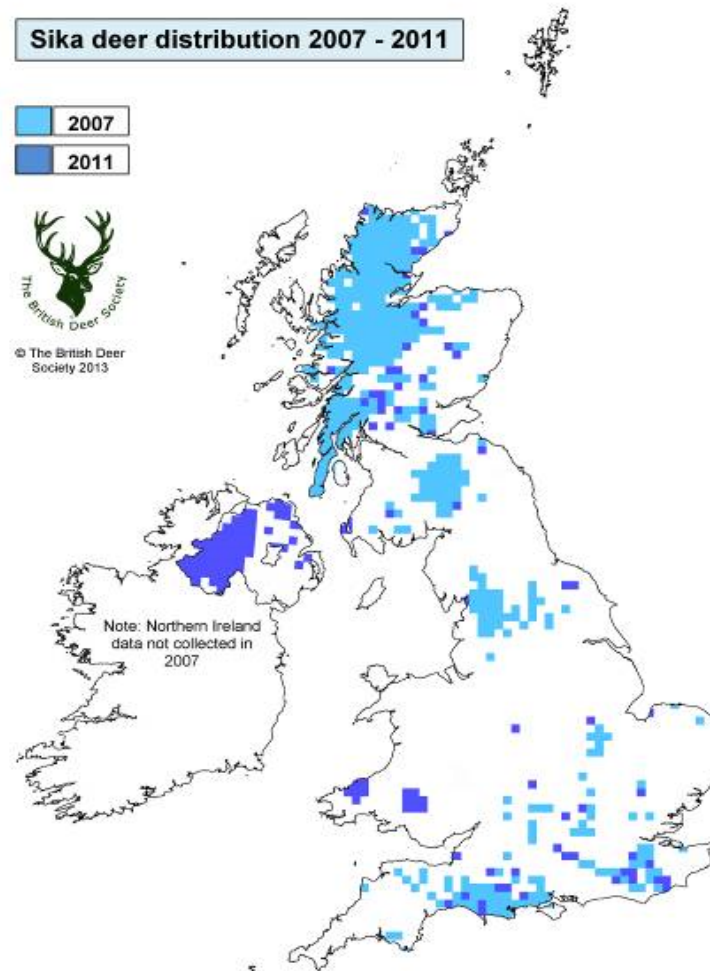
© The British Deer Society 2013



Sika deer distribution 2007 - 2011



© The British Deer Society 2013



Maps of UK-wide fallow deer and sika deer distribution as recorded in 2007 and 2011, compiled by the British Deer Society in 2013. Distribution in 2011 is additional to 2007 and thus both maps show range expansion.

Annex 3 Trends in the Sheep Population of Scotland

Trends in the sheep population over the last decade show the total number of sheep decreasing by 1.18 million (15%) from 7.88 million in 2005 to 6.70 million in 2015¹. Figure 3.1 displays trends for breeding ewes and lambs, which in June 2015 made up 87 per cent of the total sheep population².

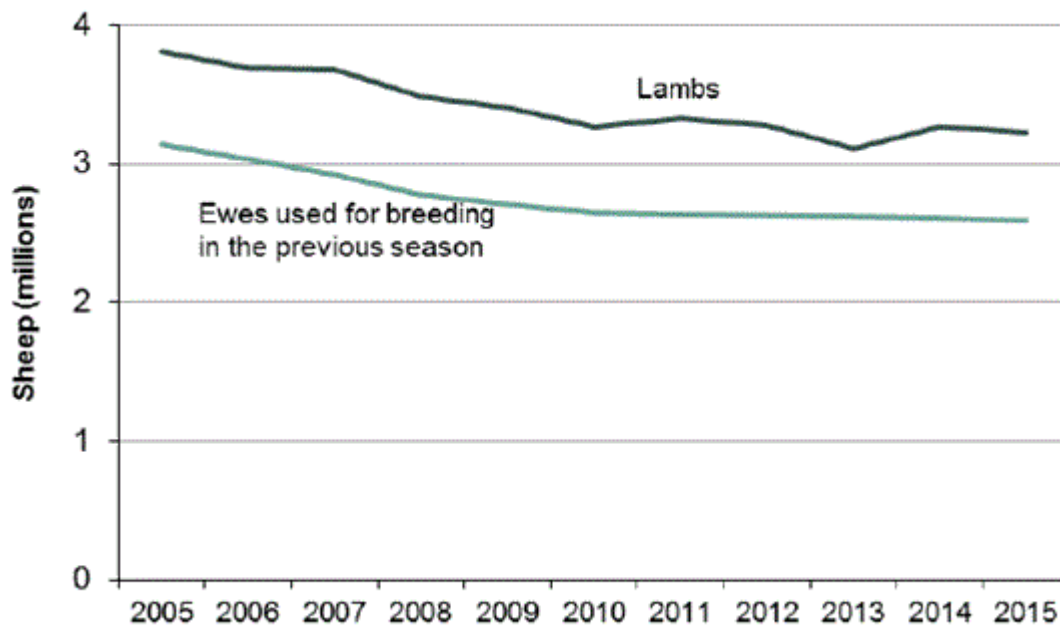


Figure 3.1. Ewes used for breeding and lambs, trends 2005 to 2015²

Over the past ten years, there has been a decline of 553,000 ewes for breeding (18 per cent) from 3.14 million in 2005 to 2.59 million in 2015. Most of this decline occurred between 2005 and 2010, with more modest declines since then. The introduction of Single Farm Payments in 2005 signalled a steeper decline in sheep numbers than had been witnessed earlier in the decade (following restocking after the 2001 foot and mouth outbreak) with a decrease of 1.13 million sheep evident between 2005 and 2010 (annual average decline of 3.0 per cent)¹. The largest declines were in Lochaber, the Western Isles, Argyll and Bute Islands, Ross and Cromarty, Skye and Lochalsh and the Shetland Islands.

Since 2010, the number of sheep has generally averaged around 6.7 million, with fluctuations driven by variability in the number of lambs. The annual lamb numbers have been affected by how harsh the winters and springs have been¹.

Figure 3.2 below shows the number of sheep per hectare, using the total area in the parish, not just the area of agricultural land. While one might associate the large areas of rough grazing in the Highlands with sheep farming, the highest concentration of sheep is to be found south of the central belt, and to a lesser extent on the east coast.

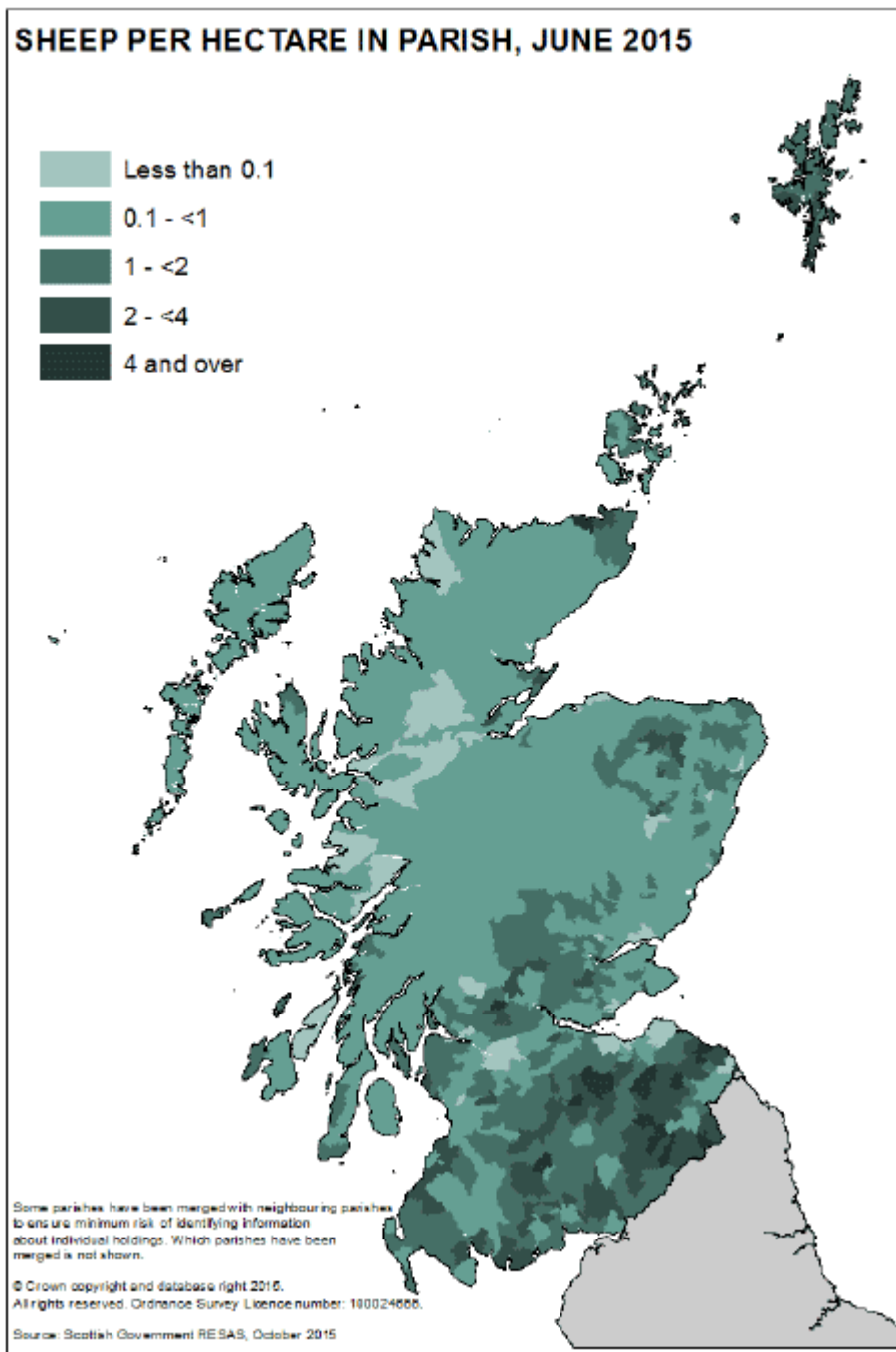


Figure 3.2. Density of sheep per parish (sheep per hectare), June 2015²

References

1. [Economic Report on Scottish Agriculture 2015 Edition](#) (June 2015) Rural and Environment Science and Analytical Services (RESAS), Scottish Government Directorate for Environment and Forestry.
2. [Results from the June 2015 Scottish Agricultural Census](#) (October 2015), Rural and Environment Science and Analytical Services (RESAS), Scottish Government.

Annex 4 Public Interest Categories

Public Interest Categories (14 categories subdivided into 56 criteria).

1. Actions to develop mechanisms to manage deer

- 1.1. Carry out an assessment of effectiveness against the Benchmark
- 1.2. Develop a series of actions to be implemented and assign roles
- 1.3. Produce and publish a forward-looking, effective deer management plan which includes the public interest elements relevant to local circumstances. The plan should contain an action plan which sets out agreed actions and monitors delivery. Minutes of DMG meetings should be made publicly available

2. Actions for the delivery of designated features into Favourable Condition

- 2.1. Identify designated features, the reported condition and herbivore pressures affecting designated sites in the DMG area
- 2.2. Identify and agree actions to manage herbivore impacts affecting the Favourable Condition of designated features
- 2.3. Monitor progress and review actions to manage herbivore impacts affecting Favourable Condition

3. Actions to manage deer to retain existing native woodland cover and improve woodland condition in the medium to long term

- 3.1. Establish overall extent of woodland and determine what proportion is existing native woodland
- 3.2. Determine current condition of native woodland
- 3.3. Identify actions to retain and improve native woodland condition and deliver DMG woodland management objectives
- 3.4. Monitor progress and review actions to manage herbivore impacts

4. Actions to demonstrate DMG contribution to the Scottish Government woodland expansion target of 25% woodland cover

- 4.1. Identify and quantify extent of recent woodland establishment (through SRDP (last 5 years) and through other schemes).
- 4.2. Identify and quantify opportunities and priorities for woodland expansion over the next 5-10 years
- 4.3. Consider at a population level the implication of increased woodland on deer densities and distribution across the DMG
- 4.4. Implement actions to deliver the woodland expansion proposals and review progress

5. Actions to monitor and manage deer impacts in the wider countryside

- 5.1. Identify and quantify the habitat resource by broad type
- 5.2. Identify required impact targets for habitat types
- 5.3. Quantify a sustainable level of grazing and trampling for each of these habitat types
- 5.4. Identify where different levels of grazing may be required and prioritise accordingly
- 5.5. Conduct herbivore impact assessments, and assess these against acceptable impact ranges. Where necessary, identify and implement actions to attain impacts within the range

- 5.6. Regularly review information to measure progress and adapt management when necessary
- 6. Actions to improve Scotland's ability to store carbon by maintaining or improving ecosystem health**
 - 6.1. Quantify the extent of the carbon-sensitive habitats within the DMG range
 - 6.2. Conduct herbivore impact assessments, and assess these against acceptable impact ranges for these sensitive habitats. Identify and implement actions to attain impacts within the range
 - 6.3. Identify opportunities for the creation/restoration of peatlands
 - 6.4. Contribute as appropriate to River Basin Management Planning
- 7. Actions to reduce or mitigate the risk of establishment of invasive non-native species**
 - 7.1. Manage invasive non-native species (e.g. muntjac) to prevent their establishment and spread e.g. report sightings of muntjac to SNH
 - 7.2. Agree on local management of other non-natives which may be utilised as a resource e.g. sika, fallow, goats, to reduce their spread and negative impacts
- 8. Actions to protect designated historic and cultural features from being damaged by deer e.g. by trampling**
 - 8.1. Identify any historic or cultural features that may be impacted by deer and undertake deer management to retain these features
 - 8.2. Consider the implications of fencing on the landscape with due regard to the Joint Agency Guidance on Fencing
- 9. Actions to contribute to higher standards of competence in deer management**
 - 9.1. Undertake a skills and training assessment to establish current skill levels applicable to deer management within the DMG
 - 9.2. Identify training and development needs/requirements of DMG members including opportunities for Continuous Professional Development (i.e. in relation to Best Practice)
 - 9.3. Ensure all those who actively manage deer are "competent" according to current standard
 - 9.4. Promote and facilitate the uptake of formal and CPD training opportunities for those participating in deer management
- 10. Actions to identify and promote opportunities contributing to public health and wellbeing**
 - 10.1. Identify and quantify public safety issues associated with deer within the DMG area. e.g. DVCs, airports etc.
 - 10.2. Identify actions with landowners, Local Authority, DMG to reduce or mitigate public safety risk and monitor effectiveness of actions
 - 10.3. Identify means of ensuring food safety is maintained in carcass handling and venison processing and compliance with BPG in relation to meat hygiene
 - 10.4. Ensure deer managers are familiar with notifiable diseases, that a system for recording is in place and all deer managers are familiar with course of action to take
 - 10.5. Ensure that appropriate bio security measures are enacted when visitors from areas where CWD is present are involved with deer management activities

- 10.6. In areas where public access is significant and tick abundance is high, consider some form of awareness-raising for risks associated with Lyme disease
- 10.7. Identify main access and recreational activity within the DMG area and assess how this fits with deer management activity
- 10.8. Identify actions to mitigate any public access and recreation activity during peak periods of deer culling, e.g. use of Hillphones and websites
- 10.9. Facilitate public access and promote positive communication between visiting public and wildlife managers

11. Actions to maximise economic benefits associated with deer

- 11.1. Identify and quantify the main sources of revenue related to deer (sport, tourism etc)
- 11.2. Identify and quantify deer-related employment. Identify opportunities to increase and improve prospects throughout the DMG
- 11.3. Identify opportunities to add value to products from deer management (SQWV, venison branding)
- 11.4. Explore options for larder sharing, infrastructure improvement and carcass collection to ensure maximum benefit from venison production whilst reducing carbon costs

12. Actions to minimise the economic costs of deer, and ensure deer management is cost-effective

- 12.1. Identify and quantify capital investment in deer management related infrastructure
- 12.2. Identify where deer are impacting on other land uses and include all relevant stakeholders to assist the group in understanding costs of deer within the DMG (e.g. woodland, agriculture, DVCs)
- 12.3. Where there are management changes, assess the likely changes to the economic costs across the DMG
- 12.4. Formulate a strategy to minimise the negative economic impacts in an equitable way

13. Actions to ensure effective communication on deer management issues

- 13.1. Provide regular opportunity for wider community and public agency engagement in planning and communications
- 13.2. Identify and implement actions to address community issues on deer or deer management activity
- 13.3. Support and promote wider opportunities to further education on deer

14. Actions to ensure deer welfare is taken fully into account at individual animal and population level

- 14.1. Agree, collate and review data available within the DMG which might be used as a proxy for deer health/welfare i.e. recruitment, winter mortality, larder weights etc.
- 14.2. Take reasonable actions to ensure that deer culling operations safeguard welfare; for culled and surviving animals (e.g. for example by following BPG)
- 14.3. Take reasonable actions to ensure that the welfare of surviving populations is safeguarded (e.g. provision and access to food and shelter)
- 14.4. Periodically review information on actions to safeguard welfare, identify and implement changes as required

Annex 5 DMG Plan Assessments: Example of Types of Change between 2014 and 2016

The improvement shown in a plan could be a change in the assessment rating of the criteria from either red in 2014 to amber in 2016, or amber to green or red to green. No change in RAG rating has also been analysed between the 2 years, i.e. criteria classed as red, amber or green in both 2014 and 2016. Table 5.1 illustrates this for a small sample of criteria.

Table 5.1. The analysis of changes in DMG plans for a small sample of criteria.

Number of DMG Plans showing change									
	Improvement				Negative change			No Change	
Bench mark criteria	<i>red to amber</i>	<i>amber to green</i>	<i>red to green</i>	<i>Total</i>	<i>green to amber</i>	<i>amber to red</i>	<i>green to red</i>	<i>Total</i>	<i>Total</i>
5.5	2	22	11	35	0	0	0	0	9
10.1	2	9	1	12	5	2	0	7	25
11.4	8	3	7	18	4	1	0	5	21
13.3	6	6	17	29	0	0	0	0	15

Annex 6 DMG Plan Assessments: Public Interest Category Mean Scores

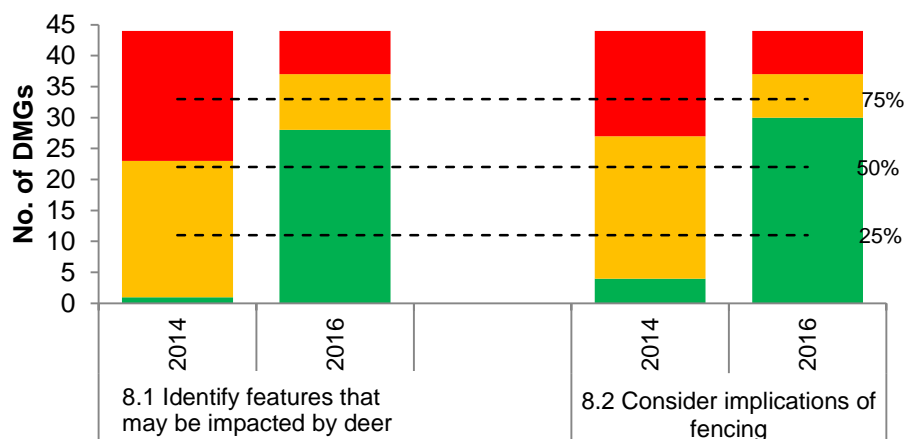
Mean scores were calculated for each public interest category by taking the mean score of all criteria in the category for each one of the 44 DMG plans, followed by calculating the mean score for all the DMG plans for that category. Criteria scores were calculated using 0 for a red rating, 1 for an amber rating and 2 for a green rating. The categories most relevant to the natural heritage are highlighted in bold.

Category		Mean category score across all plans	
		2014	2016
1	Actions to develop mechanisms to manage deer.	0.9	1.8
2	Actions for the delivery of designated features into Favourable Condition.	1	1.5
3	Actions to manage deer to retain existing native woodland cover and improve woodland condition in the medium to long term.	0.6	1.5
4	Actions to demonstrate DMG contribution to the Scottish Government woodland expansion target of 25% woodland cover.	0.6	1.4
5	Actions to monitor and manage deer impacts in the wider countryside.	0.6	1.1
6	Actions to improve Scotland's ability to store carbon by maintaining or improving ecosystem health.	0.5	1.3
7	Actions to reduce or mitigate the risk of establishment of invasive non-native species.	0.8	1.7
8	Actions to protect designated historic and cultural features from being damaged by deer e.g. by trampling.	0.6	1.5
9	Actions to contribute to delivering higher standards of competence in deer management.	0.7	1.6
10	Actions to identify and promote opportunities contributing to public health and wellbeing.	0.9	1.6
11	Actions to maximise economic benefits associated with deer.	0.6	1.4
12	Actions to minimise the economic costs of deer, and ensure deer management is cost-effective.	0.5	1.1
13	Actions to ensure effective communication on deer management issues.	0.8	1.6
14	Actions to ensure deer welfare is taken fully in to account at individual animal and population level.	1.1	1.6

Annex 7 DMG Plan Assessments: Results for Public Interest Categories 8 – 14

Public Interest Category 8. Actions to protect designated historic and cultural features from being damaged by deer e.g. by trampling

- 8.1 Identify any historic or cultural features that may be impacted by deer and undertake deer management to retain these features.
- 8.2 Consider the implications of fencing on the landscape with due regard to the Joint Agency Guidance on Fencing.



Category 8: Protect designated historic and cultural features

Figure 7.2. Number of DMGs with each colour status for each criterion in Category 8. Horizontal lines on the graph represent 25%, 50% and 75% of the total number of DMGs

This public interest category to protect designated historic and cultural features has shown considerable improvement from a very low 2014 baseline. The extent of progress across the two individual criteria within this category is slightly varied, with 75% of plans showing an improvement in identifying historic and cultural features which may be impacts upon by deer (8.1), and 61% showing improvement in considering the implications of fencing on the landscape (8.2).

The significant improvement in criteria 8.2 is the result of a transition towards formalised policy agreement and guidance relating to future fencing proposals, and direct reference to the Joint Agency Guidance.

An example of an assessment for a plan delivering well against criterion 8.1 is given below:

“Green – ‘Deer not considered to be a threat to existing features through planning process, but group commitment to maintaining contact with local community to understand where/when this management may be a tension and action is required’ (East Sutherland)”

Public Interest Category 9. Actions to contribute to higher standards of competence in deer management

- 9.1 Undertake a skills and training assessment to establish current skill levels applicable to deer management within the DMG.
- 9.2 Identify training and development needs/requirements of DMG members including opportunities for Continuing Professional Development (i.e. in relation to Best Practice).
- 9.3 Ensure all those who actively manage deer are “competent” according to current standard.
- 9.4 Promote and facilitate the uptake of formal and CPD training opportunities for those participating in deer management.

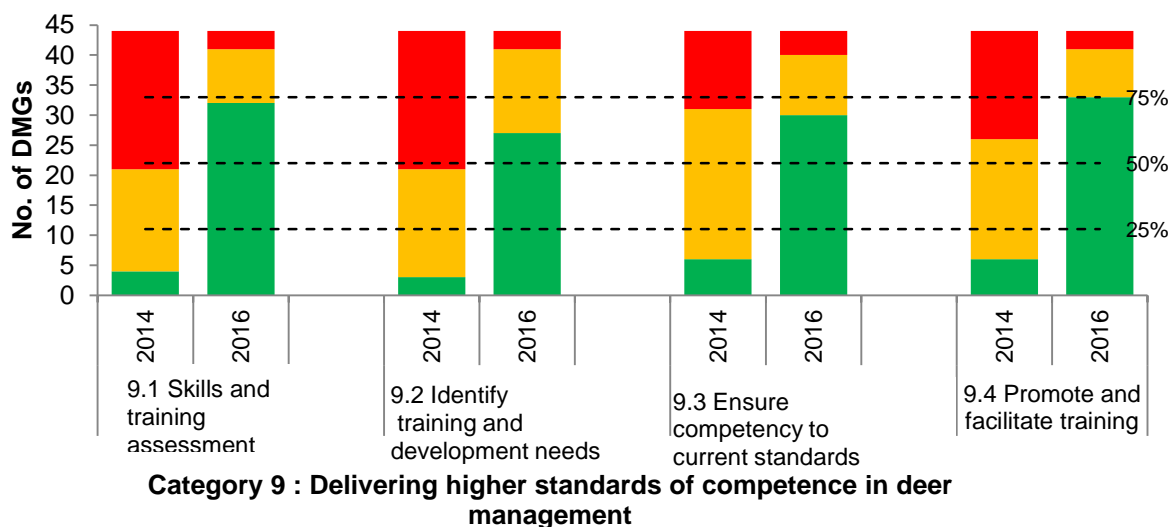


Figure 7.3. Number of DMGs with each colour status for each criterion in Category 9. Horizontal lines on the graph represent 25%, 50% and 75% of the total number of DMGs.

This category regarding standards of competence in deer management shows substantial improvement across all 4 criteria. For individual criteria, the range is between 66% to 75% of plans showing improvement. The progress across all criteria within this category provides some insight into the way in which the planning process has enabled DMGs to move beyond thinking about competence as an individual landholding/employee/employer concern to thinking collaboratively about mechanisms for delivering high standards and competency across a DMG-scale.

Between 61% and 75% of plans are rated green across the 4 criteria in 2016. An example of an assessment for a plan delivering well against criterion 9.1 is given below:

“Green – ‘Included in DMP. 65 staff trained to DSC 1 standard, 30 to DSC 2 standard’ (South Perthshire)”

Public Interest Category 10. Actions to identify and promote opportunities contributing to public health and wellbeing

- 10.1 Identify and quantify public safety issues associated with deer within the DMG area. e.g. DVCs, airports etc
- 10.2 Identify actions with landowners, Local Authority, DMG to reduce or mitigate public safety risk and monitor effectiveness of actions
- 10.3 Identify means of ensuring food safety is maintained in carcass handling and venison processing and compliance with BPG in relation to meat hygiene
- 10.4 Ensure deer managers are familiar with notifiable diseases, that a system for recording is in place and all deer managers are familiar with course of action to take
- 10.5 Ensure that that appropriate biosecurity measures are enacted when visitors from areas where CWD is present are involved with deer management activities
- 10.6 In areas where public access is significant and tick abundance is high, consider some form of awareness-raising for risks associated with Lyme disease
- 10.7 Identify main access and recreational activity within the DMG area and assess how this fits with deer management activity
- 10.8 Identify actions to mitigate any public access and recreation activity during peak periods of deer culling e.g. use of Hillphones and websites
- 10.9 Facilitate public access and promote positive communication between visiting public and wildlife managers

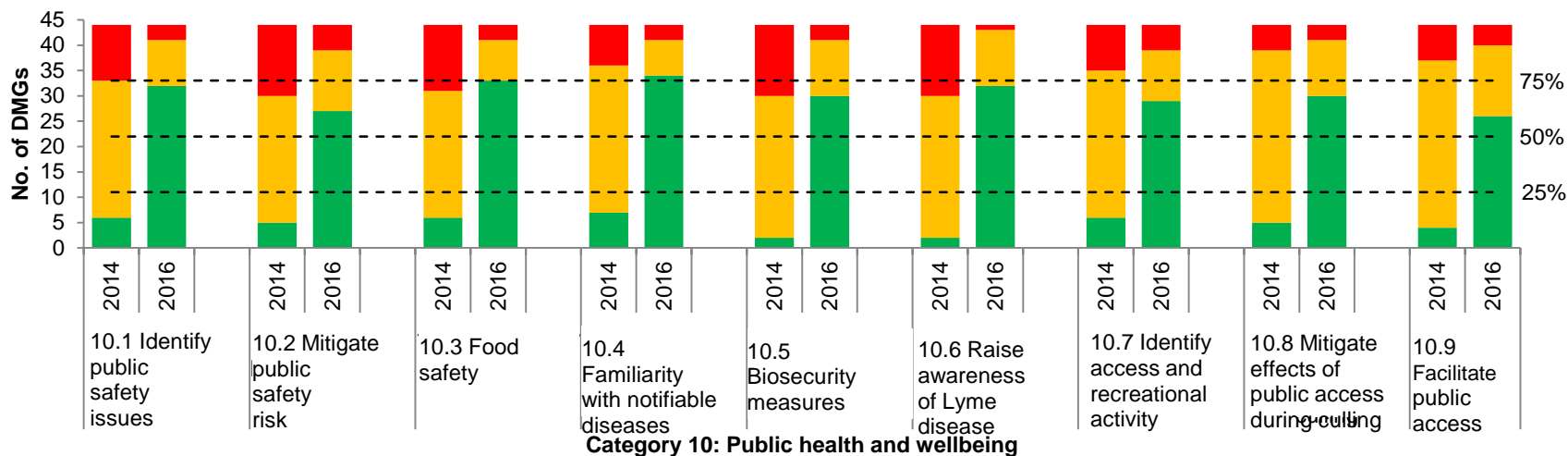


Figure 7.4. Number of DMGs with each colour status for each criterion in Category 10.

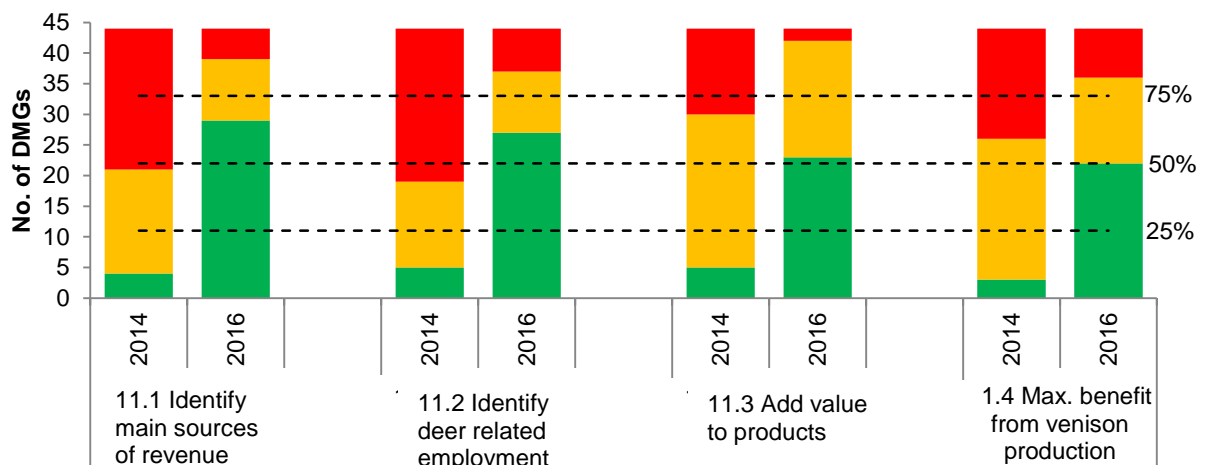
The range of improvement across individual criteria in the public health and wellbeing category was 57% - 77%. Amongst the most notable are criterion 10.6, which is concerned with raising awareness of the risks associated with Lyme disease (77% of plans showed improvement), 10.4 (familiarity with notifiable diseases), and 10.3 (food safety). An important couple of developments which are likely to have acted as drivers contributing to this improved performance are the identification of a CWD case in Europe and the venison-related E.coli breakout.

An example of an assessment for a plan delivering well against criterion 10.6 is given below:

“Green – ‘Tick awareness - as part of plan HPS Lyme awareness leaflet circulated to the group and included as part of estate visitor information’ (Morvern)”

Public Interest Category 11. Actions to maximise economic benefits associated with deer

- 11.1 Identify and quantify the main sources of revenue related to deer (sport, tourism, etc.)
- 11.2 Identify and quantify deer-related employment. Identify opportunities to increase and improve prospects throughout the DMG
- 11.3 Identify opportunities to add value to products from deer management (SQWV, venison branding)
- 11.4 Explore options for larder sharing, infrastructure improvement and carcass collection to ensure maximum benefit from venison production whilst reducing carbon costs



Category 11: Maximise economic benefits

Figure 7.5. Number of DMGs with each colour status for each criterion in Category 11. Horizontal lines on the graph represent 25%, 50% and 75% of the total number of DMGs.

Across the four criteria within this category, the greatest improvement was seen in efforts to identify and quantify revenue related to deer (criterion 11.1) where 73% of plans improved from 2014.

In the same criterion (11.1), 66% of plans were considered to be delivering well (compared with 9.1% in 2014). The minimum percentage of plans scoring green on any individual criteria within this category was 50% (criteria 11.4 which relates to maximising the benefit from venison production).

An example of an assessment for a plan delivering well against criterion 11.2 is given below:

“Green – ‘Captured in the plan (5 full-time deer managers and 11 part-time of seasonal staff); action at a wider DMG group to monitor the Group Operation’ (West Sutherland East)”

Public Interest Category 12. Actions to minimise the economic costs of deer, and ensure deer management is cost effective

- 12.1 Identify and quantify capital investment in deer management related infrastructure.
- 12.2 Identify where deer are impacting on other land uses and include all relevant stakeholders to assist the group in understanding costs of deer within the DMG (e.g. woodland, agriculture, DVCs)
- 12.3 Where there are management changes, assess the likely changes to the economic costs across the DMG
- 12.4 Formulate a strategy to minimise the negative economic impacts in an equitable way

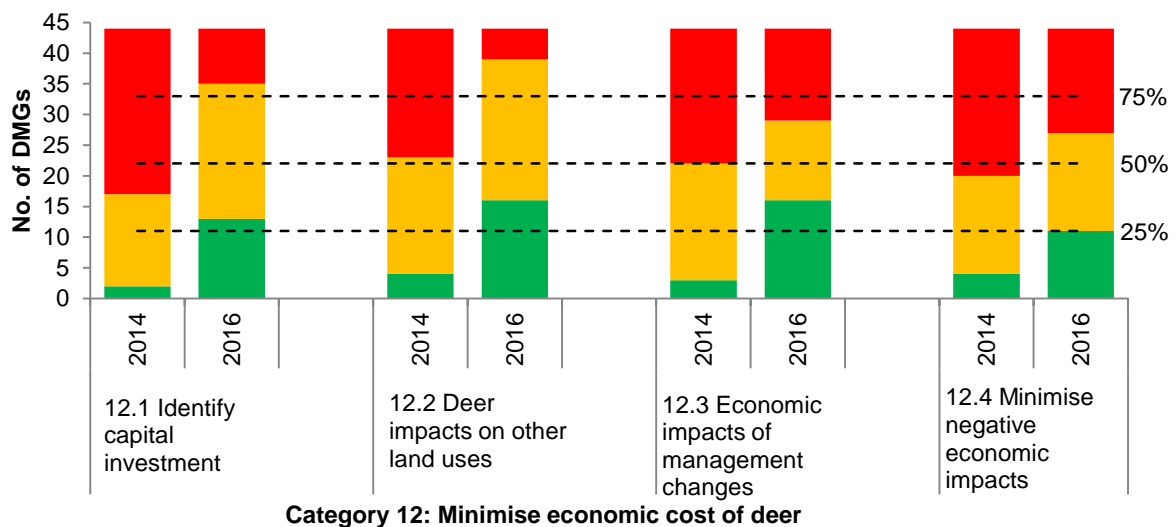


Figure 7.6. Number of DMGs with each colour status for each criterion in Category 12. Horizontal lines on the graph represent 25%, 50% and 75% of the total number of DMGs.

From a low 2014 baseline, an improvement was demonstrated across each criteria associated with minimising the economic costs of deer. The range of this positive change was between 41% and 61% of plans.

Less than 50% of plans scored green across all four criteria in this category, with good delivery falling between 25% and 36% in each instance.

An example of an assessment for a plan delivering well against criterion 12.2 is given below:

“Green – ‘BPDMG members identify where deer are impacting on other land uses (including farms, forests & DVCs) and include relevant stakeholders’ (Birse Parish)”

Progress across both public interest categories related to economic costs and benefits (Categories 11 & 12) has been relatively low in comparison with other categories. While the ADMG’s PACEC study has been a useful tool for DMGs to highlight some of the benefits associated with deer, they are difficult to transpose from the national to the local scale.

Public Interest Category 13. Actions to ensure effective communication on deer management issues

- 13.1 Provide regular opportunity for wider community and public agency engagement in planning and communications
- 13.2 Identify and implement actions to address community issues on deer or deer management activity
- 13.3 Support and promote wider opportunities to further education on deer

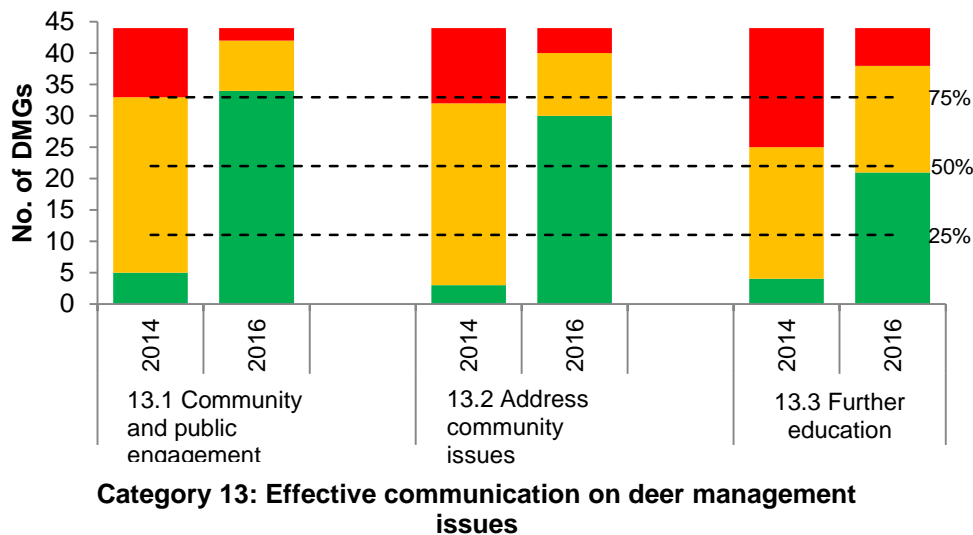


Figure 7.7. Number of DMGs with each colour status for each criterion in Category 13. Horizontal lines on the graph represent 25%, 50% and 75% of the total number of DMGs

All criteria relating to effective communications on deer management issues demonstrated a positive change within the range of 61% to 75% of plans.

The extent of progress across the three individual criteria was varied, with the community and wider public engagement criterion (13.1) demonstrating the greatest change and the highest percentage of plans delivering well (77% had green status). Criterion 13.3, relating to further education on deer, was delivered well by the lowest percentage of plans (48%).

An example of an assessment for a plan delivering well against criterion 13.3 is given below:

“Green – ‘Members hold larder days with Gairloch School. Deer Museum and Deer Park for viewing deer within DMG area’ (Gairloch)”

Through the planning process, the improvement in effective communication has been considerable. The vast majority of upland DMGs now have publically-available DMPs and have undertaken some form of public consultation.

Public Interest Category 14. Actions to ensure deer welfare is take fully into account at individual animal and population level

- 14.1 Agree, collate and review data available within the DMG which might be used as a proxy for deer health/welfare i.e. recruitment, winter mortality, larder weights etc.
- 14.2 Take reasonable actions to ensure that deer culling operations safeguard welfare; for culled and surviving animals (e.g. for example by following BPG)
- 14.3 Take reasonable actions to ensure that the welfare of surviving populations is safeguarded (e.g. provision and access to food and shelter)
- 14.4 Periodically review information on actions to safeguard welfare, identify and implement changes as required

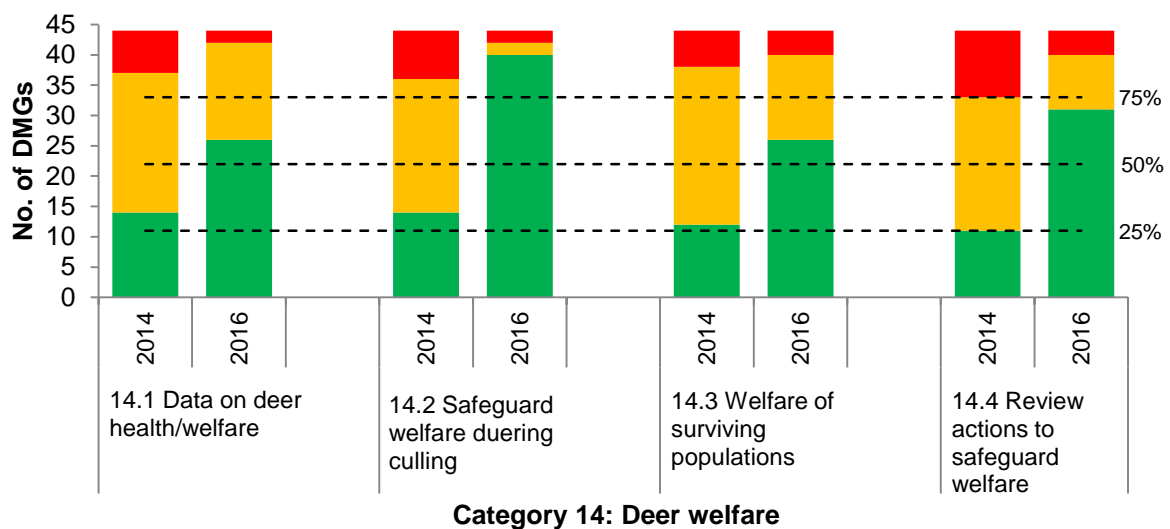


Figure 7.8. Number of DMGs with each colour status for each criterion in Category 14. Horizontal lines on the graph represent 25%, 50% and 75% of the total number of DMGs.

The range of improvement across the four individual criteria in the deer welfare category was 39% - 61% of plans. Criterion 14.2, concerned with actions to ensure deer culling operations safeguard welfare, showed the greatest improvement, while the least improvement was in the collation and review of data as a proxy for deer health/welfare (criterion 14.1).

Actions to ensure deer culling operations safeguard welfare (criterion 14.2) had the highest percentage of plans with good delivery (91%).

For criteria 14.1 and 14.4, the lack of uniform data-collation protocols – which limits the use of this data at a collaborative group scale – remains a limiting factor in some cases.

While progress was demonstrated across criterion 14.3 (welfare of surviving populations), the common understanding of the relationship between forage, shelter and welfare at a collaborative scale was a limiting factor.

An example of an assessment for a plan delivering well against criterion 14.1 is given below:

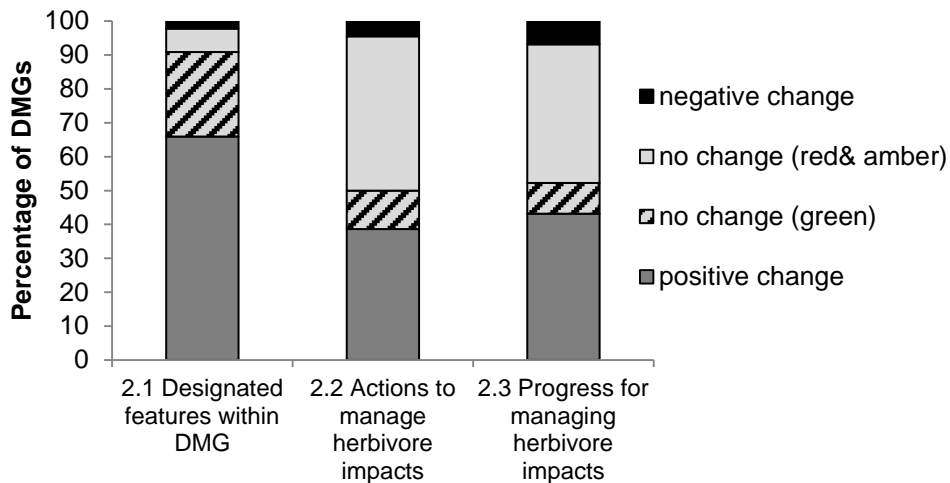
“Green – ‘Captured in DMP Deer welfare is discussed at meetings. Mortality, calving rates, deer condition, stag antler quality all feature as part of discussions’ (Islay)”

Annex 8 DMG Plan Assessments: Changes in Public Interest Criteria between 2014 and 2016

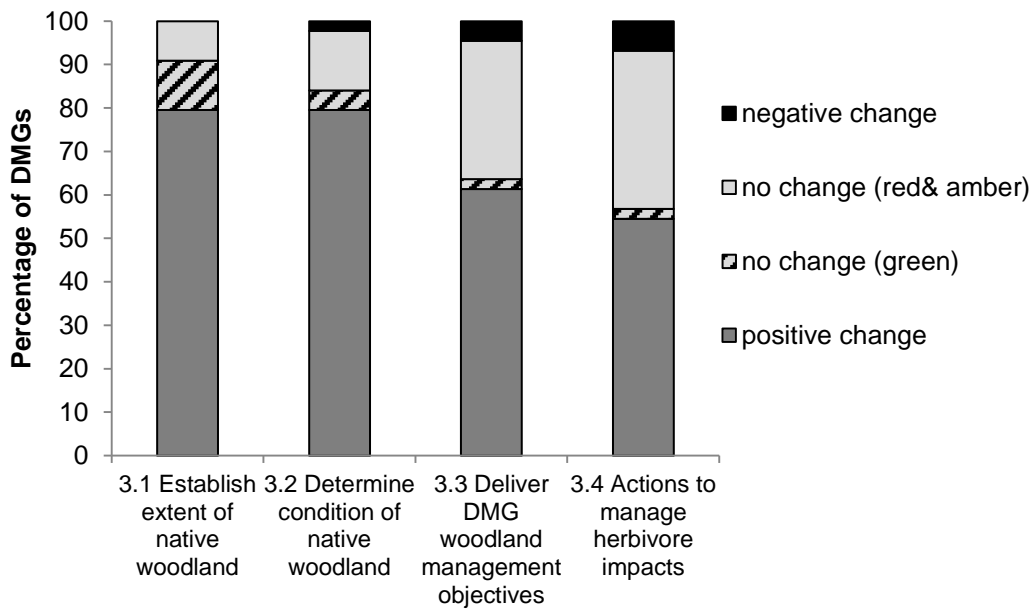
Graphs of percentage of DMGs showing positive, negative and no change in each criterion for each of the 14 public interest categories. DMGs with no change in green status are maintaining the highest status and therefore cannot improve.



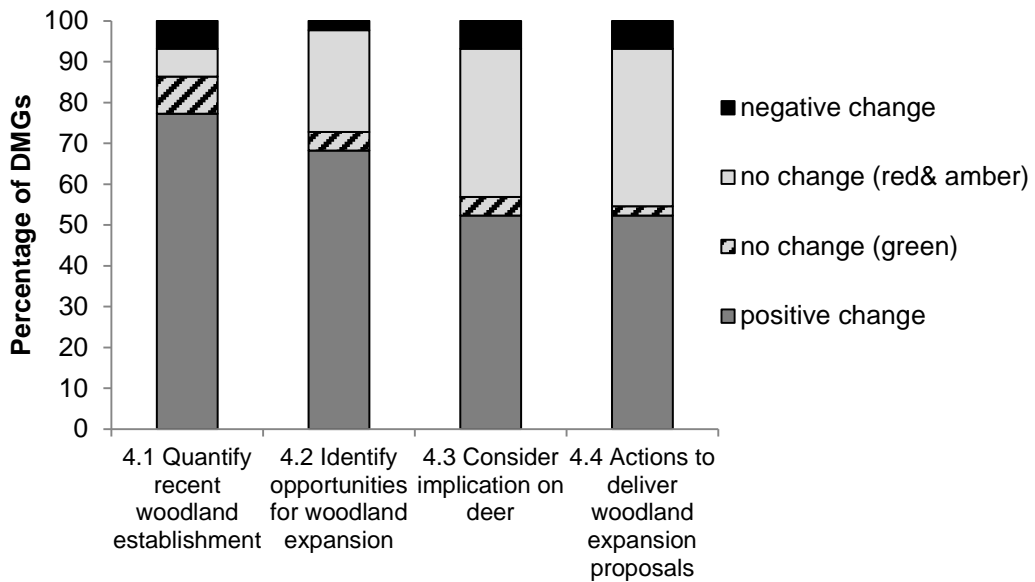
Category 1: Mechanisms to manage deer



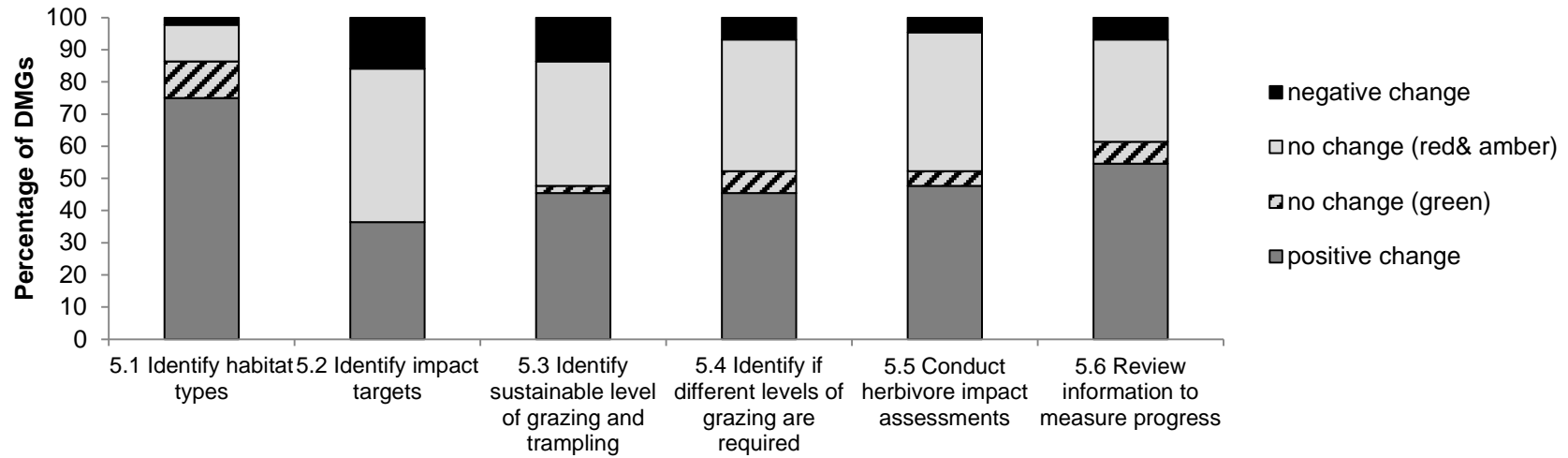
Category 2: Designated features in to Favourable Condition



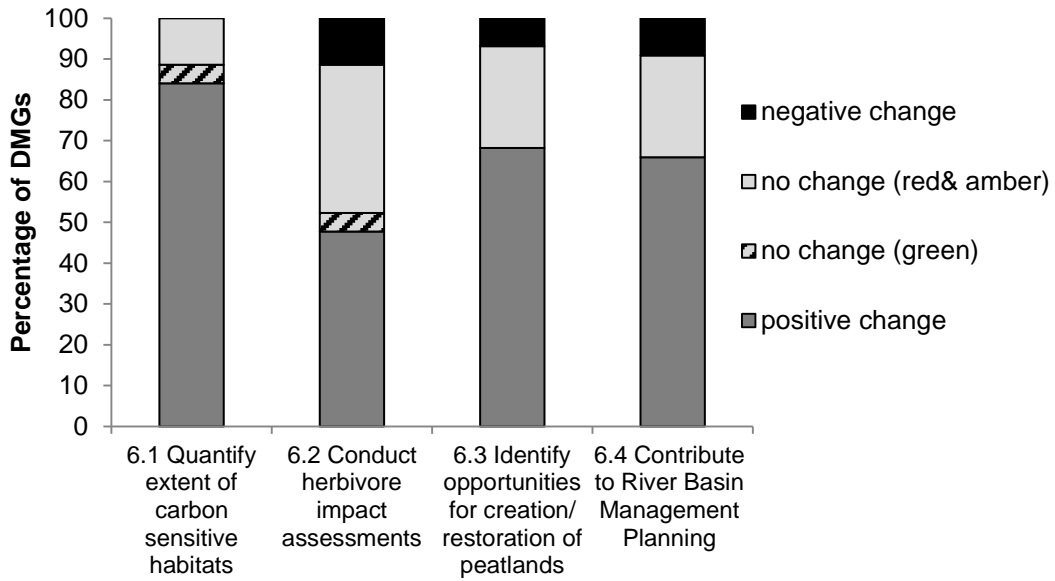
Category 3: Retain existing native woodland cover



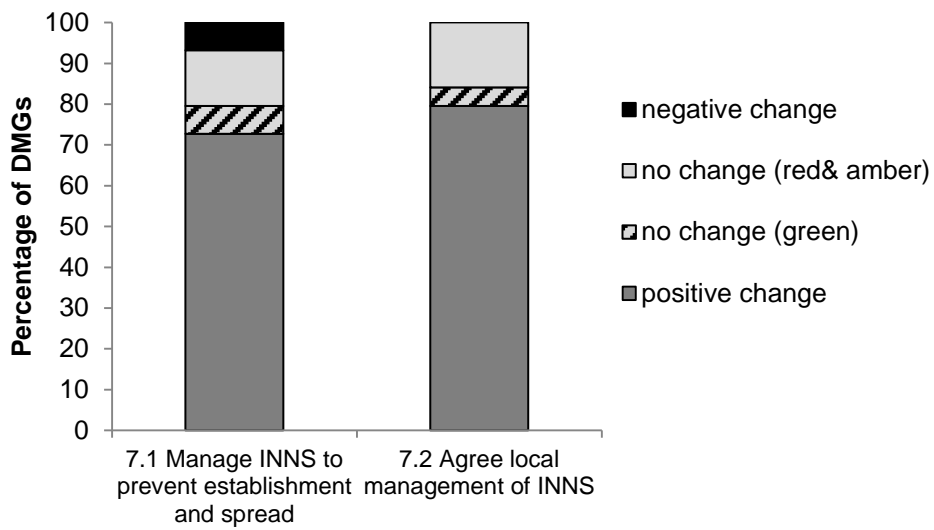
Category 4: DMG contribution to SG woodland expansion target



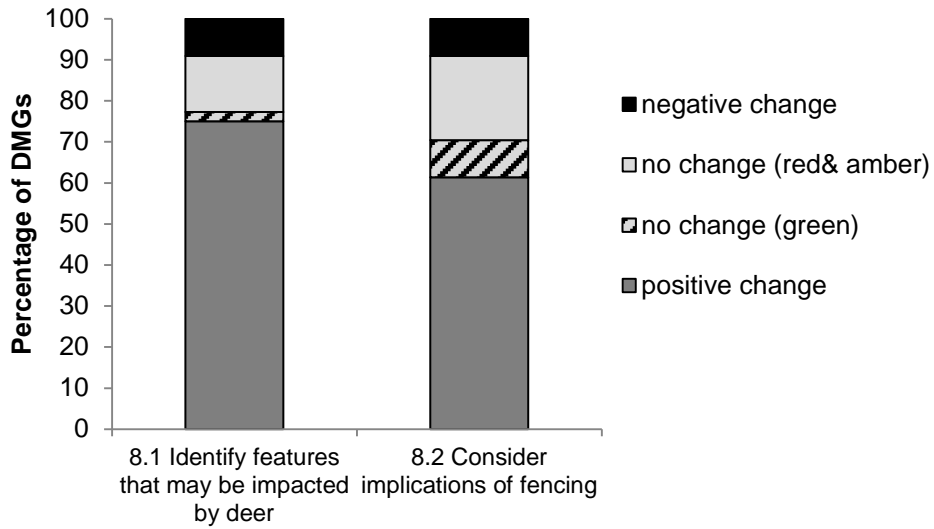
Category 5: Monitor and manage deer impacts



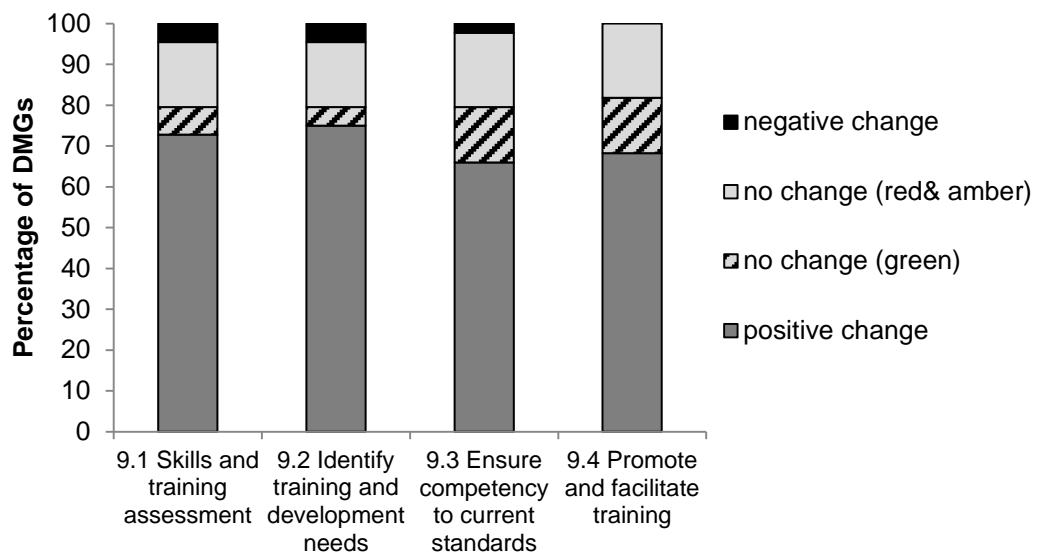
Category 6: Improve Scotland's ability to store carbon



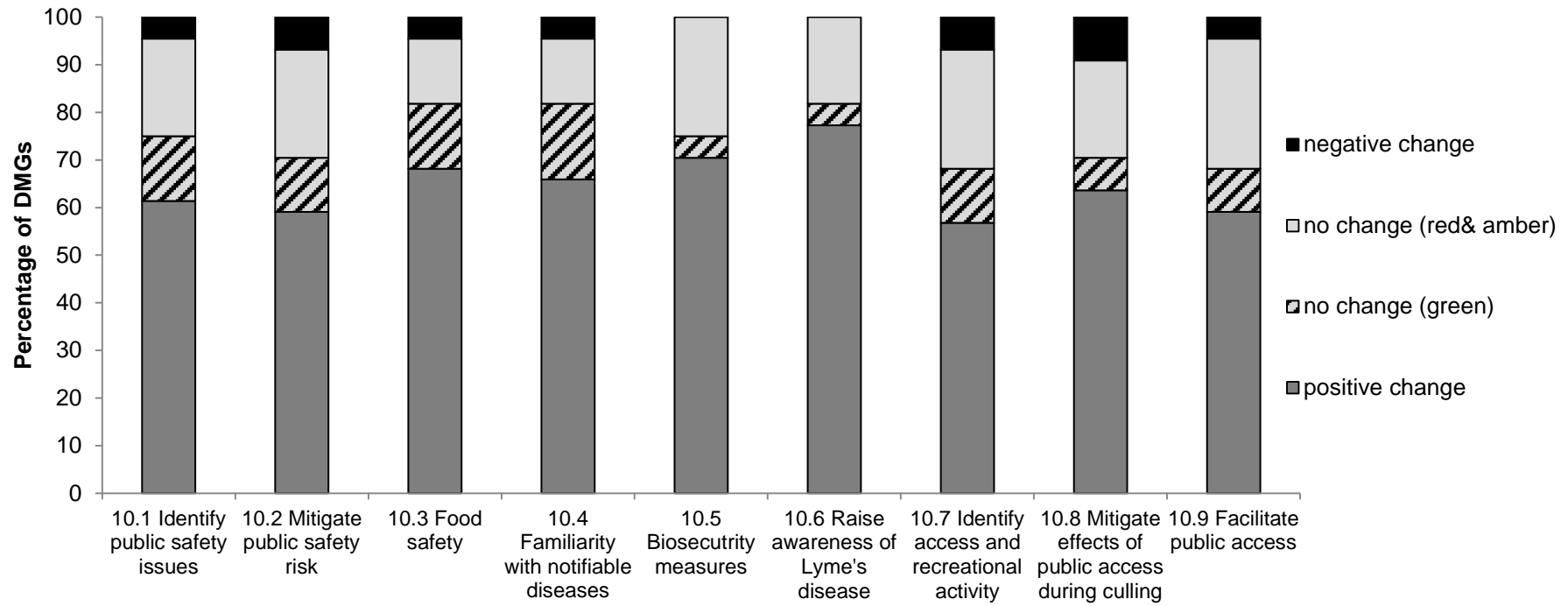
Category 7: Reduce/mitigate risk of INNS



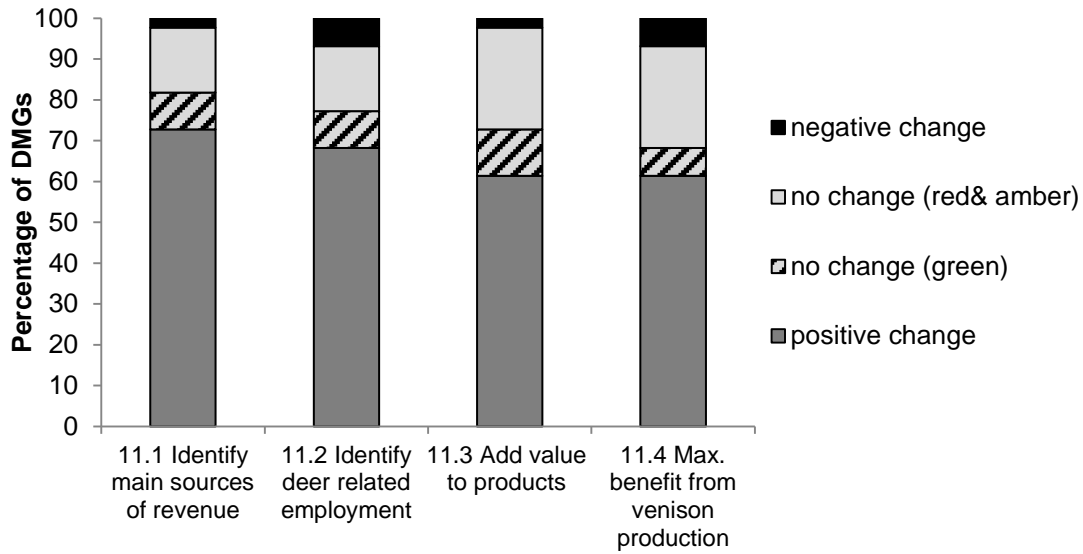
Category 8: Protect designated historic and cultural features



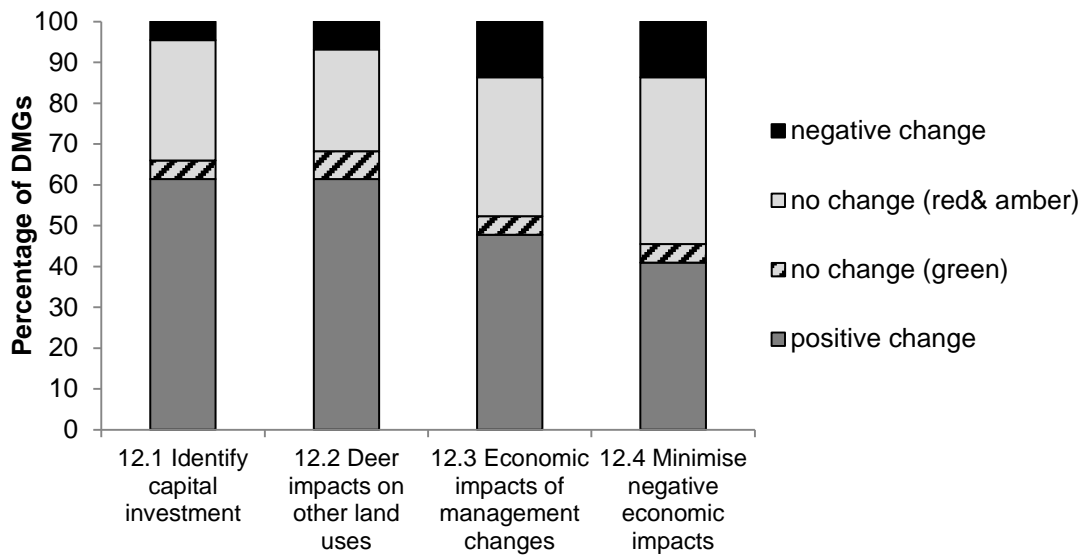
Category 9: Delivering higher standards of competence in deer management



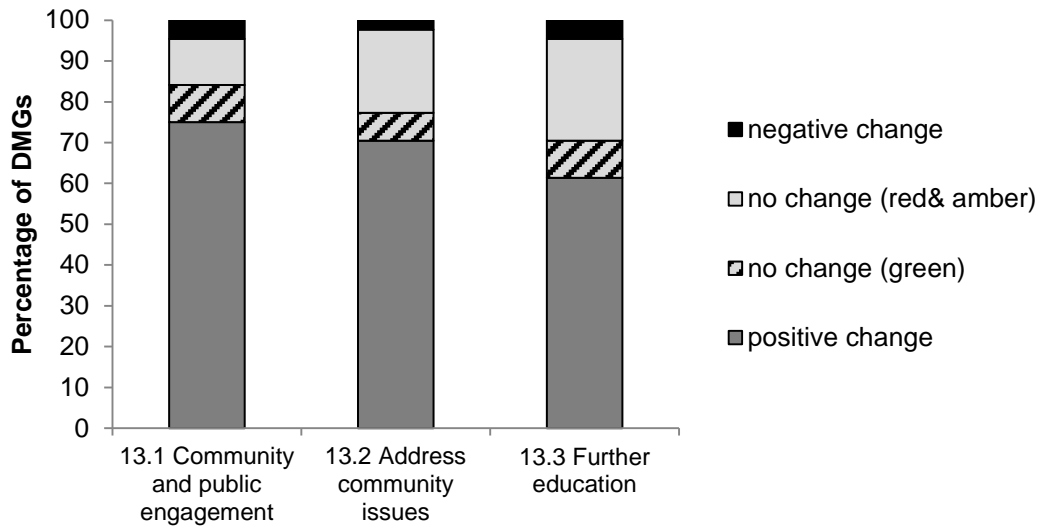
Category 10: Public health and wellbeing



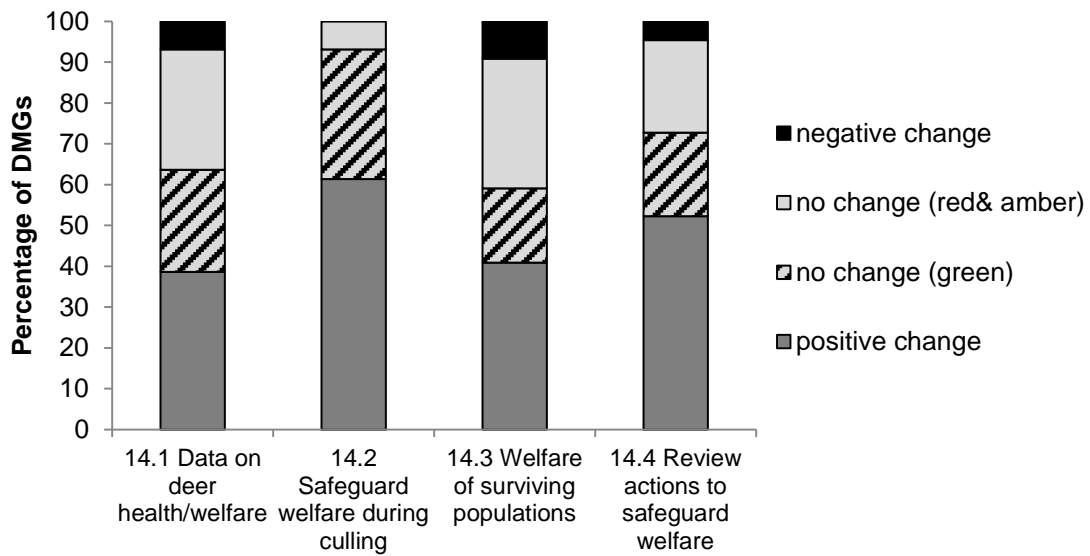
Category 11: Maximise economic benefits



Category 12: Minimise economic cost of deer



Category 13: Effective communication on deer management issues



Category 14: Deer welfare

Annex 9 Summary Information on eleven Section 7 Control Agreements

1. Glenfeshie Catchment 2001-2010

A Control Agreement was secured with Glenfeshie Estate to underpin a Woodland Grant Scheme (WGS) from The Forestry Commission. Five properties were involved covering a total area of 23,700ha. Deer numbers have reduced from the 2001 baseline by 90%. Woodland habitat targets were considered to be met in the 2009 survey with the woodland showing positive recovery. The control agreement was concluded in 2010.

2. Inchnadamph 2003-2008

A Control Agreement was secured in 2003 on the Inchnadamph Estate to prevent damage to the 1,325ha of the Inchnadamph candidate Special Area of Conservation (SAC). The control area covered a total of 4,500ha.

An initial deer density target of 8 deer/km² was set and deer numbers were reduced to a density of 18.6 deer/km². Monitoring showed herbivore impacts had been reduced and habitat targets were achieved in 2008. Although deer density was higher than the target density of 6-8 deer/km², the herbivore impact targets were met and the agreement was considered to have achieved its objectives. It was concluded in 2008.

Monitoring continued until 2012 and the results showed the impacts remained low. Cull levels increased during the agreement, but reduced afterwards and the current deer density (2016) has risen to pre-agreement levels.

3a. Caenlochan Glen 2003-2013 and 2014-2019

The Caenlochan Control Agreement was signed in 2003 with ten ownership units to prevent damage by deer to 600ha of upland habitats in Caenlochan Glen. The total control area was much larger covering 25,337ha. This was to allow for management of the highly mobile deer population within the area. A new Section 7 was agreed for the period 2014 to 2019 and covers a total 35,144ha.

The initial target was to reduce the deer population from a summer density of 44 deer/km² to a density of 19 deer/km² by 2007 (year four of agreement). Cull levels increased dramatically with assistance from DCS; however, after 11 years the population target has still not been reached. Counts have shown populations fell from almost 12,000 to 6,000. However, the summer population shows a steady increase since 2008 and much of this is considered due to deer movement changes and immigration. Latest counts show the winter population remaining stable, but summer populations have continued to increase. The population reduction recorded shows how ambitious the targets are, but also how large the population was within the area.

HIAs were carried out in 2008, 2012 and 2015 on seven habitats (blanket bog, montane acid grassland, wind clipped heaths, dry heaths, flushes, species rich grassland and mountain willow scrub). Habitats targets have not been fully met and impacts appear to be increasing in some areas.

Other herbivores are another component which must be considered. Sheep were of concern in the early years of the agreement due to incursions from neighbouring farms. Hare dung counts from DCS staff showed increases in dung from 2002 to 2010, then a plateau.

The original Control Agreement had the unintended consequence of reducing the role, responsibilities and function of the East Grampian Sub Groups which cover the Section 7 Agreement area. Sub Area 1 became dormant, therefore minimal collaborative discussion took place between the Section 7 area, Glenprosen extension area and properties to the east of this. As the agreement progressed, a more collaborative approach involving wider sub group properties developed.

3b. Caenlochan Area – Current Agreement 2014-2019

A new agreement over an extended area (13 properties and 34,144ha) was signed in 2014. This agreement seeks to deliver Favourable Condition on upland habitats over the Caenlochan SAC, Garbh Corrie and Glen Callater SSSIs using eight indicator habitats as proxies for the rest of the sites. The new agreement seeks to build on the previous agreement with a focus on delivery of Favourable Condition of designated habitats.

There have been significant management changes on properties surrounding the control area during the term of the agreement. This has seen significant areas of the East Grampian DMG area fenced with deer excluded. This has changed patterns of deer movement and distribution (particularly in summer) which deer counts have shown.

It is anticipated that new DMG sub group Deer Management Plans will align with the Control Agreement aims and ensure future DMG engagement and ownership of delivering features into Favourable Condition.

4. Kinveachy 2005-2015 (extended for 2016)

The Kinveachy Control Agreement aimed to prevent damage to Caledonian Forest and Bog Woodland. Management was supported with public funding through an associated Management Agreement (SNH) and Scottish Forestry Grant Scheme (FCS) covering 8,196ha.

The estate was culling more than the minimum cull target each year which was a result of both a productive resident deer population and deer immigration from neighbouring estates. Whilst there are fluctuations in population levels throughout and between years, the population target set out in the agreement was not met. Greater collaboration between neighbouring estates has been identified as a means to reduce browsing levels further and limit the impacts to neighbouring socio-economic interests.

Annual monitoring of tree seedlings within this Control Agreements showed that damage to seedlings has been prevented, but soil conditions are a significant factor in the slow growth of the seedlings. Woodland habitat targets have not been met. Although impacts are reducing, deer browsing levels are suppressing existing regeneration. Browsing pressure has been much reduced, but in some areas it is still at a level which suppresses regeneration.

This agreement has now concluded with further management supported through the Forestry Grant Scheme. The Kinveachy Estate is a member of the Monadhliath DMG and future deer management is being considered in the context of the wider DMG plan.

5. Ardvar 2009-2014 (Dissolved in early 2012)

A Control Agreement, signed in 2009 by DCS, Ardvar Estate and the John Muir Trust sought to prevent damage to the designated features on Ardvar SAC. The agreement covered 5,144ha.

This agreement dissolved in 2012 when parties to the Section 7 Agreement disagreed on how best to achieve the objectives. Deer density has increased based on the latest count, with continued impacts on the woodland. Habitat targets were not met.

6. Inverpolly 2010-2015 (extension to 2016 and currently under review)

The current Inverpolly Section 7 Control Agreement is an extension of a previous agreement with one property at Drumrunie. The Inverpolly Agreement was signed in June 2010 to help address concerns over the impacts of sheep and deer within the wider area of Inverpolly SAC. The total control area is 12,115ha and covers three properties.

Deer densities were relatively low at around 5 deer/km² at the outset of the agreement and this has been maintained. Cull levels have increased and the 2016 count indicates deer density is within the upper and lower deer density target. Communication across the estates has increased, but more collaborative approaches to delivery of cull targets have not been progressed.

Herbivore impacts on upland habitats have reduced. Herbivore impacts on woodland habitats are not reducing. Tree seedlings outwith fenced enclosures are still being suppressed through browsing. A fire in 2011 has possibly increased the attractiveness of the site to deer. It has been decided that a fence will be used to restore the woodland rather than reduce deer numbers further. Consideration is being given to extending the Control Agreement until 2020.

This agreement has been extended until 2016 and a full review will take place with a view to extending the agreement to incorporate a wider range of neighbouring properties and continue the progress achieved. Woodland habitat will be fenced to reduce herbivore impacts. This review is taking place in the context of the development of the West Sutherland DMG plan.

7. Beinn Dearg 2010-2015 (extension to 2016 and currently under review)

Beinn Dearg SAC covers an area of 13,894ha. The Agreement encompasses seven different properties totalling 46,389ha.

In May 2009, DCS/SNH commissioned a Collaborative Upland Habitat Management Plan to consider how best to secure the nature conservation objectives for the site, while taking in account the owners' objectives. The plan was finalised in March 2010.

The annual cull targets have not, for the most part, been met. The upper deer target was, however, met within the timescale outlined in the agreement. The reduction in population from 2008 to 2015 is 8%. The 2013 HIA showed maintained or increasing impacts on three of the four habitats monitored – blanket bog, montane willow scrub and wind-clipped heath habitats. A slight increase in population has occurred since the last count.

This agreement is currently being reviewed in light of the recent HIA information and the development of the North Ross DMG plan.

8. Ben Wyvis 2010-2015 (extension to 2016 and currently under review)

The Ben Wyvis Agreement extends to 12,031ha and is within the North Ross DMG.

In March 2010 owners were consulted on a Section 7 Control Agreement to underpin the management plan, which was signed in July 2010. The deer population was to be reduced to target by the end of the second year and then maintained at that level. A focus on the habitat targets was to occur after year two for the remaining three years.

Reduction culls took place in 2011 and subsequent culls have been at maintenance levels. The deer population target was met and herbivore impacts did show initial reductions. The time-frames for delivery of hind reductions set within the agreement have not been met. This is in part a response to the reduced impacts shown in the 2013 monitoring.

The Control Agreement recognised that most impacts were localised and a focus on these areas would allow the targets to be met. The 2013 HIA showed good progress; however, the latest HIA of 2015 shows impacts have increased since 2013. In light of the recent HIA results, an increase in cull will likely be required to match the lower population target.

This agreement is currently being reviewed in light of the recent HIA information and the development of a new North Ross DMG plan.

9. Breadalbane Hills 2010-2015 (extension to 2016 and currently under review)

The Breadalbane Hills Control Agreement covers 75,561ha. This was the first control agreement to cover a full DMG. 6,400ha of the agreement area is designated for upland features. The Agreement covers five designated sites over 27 properties. The designated sites covered are Ben Lawers (SAC/SSSI), Meall na Samnha (SAC/SSSI), Carn Gorm and Meall Garbh (SSSI), Meall Ghoardie (SSSI) and Ben Heasgarnich (SAC/SSSI).

The Control Agreement sought to reduce red deer from a summer density of 17.1 deer/km² to 12.8 deer/km². The reduction in population sought through the agreement has largely been met with a modelled summer population of 13.6 deer/km². The Control Agreement set targets to reduce the deer population over three years and then focus on meeting habitat targets.

Habitat targets were met across the Section 7 area for one of the habitats monitored (flush) and almost met for tall herb communities. Habitat targets for wind-clipped heath were not met, but impacts have reduced since 2007. The target for montane willow scrub was met on one out of four sites monitored with herbivore impacts varying among the four sites. Generally, herbivore impacts appear to be decreasing across parts of the site suggesting that the long-term damage is beginning to recover.

While the Control Agreement is based on reducing deer impacts, it is important to note that from 2006 to 2010 more than 10,000 sheep were removed from the Breadalbane Deer Management Group area. Notable decreases in impact on the habitats from 2007 to 2011 can be matched to the areas where sheep numbers were reduced.

10. Fannich Hills 2010-2020

The Fannich Hills SAC covers 9,500ha, comprising Fannich Estate, Strone (Foich) Estate and Kinlochluichart Estate. In March 2010, DCS/SNH concluded and agreed a Collaborative Upland Habitat Management Plan for the site, which included consultation with the neighbouring Loch Rosque Estate. All four owners signed a Section 7 Control Agreement to underpin the management plan, with the control agreement area extending to 19,612ha.

The deer population target (11 deer/km²) was achieved. The annual targets were not met in the first year, but exceeded thereafter and delivered the target population within the timeframe outlined in the agreement. The average yearly cull has increased from 242 to 326 since the agreement began. Cull analysis excludes Loch Rosque Estate as this is a large property with a small proportion of the area within the Control Agreement area.

Habitat targets were not met for blanket bog and dwarf shrub heath habitats. The habitat target for montane acid grassland was met. Delivery of habitat targets will be the focus in the next five years and the recent HIA shows that the deer population may need to be reduced further. Overall, the habitats show an increase in impacts since the 2008 baseline.

This agreement is currently being reviewed in light of the recent HIA information and the development of the West Ross DMG plan.

11. Mar Lodge 2010-2020

SNH and the National Trust for Scotland (NTS) signed the Section 7 Agreement in 2010, covering the full estate land of approximately 29,000ha. The main purpose of the agreement is to underpin the estate deer management plan, protect the public investment in the site and ensure damage to woodland is prevented.

The estate was split into two zones to facilitate the management of conservation and sporting objectives before the Control Agreement began. A population target for the property is set for the moorland zone and totals 1,650 deer, a density of 5.6 deer/km². The cull to protect the designated woodland is focused on the woodland zone of the estate with effort focussed on controlling all deer in this area. The deer density target on the moorland zone has not been met and deer numbers are higher now than at the start of the control agreement.

The woodland habitat targets have been met and overall browsing levels have reduced. The woodland monitoring is showing that there are more seedlings above the ground vegetation and browsing levels on Scots pine are at a level which will allow regeneration to establish. Broadleaved species are showing a higher level of browsing which, especially for rowan, is likely to limit the chances of seedling establishment.

An assessment of the upland habitats showed that three habitats (dry heath, blanket bog and grassland) have overall impacts in-line with Favourable Condition. Targets for wind-clipped heath have not been met.

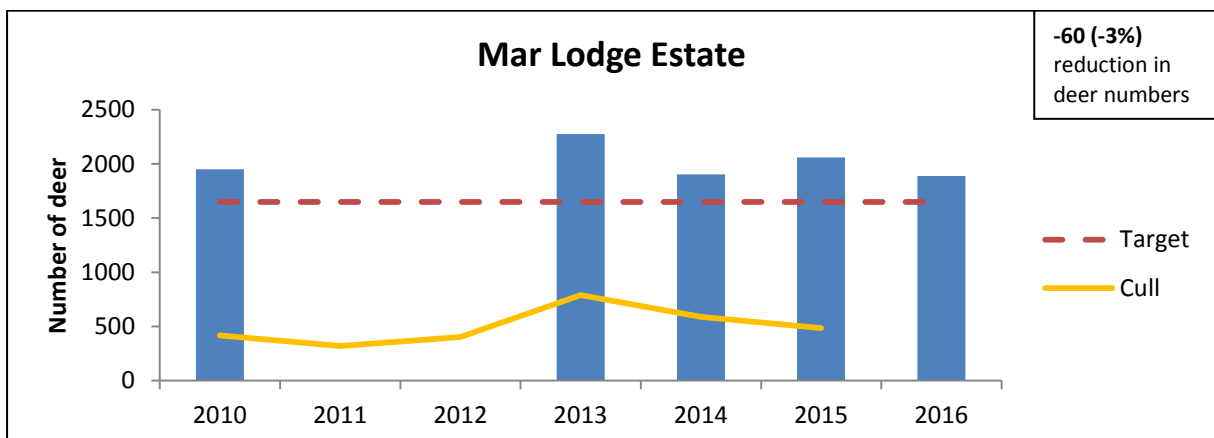
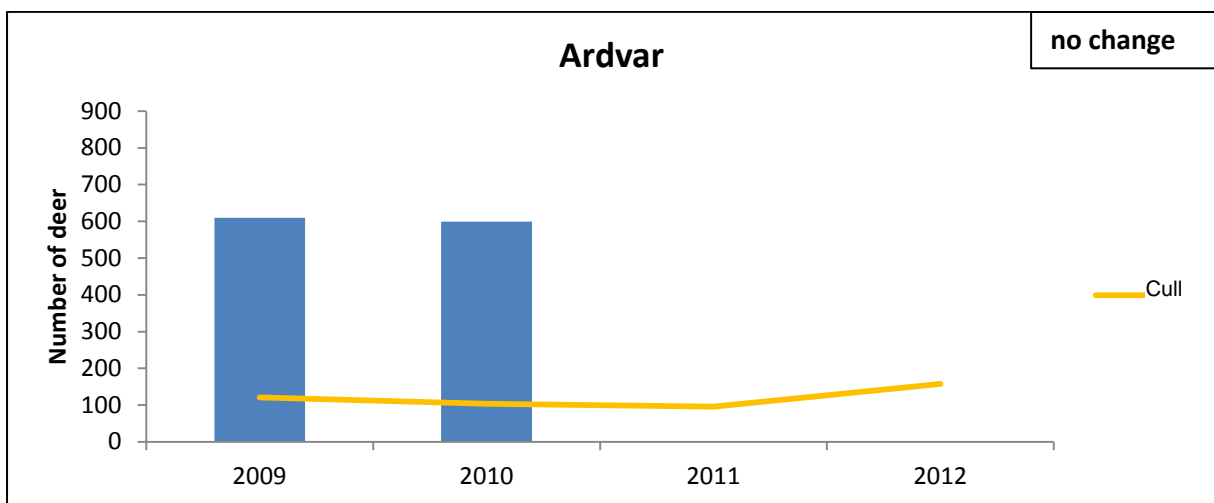
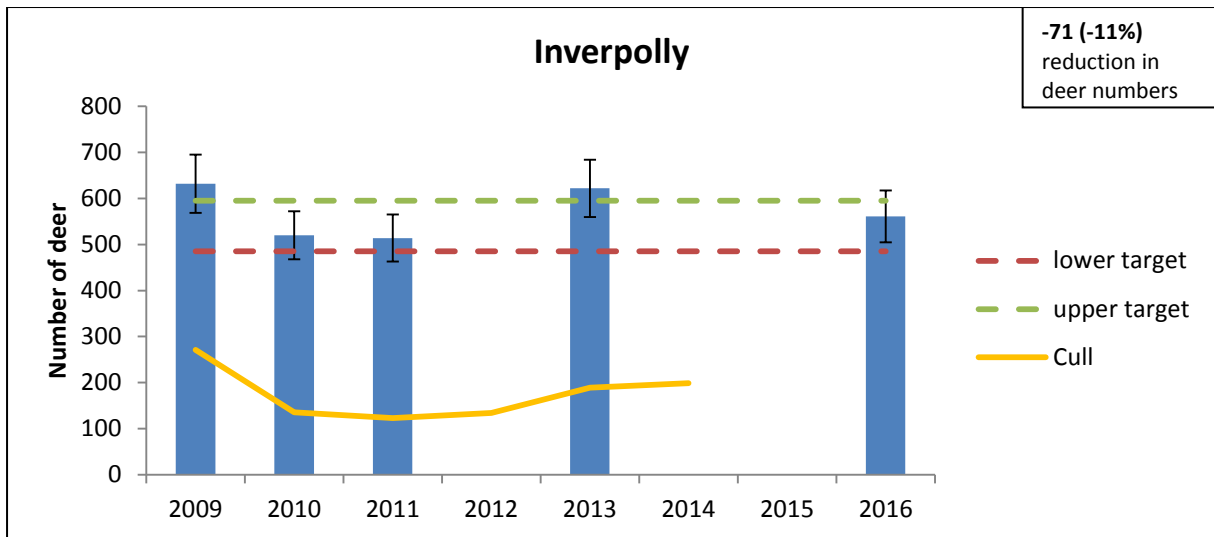
Steering group meetings have provided a forum for more constructive discussions and open communication channels on management to take place.

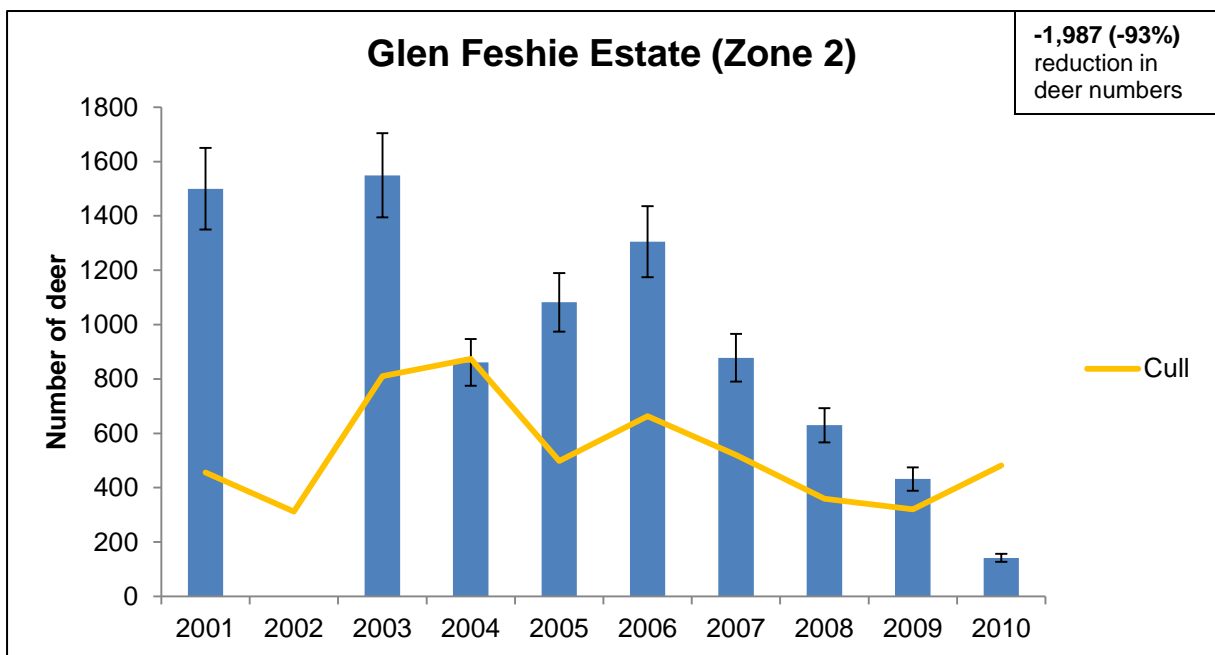
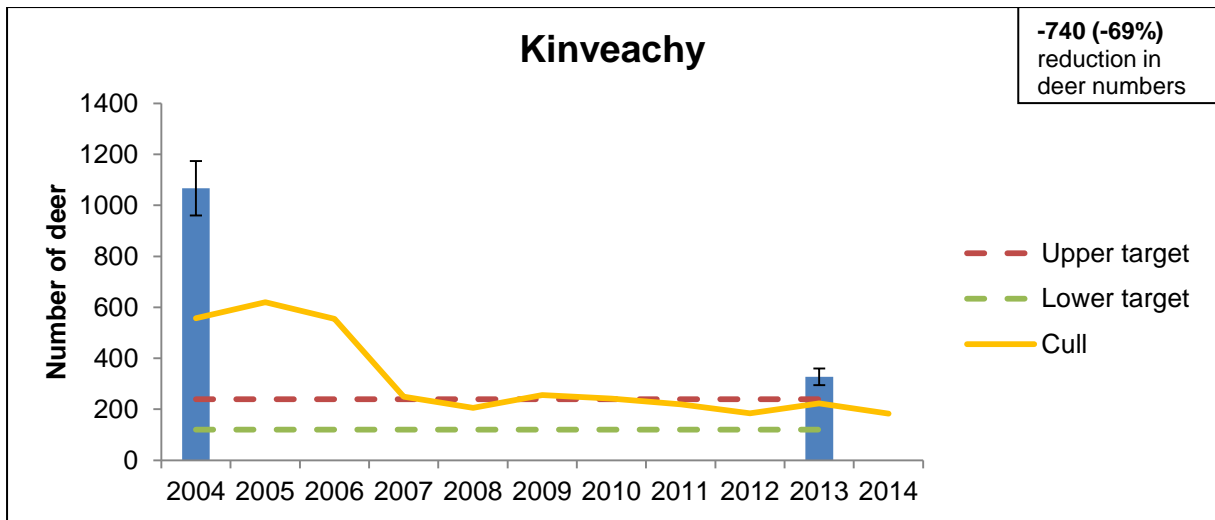
Challenges remain in managing the wider deer population outwith the woodland which is being taken forward through the DMG planning process and the three DMGs – West Grampian Tayside, East Grampian 5 and Cairngorm Speyside DMGs.

Annex 10 Site-based assessments of changes in deer numbers and densities with time

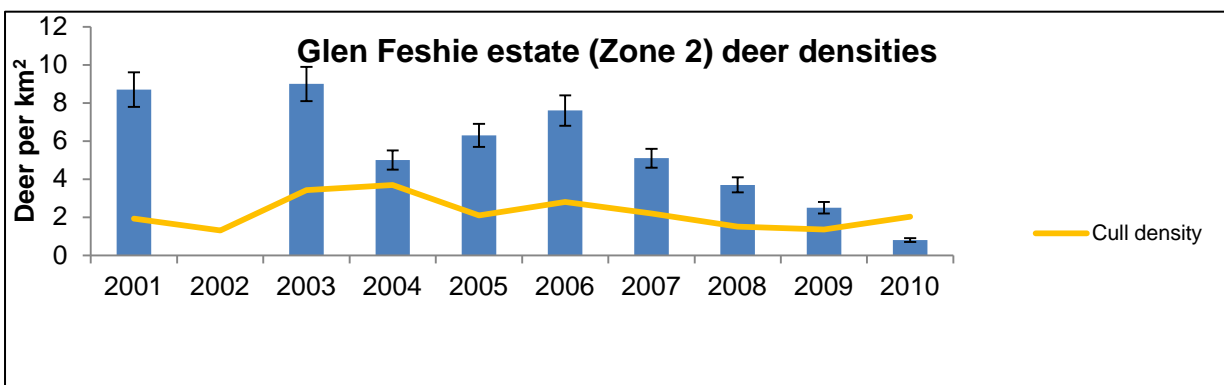
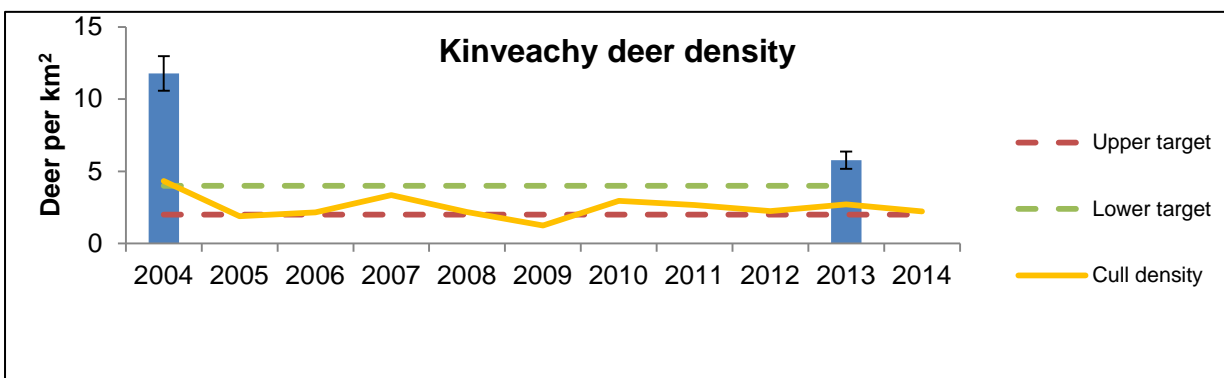
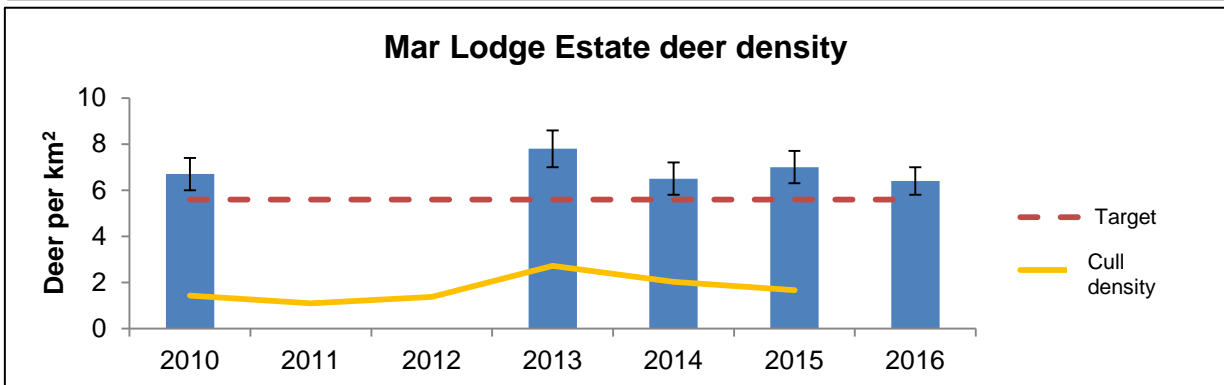
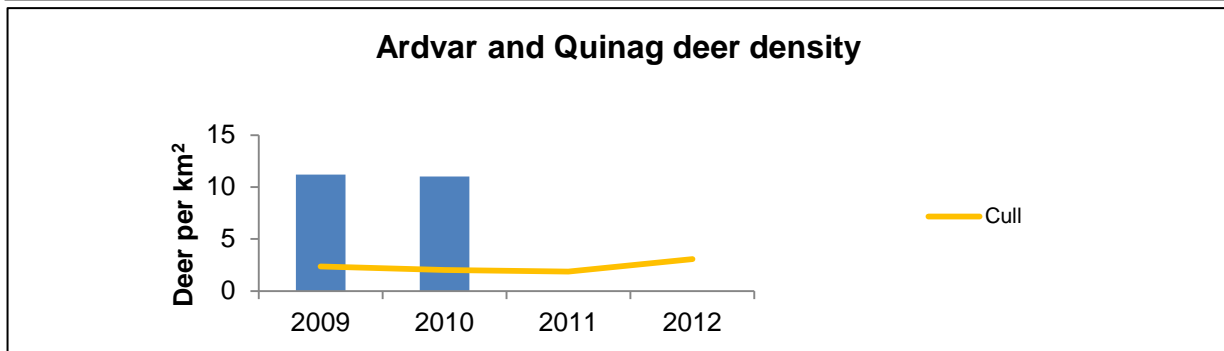
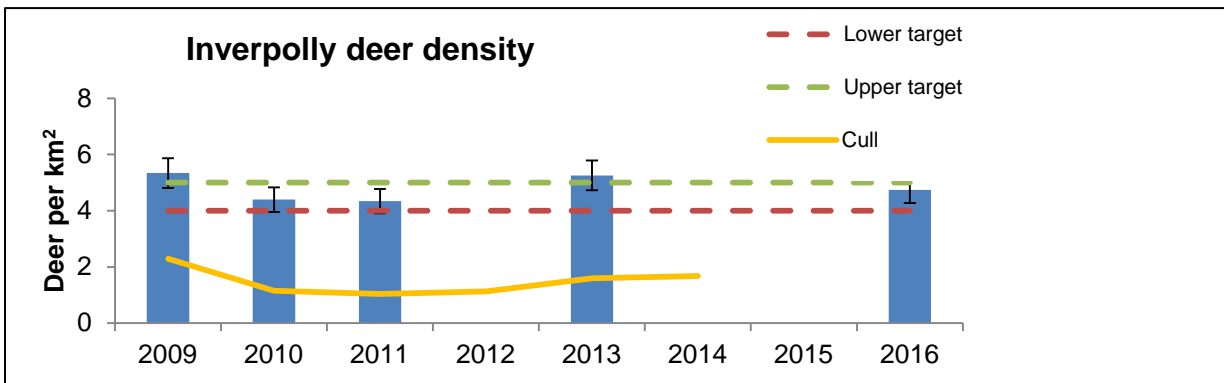
(Change in deer numbers (% changes shown in brackets) in top right of each plot where applicable).

Deer Numbers in Woodland-Based Agreements

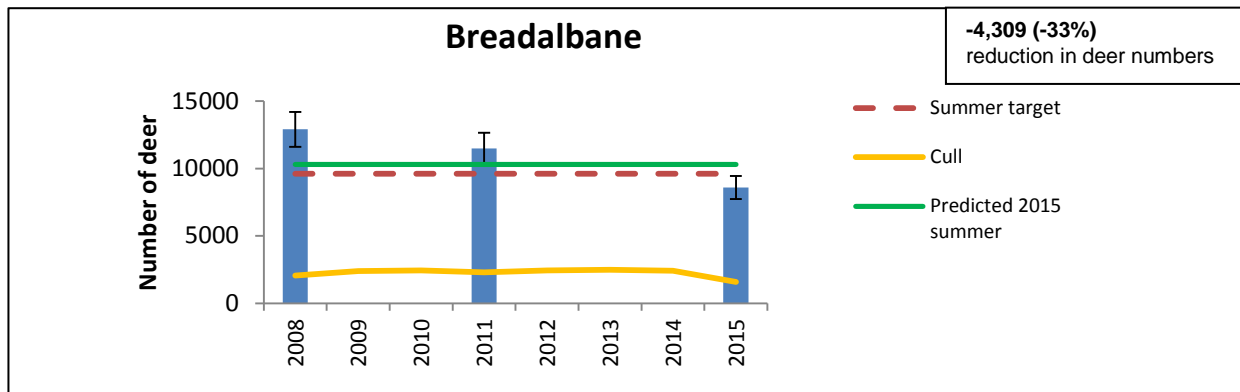
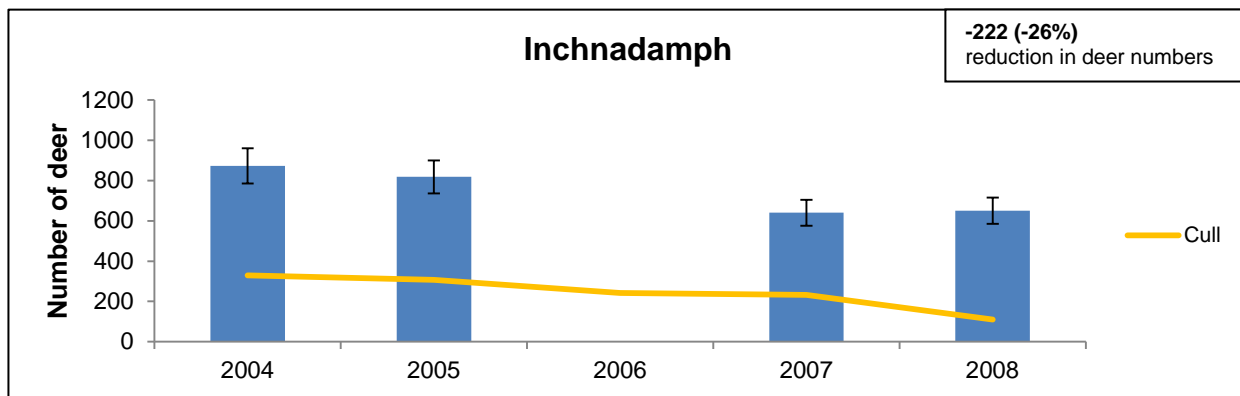
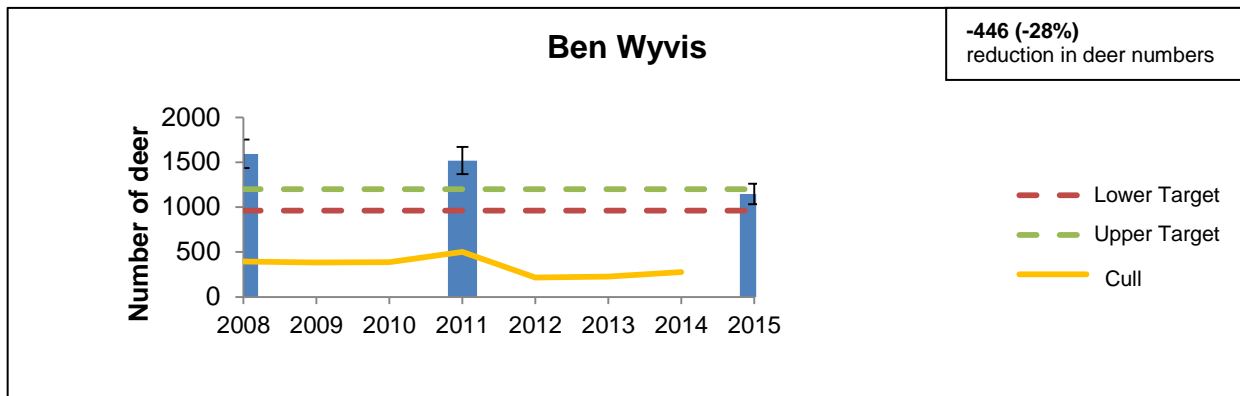
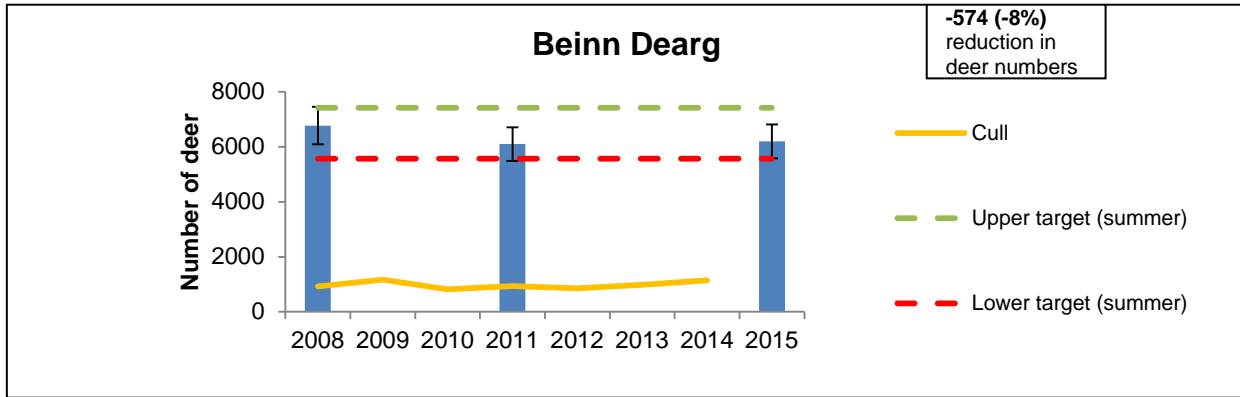


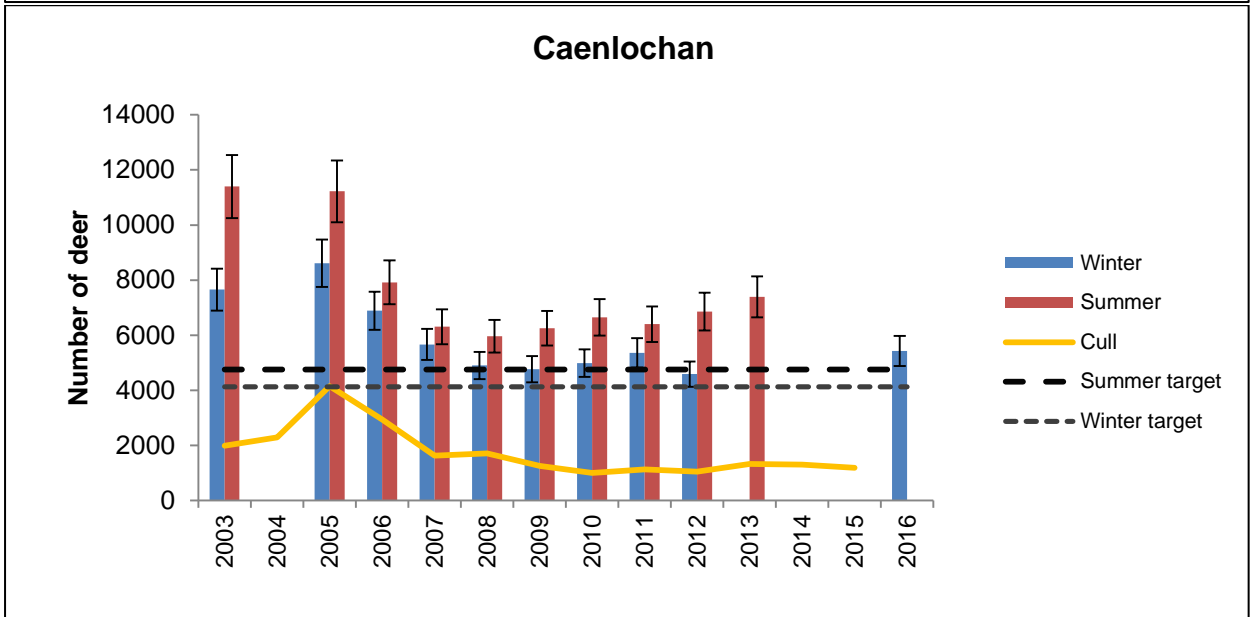
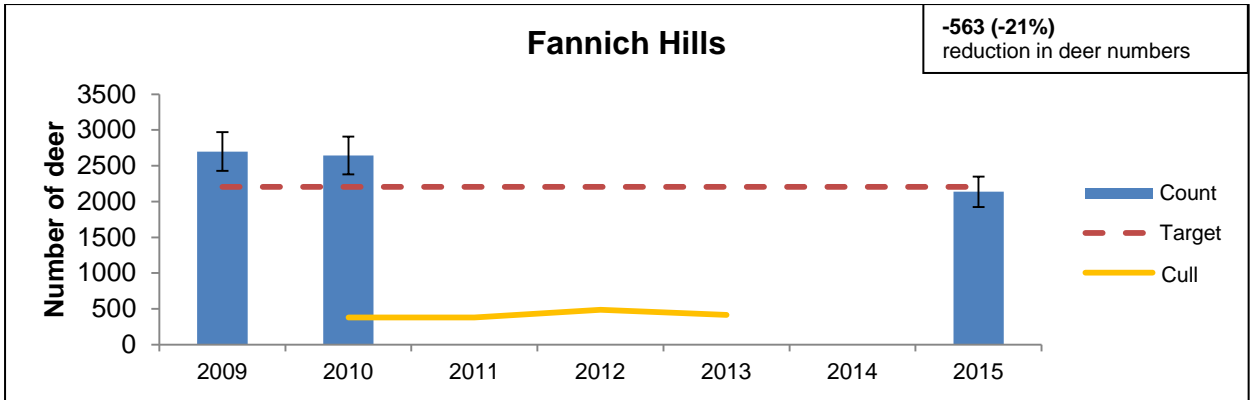


Deer Density in Woodland-Based Agreements

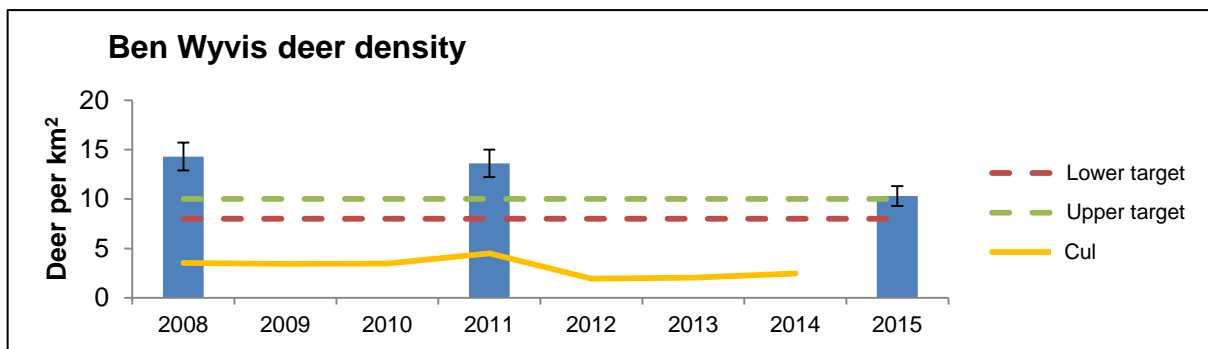
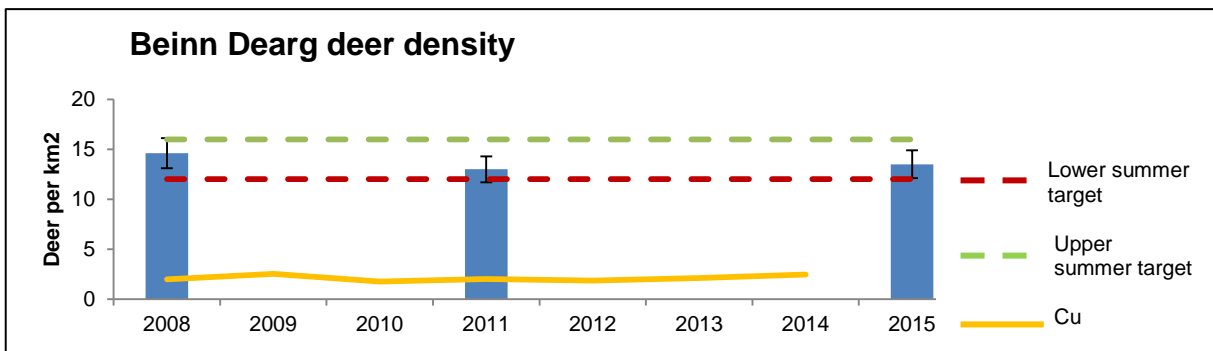


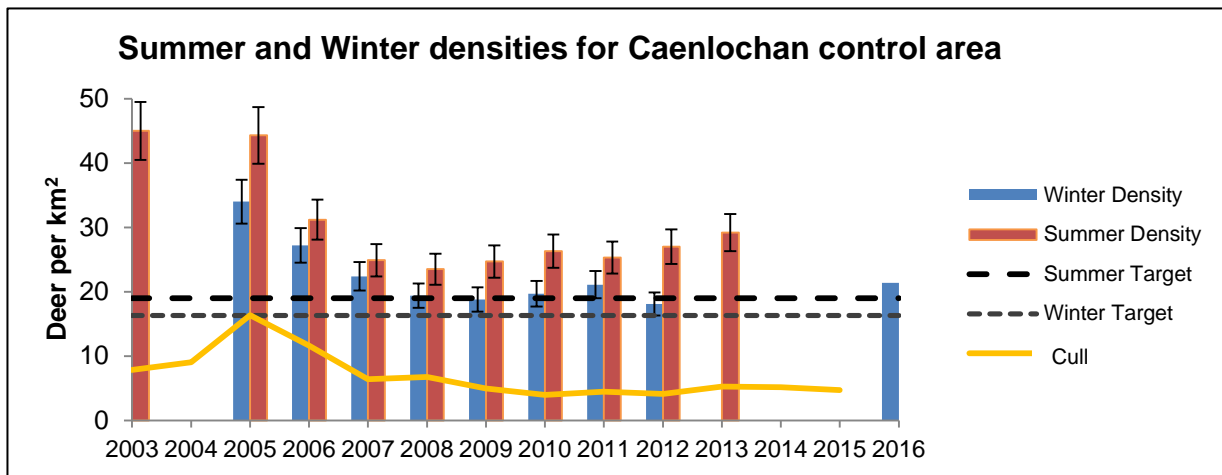
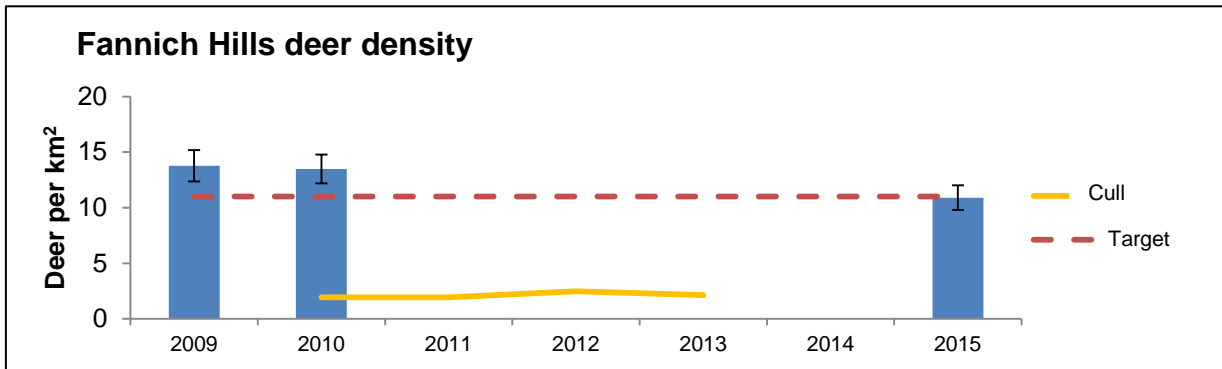
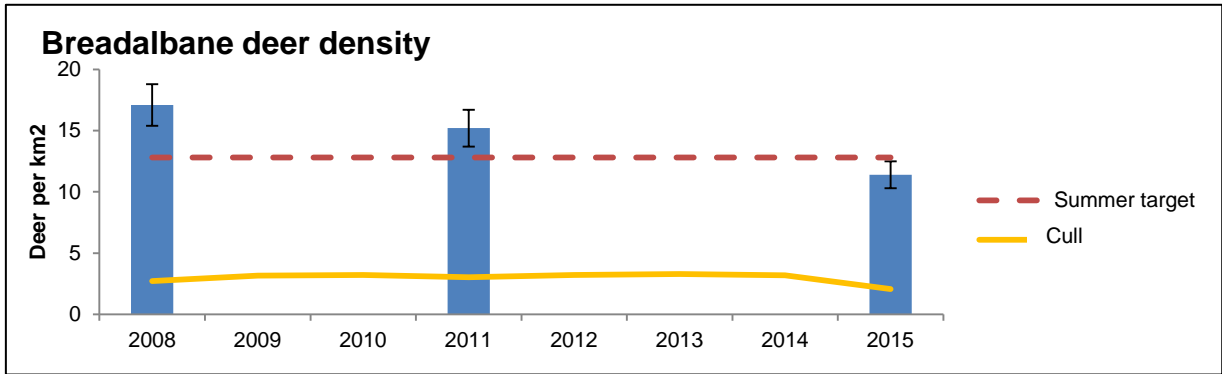
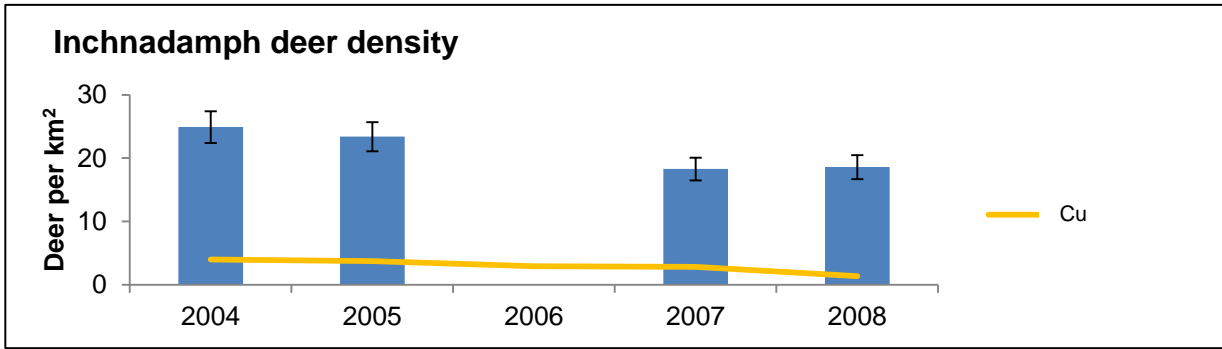
Deer Numbers in Upland-Based Agreements





Deer Density in Upland Based Agreements





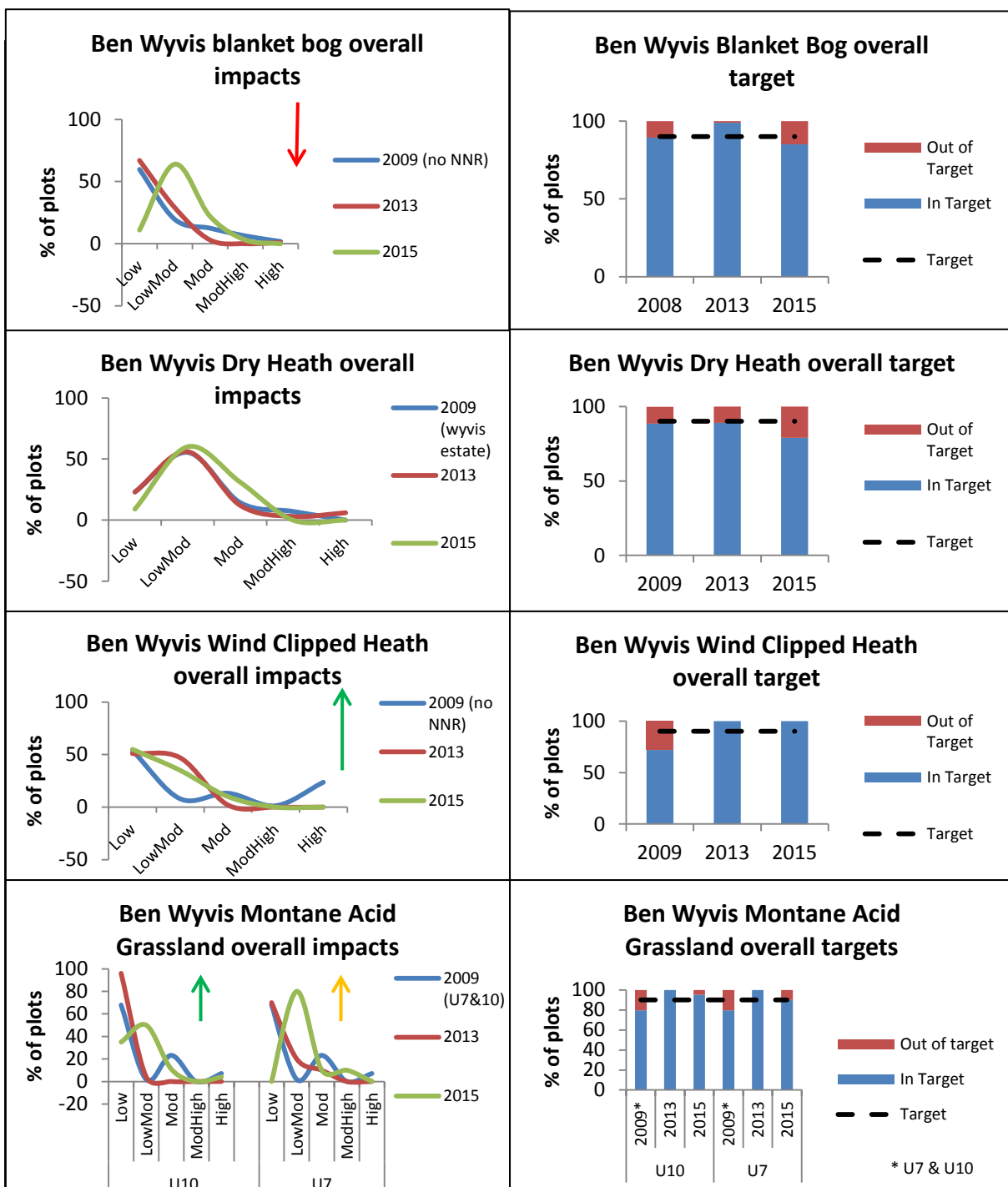
Annex 11 Details of changes in Habitat Impact Assessments across Section 7 Agreement areas

Upland Habitats

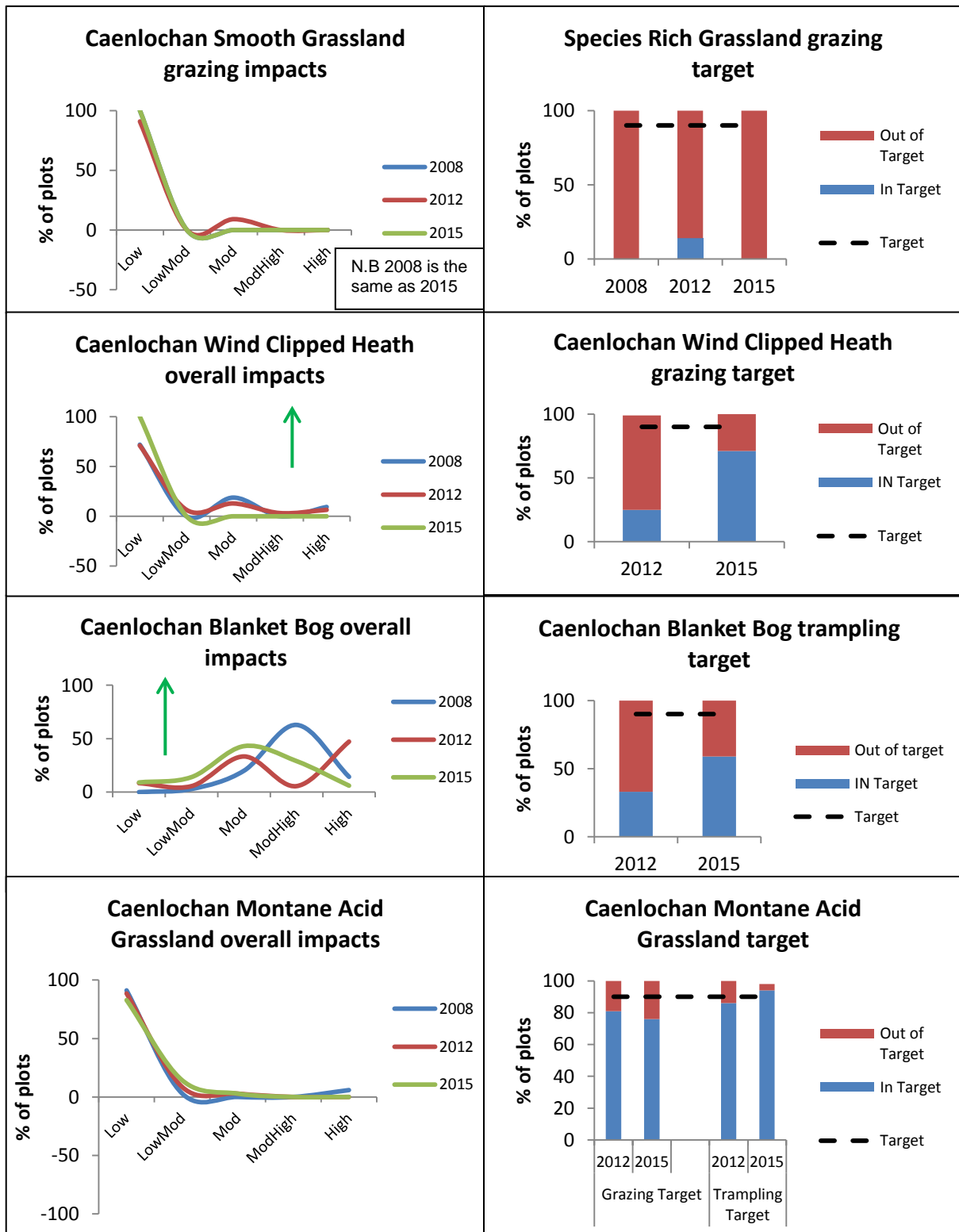
In the plots on the left-hand side, the arrows indicate change, where it is evident, in habitat condition over time (lack of arrow represents no obvious change). Green arrows (↑) represent noticeable improvement, amber arrows (↗) represent slight reduction in impacts and red arrows (↓) indicate deterioration.

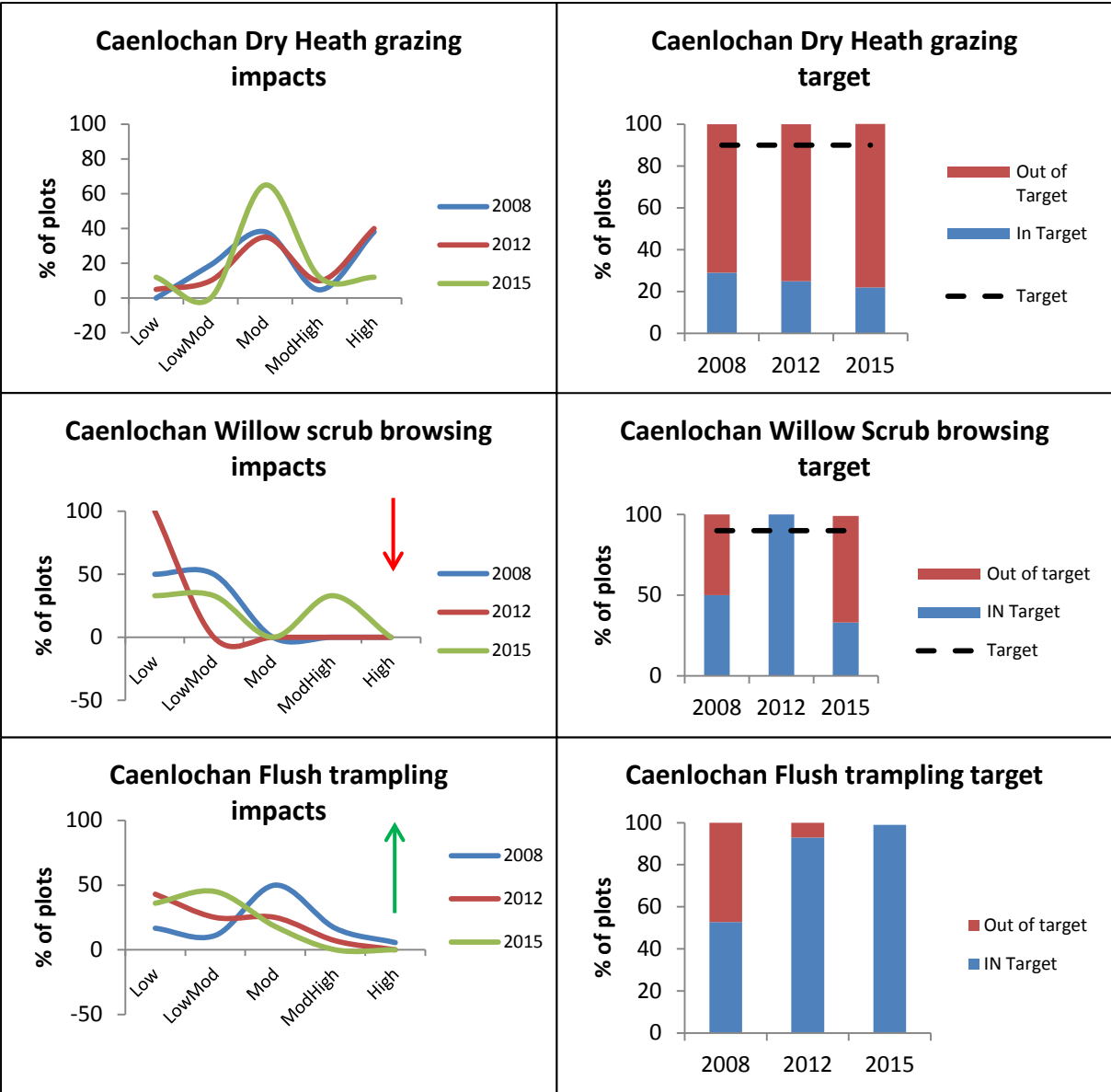
The lines in the plots on the left-hand side have been smoothed for presentational reasons. This has resulted in some lines appearing just below zero. This is a consequence of the smoothing and not a reflection of actual numbers.

Ben Wyvis

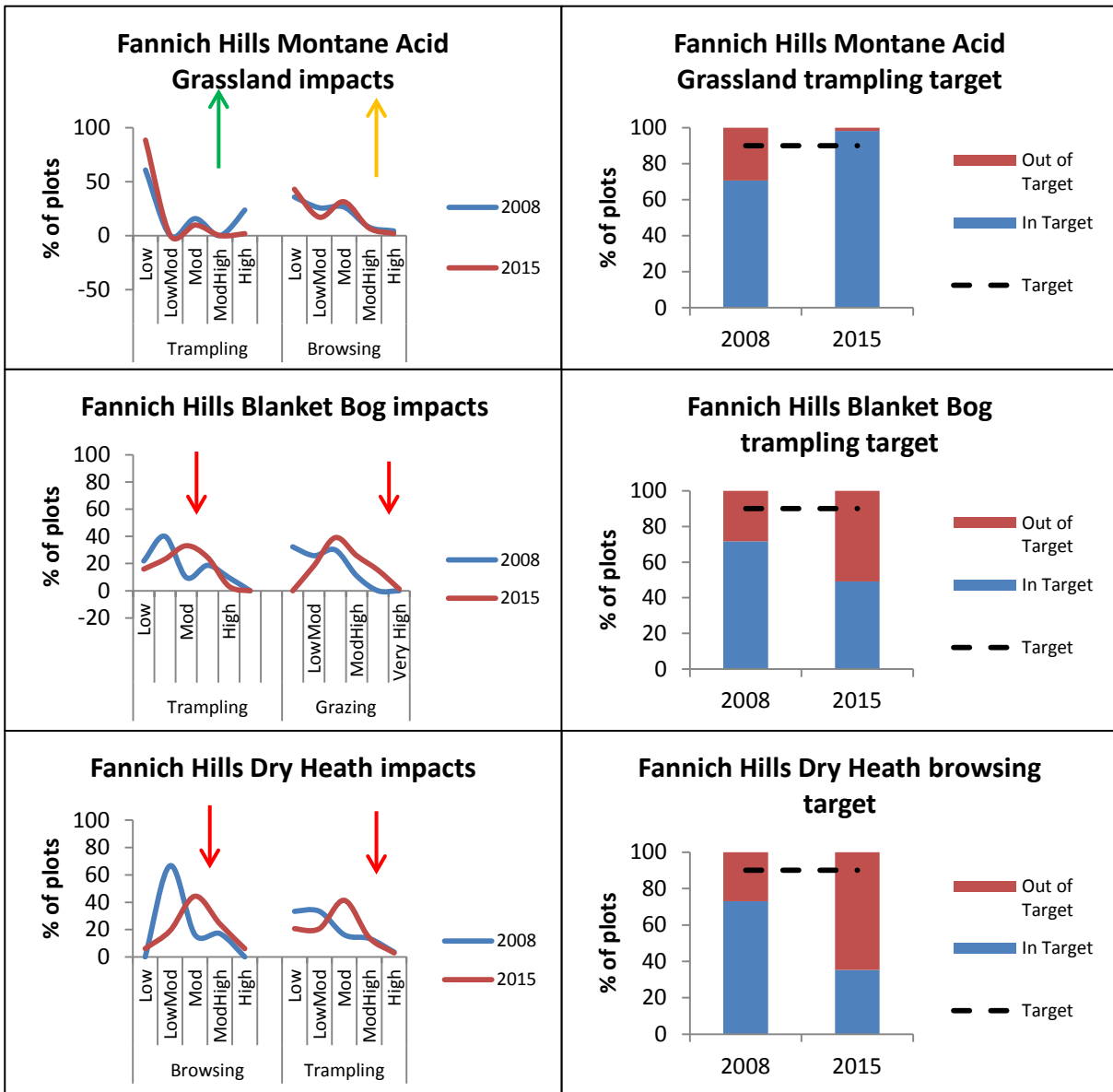


Caenlochan

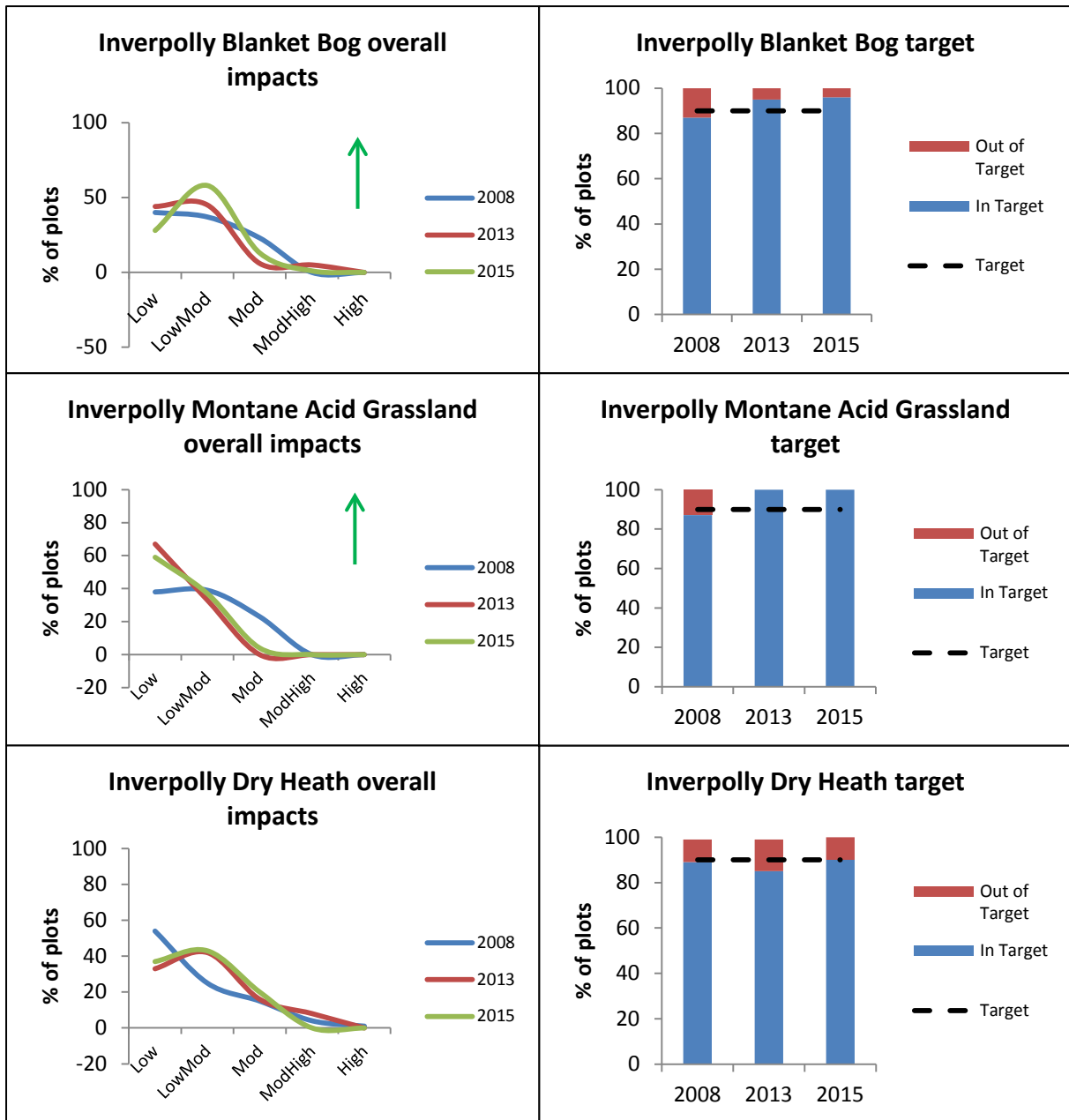




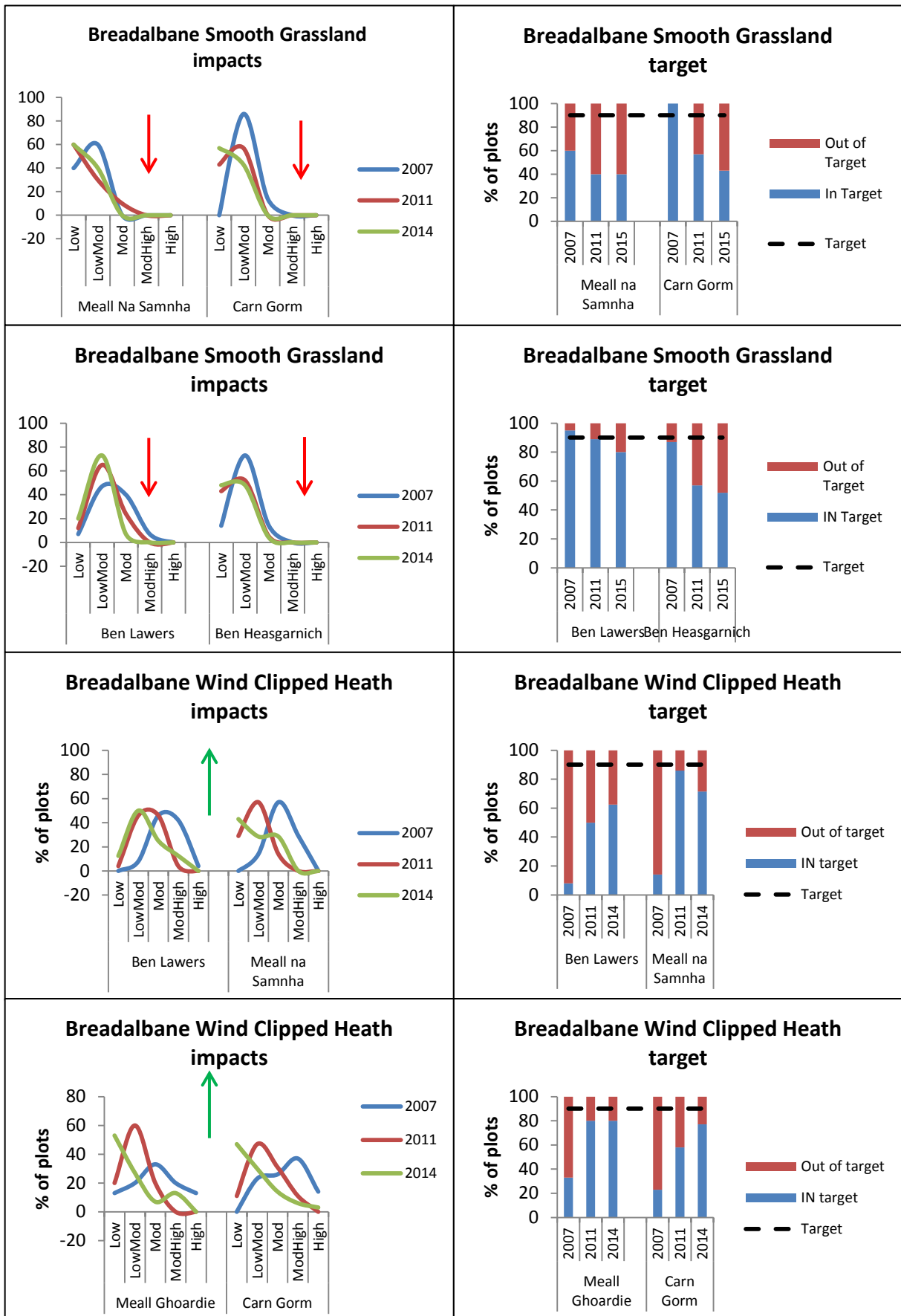
Fannich Hills

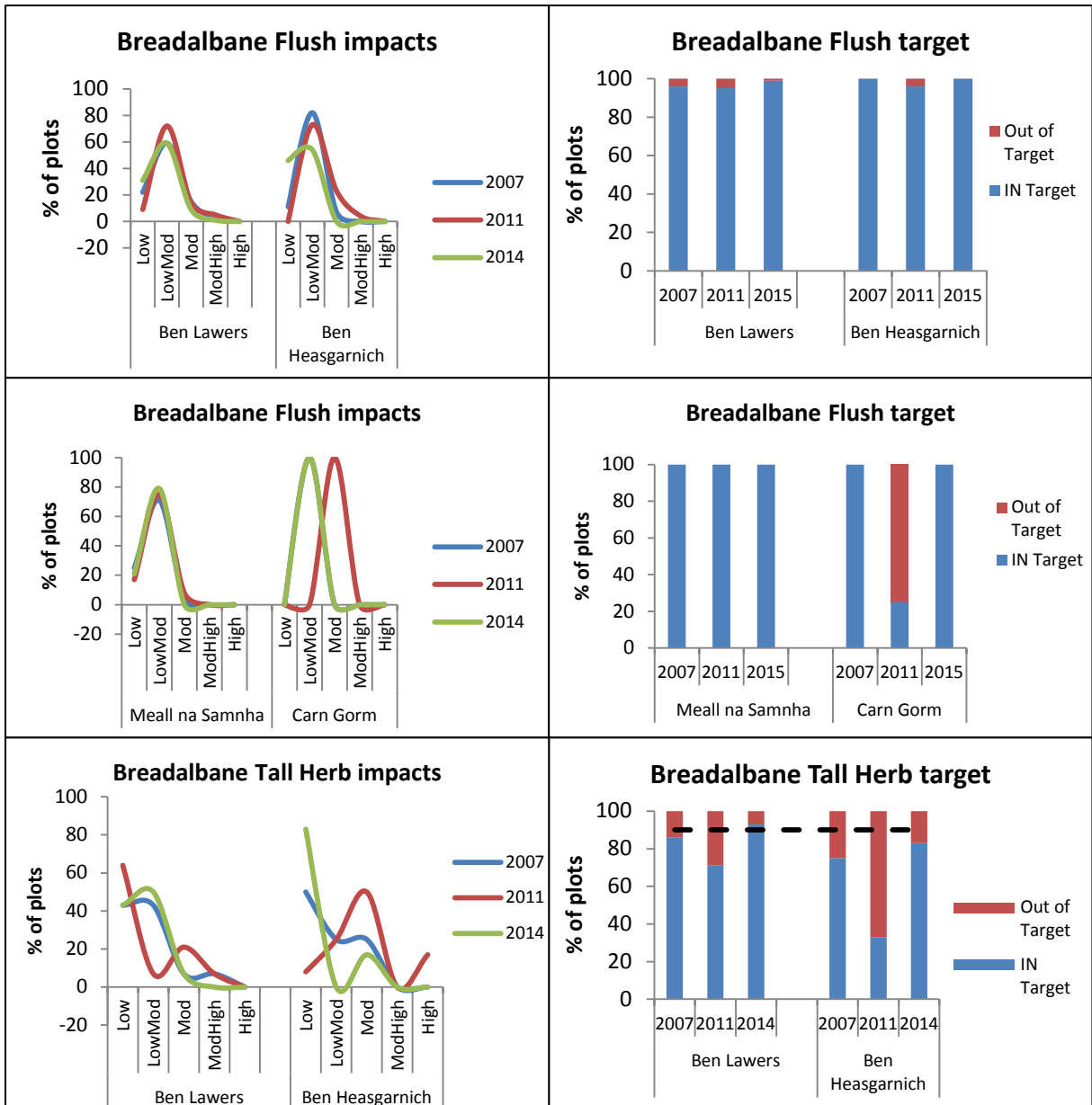


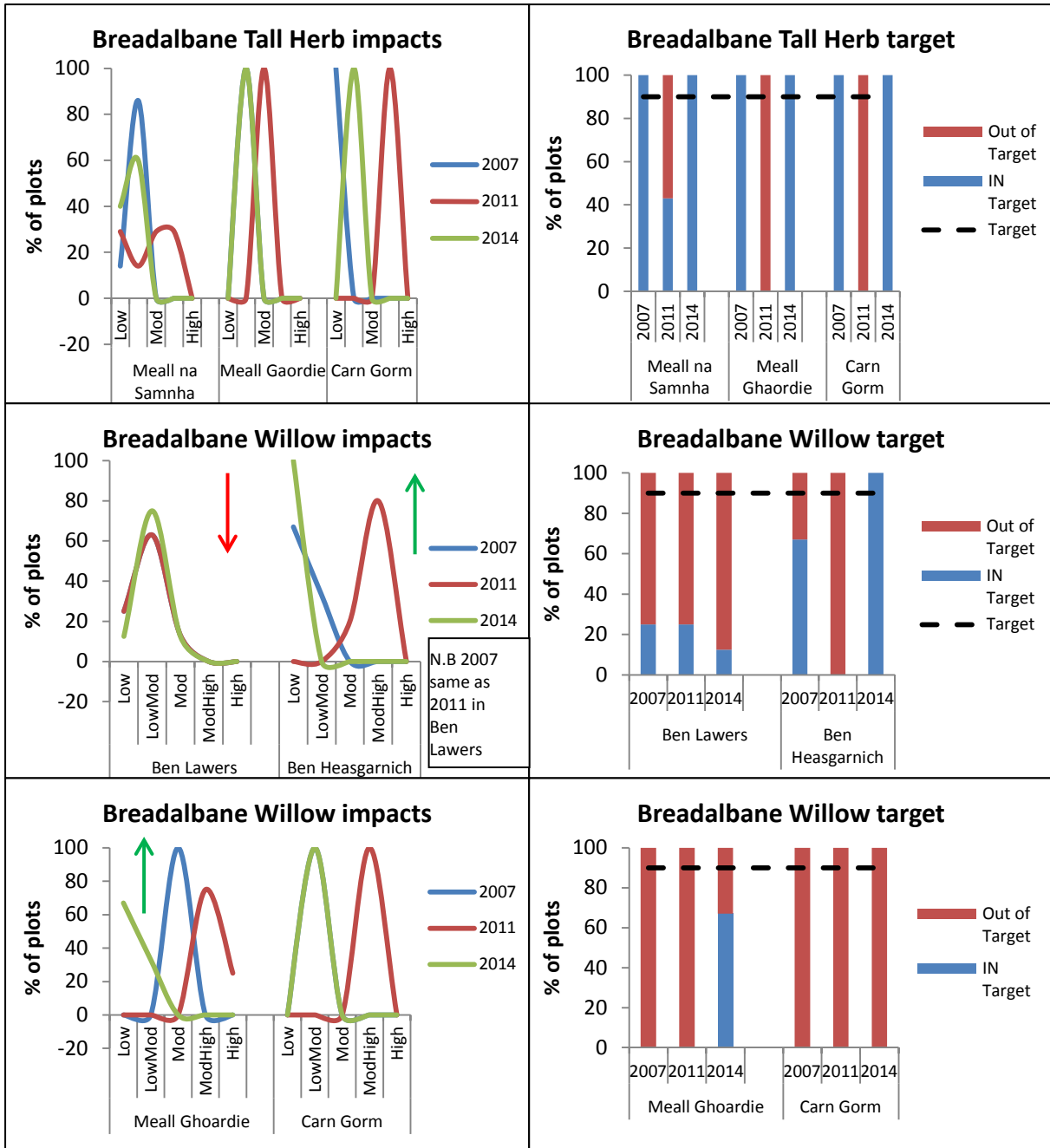
Inverpoll



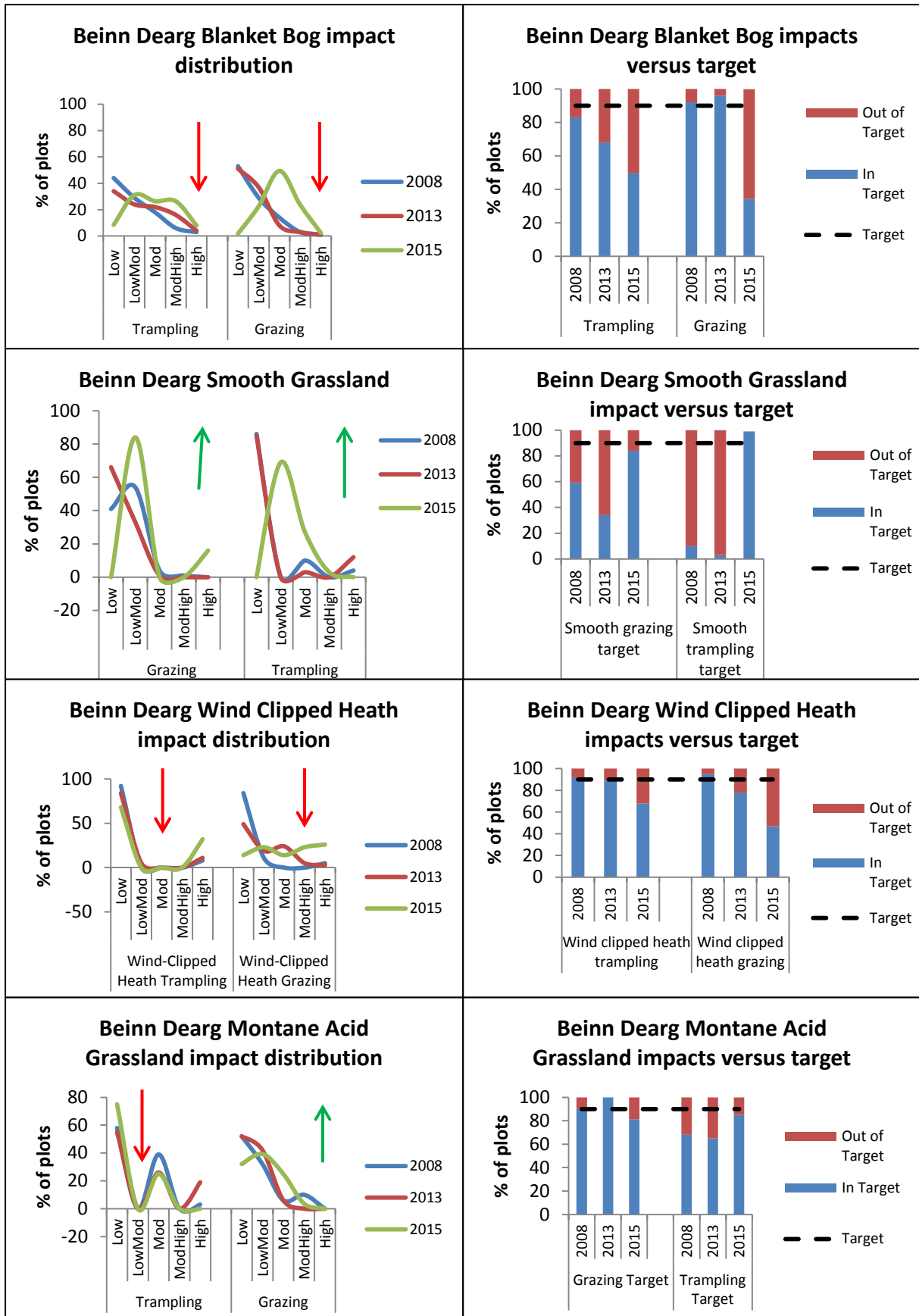
Breadalbane



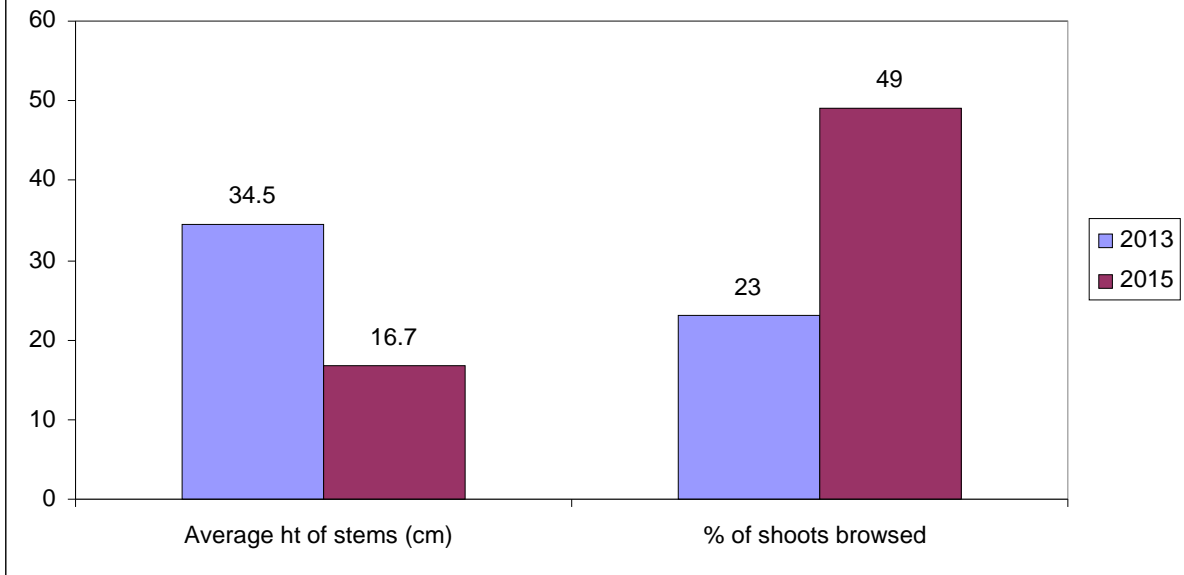




Beinn Dearg



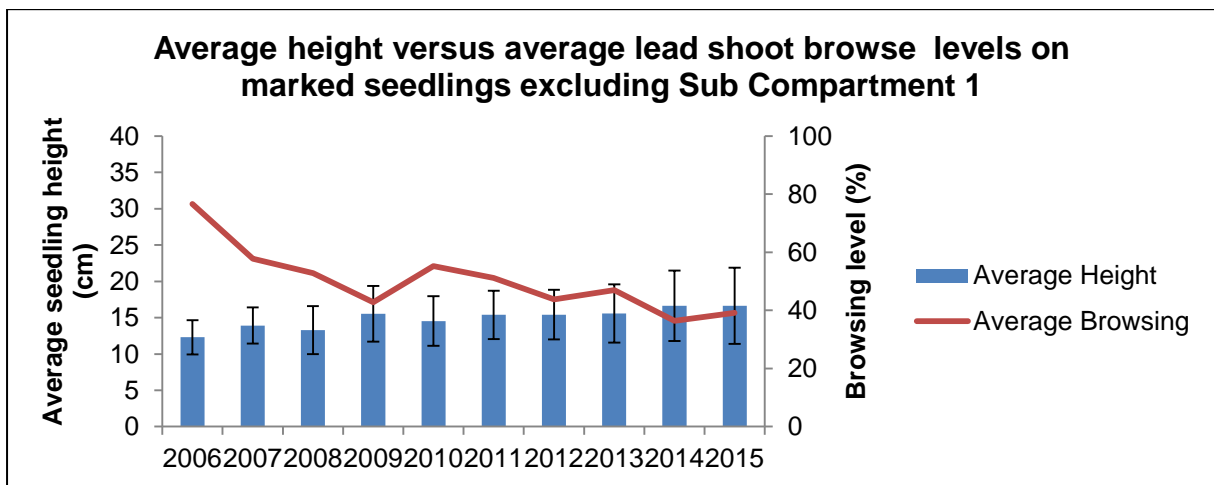
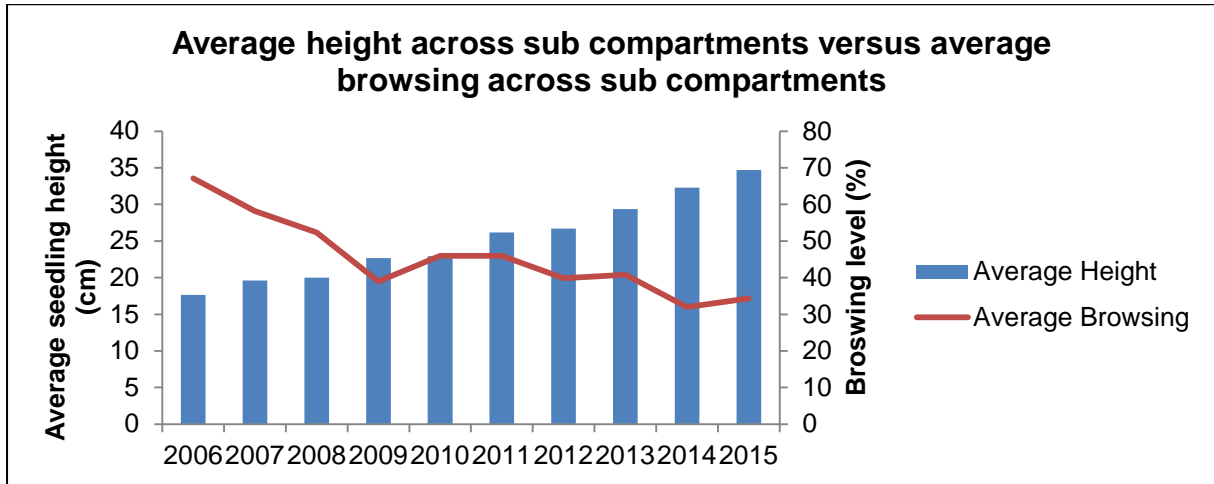
**Comparison of quantitative indicators for browsing
on *Salix* scrub, 2013 and 2015**



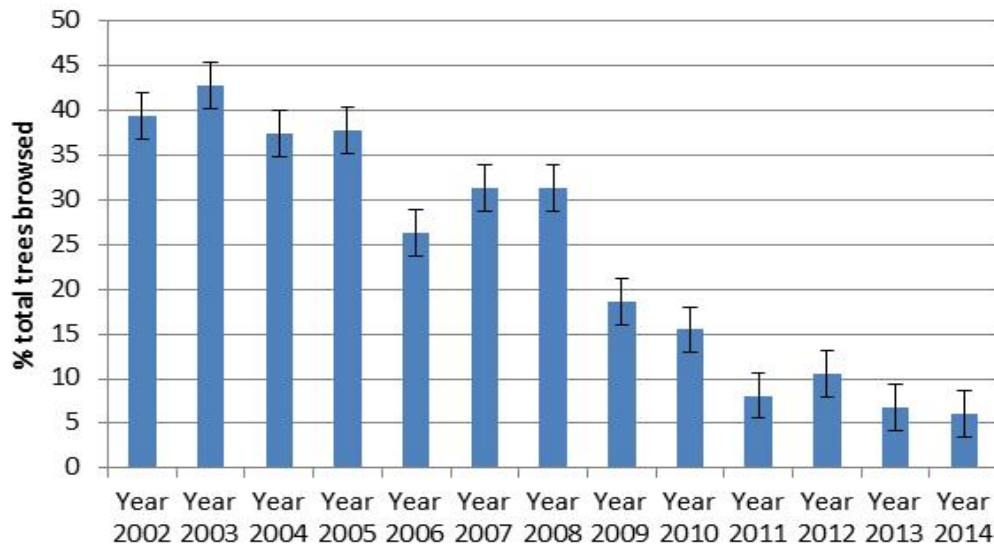
Annex 12 Data for woodland habitats derived from Section 7 Control Agreements

Woodland habitats

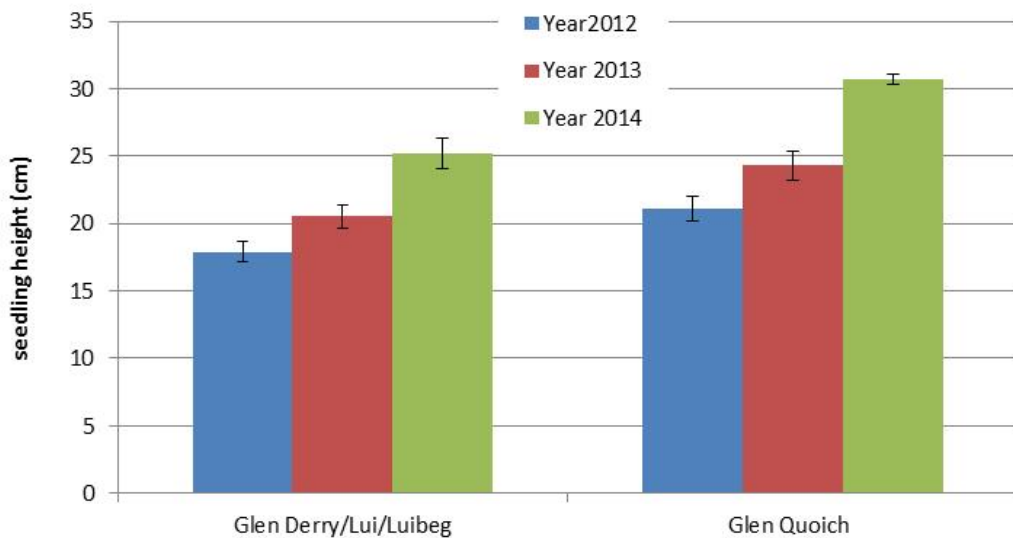
Kinveachy



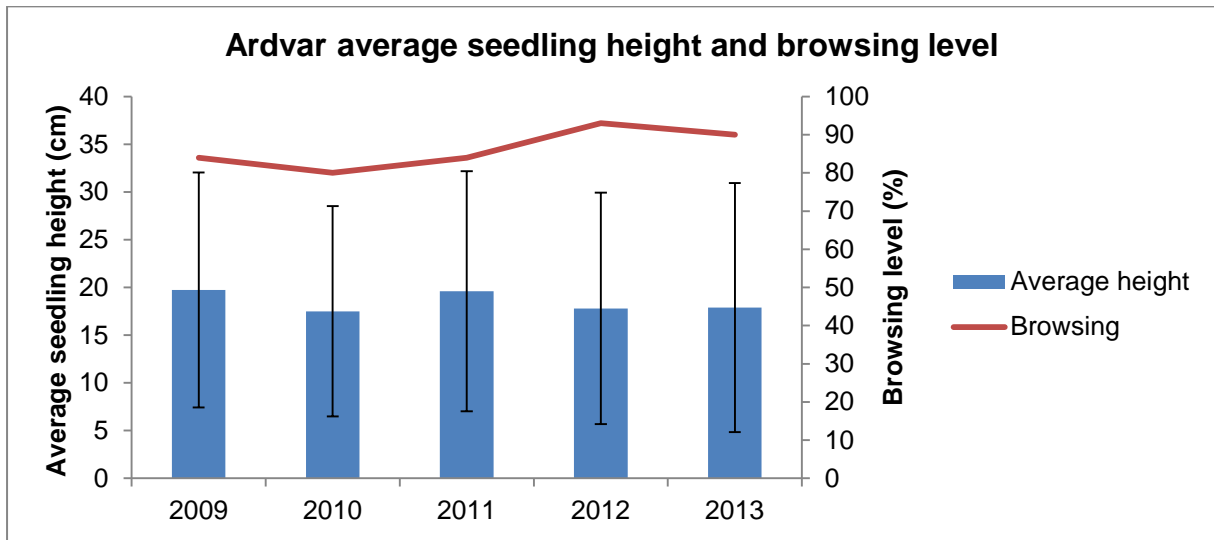
NTS Report 2014: Average percentage of current year browsing recorded on all the seedlings in the quadrats.



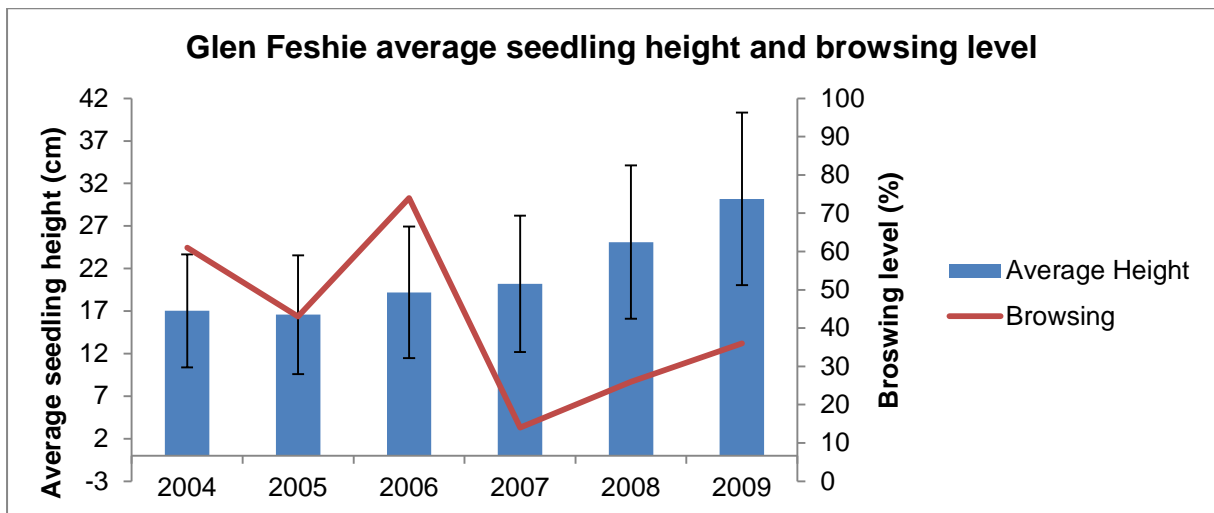
NTS Report 2014: Mean height of marked seedlings within regeneration quadrats. Taken from Mar Lodge Ecologist Report 2014



Ardvar



Glenfeshie



Inverpolly

Average height change of marked seedlings within compartments of Drumrunie and Inverpolly Estate

