# European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC)

## Fourth Report by the United Kingdom under Article 17

on the implementation of the Directive
from January 2013 to December 2018

Supporting documentation for the
conservation status assessment for the habitat:

**H6210 - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)**

NORTHERN IRELAND

## IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this habitat, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this habitat is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; and/or (iii) the field was only relevant at UK-level (sections 10 Future prospects and 11 Conclusions).
- For technical reasons, the country-level future trends for Range, Area covered by habitat and Structure and functions are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, https://jncc.gov.uk/article17, for further information on UK Article 17 reporting.

# Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

## NATIONAL LEVEL

### 1. General information

| | |
|---|---|
| 1.1 Member State | **UK (Northern Ireland information only)** |
| 1.2 Habitat code | **6210 - Semi-natural dry grasslands and scrubland facies on calcareous substra** |

### 2. Maps

| | |
|---|---|
| 2.1 Year or period | 2013-2018 |
| 2.3 Distribution map | Yes |
| 2.3 Distribution map Method used | Complete survey or a statistically robust estimate |
| 2.4 Additional maps | No |

## BIOGEOGRAPHICAL LEVEL

### 3. Biogeographical and marine regions

| | |
|---|---|
| 3.1 Biogeographical or marine region where the habitat occurs | **Atlantic (ATL)** |
| 3.2 Sources of information | Data on aerial Nitrogen deposition taken from Air Pollution Information System website - http://www.apis.ac.uk/<br>Cooper, A. & McCann, T. (2001). The Northern Ireland Countryside Survey 2000. Environment and Heritage Service, Belfast<br>Cooper, A. & McCann, T. 2002. Habitat Change in the Northern Ireland Countryside - Summary report of the Northern Ireland Countryside Survey 2000.<br>Cooper, A., McCann, T. (2002). Habitat change in the Northern Ireland Countryside: technical report of the Northern Ireland Countryside Survey 2000. Environment and Heritage Service, Department of the Environment for Northern Ireland, Belfast.<br>Cooper, A., McCann, T. and Rogers, D. (2009) Northern Ireland Countryside Survey 2007: Broad Habitat Change 1998-2007. Northern Ireland Environment Agency. Research and Development Series No. 09/06. Web address; https://www.daera-ni.gov.uk/sites/default/files/publications/doe/natural-report-broad-habitat-change-1998-2007.pdf<br>Environment and Heritage Service, Belfast. Corbett, P., 2003. Grassland Habitats. Internal discussion paper.<br>Environment and Heritage Service, Belfast. Northern Ireland Habitat Action Plan - Calcareous Grassland - March 2005<br>McCann, T., Rogers, D. and Cooper, A. (2009) Northern Ireland Countryside Survey 2007: Field methods and technical manual. Northern Ireland Environment Agency. Northern Ireland Environment Agency, Research and Development Series No 09/07. Belfast.<br>Murray, R., McCann, T. and Cooper, A. (1992). A Land Classification and Landscape Ecological Study of Northern Ireland. Department of the Environment NI and Department of Environmental Studies, University of Ulster, Coleraine.<br>NIEA. Internal Condition Assessment Reports (various sites and years).<br>Rodwell, J.S. (1992). British Plant Communities. Volume 3, Grasslands and Montane Communities. Cambridge: Cambridge University Press<br>Rodwell, J.S., Dring, J.C., Averis, A.B.V., Proctor, M.C.F., Malloch, A.J.C., Schaminee, J.H.J & Dargie, T.C.D. 1998. Review of Coverage of the National Vegetation Classification. Lancaster: Unit of Vegetation Science report to the Joint Nature Conservation Committee.<br>Grassland Inventory of Northern Ireland 1999-2017. A database of grassland |

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survey sites and grasslands of interest in the Northern Ireland countryside, incorporating contracted work by University of Ulster, ADAS and Allen and Mellon Environmental. Alistair Church NIEA.
Cooper, A. & McCann, T. (1994). The Botanical Composition of Grassland Land Cover Types in Northern Ireland. Contract Report to Environment Service, DOE (NI).

## 4. Range

| | | | |
|---|---|---|---|
| 4.1 Surface area (in km²) | | | |
| 4.2 Short-term trend Period | | | |
| 4.3 Short-term trend Direction | Stable (0) | | |
| 4.4 Short-term trend Magnitude | a) Minimum | b) Maximum | |
| 4.5 Short-term trend Method used | | | |
| 4.6 Long-term trend Period | 1986-2007 | | |
| 4.7 Long-term trend Direction | Decreasing (-) | | |
| 4.8 Long-term trend Magnitude | a) Minimum | b) Maximum | |
| 4.9 Long-term trend Method used | | | |
| 4.10 Favourable reference range | a) Area (km²)<br>b) Operator<br>c) Unknown No<br>d) Method | | |
| 4.11 Change and reason for change in surface area of range | No change<br>The change is mainly due to: | | |
| 4.12 Additional information | | | |

## 5. Area covered by habitat

| | | | |
|---|---|---|---|
| 5.1 Year or period | 2013-2018 | | |
| 5.2 Surface area (in km²) | a) Minimum | b) Maximum | c) Best single value 9.36 |
| 5.3 Type of estimate | Best estimate | | |
| 5.4 Surface area Method used | Complete survey or a statistically robust estimate | | |
| 5.5 Short-term trend Period | 2007-2018 | | |
| 5.6 Short-term trend Direction | Stable (0) | | |
| 5.7 Short-term trend Magnitude | a) Minimum | b) Maximum | c) Confidence interval |
| 5.8 Short-term trend Method used | Complete survey or a statistically robust estimate | | |
| 5.9 Long-term trend Period | 1994-2018 | | |
| 5.10 Long-term trend Direction | Decreasing (-) | | |
| 5.11 Long-term trend Magnitude | a) Minimum 0.05 | b) Maximum 0.05 | c) Confidence interval |
| 5.12 Long-term trend Method used | | | |
| 5.13 Favourable reference area | a) Area (km²)<br>b) Operator<br>c) Unknown No<br>d) Method | | |
| 5.14 Change and reason for change in surface area of range | No change<br>The change is mainly due to: | | |

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5.15 Additional information

## 6. Structure and functions

| | | | | | |
|---|---|---|---|---|---|
| 6.1 Condition of habitat | a) Area in good condition ($km^2$) | Minimum | 7.35 | Maximum | 7.35 |
| | b) Area in not-good condition ($km^2$) | Minimum | 0.15 | Maximum | 0.15 |
| | c) Area where condition is not known ($km^2$) | Minimum | 1.86 | Maximum | 1.86 |
| 6.2 Condition of habitat Method used | Complete survey or a statistically robust estimate | | | | |
| 6.3 Short-term trend of habitat area in good condition Period | 2013-2018 | | | | |
| 6.4 Short-term trend of habitat area in good condition Direction | Stable (0) | | | | |
| 6.5 Short-term trend of habitat area in good condition Method used | Complete survey or a statistically robust estimate | | | | |
| 6.6 Typical species | Has the list of typical species changed in comparison to the previous reporting period? | No | | | |
| 6.7 Typical species Method used | | | | | |
| 6.8 Additional information | | | | | |

## 7. Main pressures and threats

7.1 Characterisation of pressures/threats

| Pressure | Ranking |
|---|---|
| Conversion into agricultural land (excluding drainage and burning) (A01) | M |
| Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06) | H |
| Extensive grazing or undergrazing by livestock (A10) | H |
| Application of synthetic (mineral) fertilisers on agricultural land (A20) | M |
| Application of natural fertilisers on agricultural land (A19) | M |
| Agricultural activities generating air pollution (A27) | M |
| Intensive grazing or overgrazing by livestock (A09) | M |
| Other invasive alien species (other then species of Union concern) (I02) | M |

| Threat | Ranking |
|---|---|
| Conversion into agricultural land (excluding drainage and burning) (A01) | M |
| Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06) | H |
| Extensive grazing or undergrazing by livestock (A10) | H |
| Application of synthetic (mineral) fertilisers on agricultural land (A20) | M |
| Application of natural fertilisers on agricultural land (A19) | M |

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| | |
|---|---|
| Agricultural activities generating air pollution (A27) | M |
| Extraction of oil and gas, including infrastructure (C03) | M |
| Increases or changes in precipitation due to climate change (N03) | H |
| Intensive grazing or overgrazing by livestock (A09) | M |
| Other invasive alien species (other then species of Union concern) (I02) | M |

7.2 Sources of information

7.3 Additional information

## 8. Conservation measures

| | | |
|---|---|---|
| 8.1 Status of measures | a) Are measures needed? | Yes |
| | b) Indicate the status of measures | Measures identified and taken |
| 8.2 Main purpose of the measures taken | | Maintain the current range, population and/or habitat for the species |
| 8.3 Location of the measures taken | | Both inside and outside Natura 2000 |
| 8.4 Response to the measures | | Medium-term results (within the next two reporting periods, 2019-2030) |

8.5 List of main conservation measures

| |
|---|
| Maintain existing extensive agricultural practices and agricultural landscape features (CA03) |
| Reduce/eliminate air pollution from agricultural activities (CA12) |
| Adapt mowing, grazing and other equivalent agricultural activities (CA05) |
| Management, control or eradication of other invasive alien species (CI03) |
| Implement climate change adaptation measures (CN02) |
| Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures (CA04) |

8.6 Additional information

## 9. Future prospects

9.1 Future prospects of parameters

a) Range

b) Area

c) Structure and functions

9.2 Additional information

## 10. Conclusions

10.1. Range

10.2. Area

10.3. Specific structure and functions (incl. typical species)

10.4. Future prospects

10.5 Overall assessment of Conservation Status

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| | |
|---|---|
| 10.6 Overall trend in Conservation Status | |
| 10.7 Change and reasons for change in conservation status and conservation status trend | a) Overall assessment of conservation status<br>No change<br>The change is mainly due to:<br>b) Overall trend in conservation status<br>No change<br>The change is mainly due to: |
| 10.8 Additional information | |

## 11. Natura 2000 (pSCIs, SCIs, SACs) coverage for Annex I habitat types

| | |
|---|---|
| 11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (in km² in biogeographical/ marine region) | a) Minimum<br>b) Maximum<br>c) Best single value 4.29 |
| 11.2 Type of estimate | Best estimate |
| 11.3 Surface area of the habitat type inside the network Method used | Complete survey or a statistically robust estimate |
| 11.4 Short-term trend of habitat area in good condition within the network Direction | Stable (0) |
| 11.5 Short-term trend of habitat area in good condition within network Method used | Complete survey or a statistically robust estimate |
| 11.6 Additional information | |

## 12. Complementary information

| | |
|---|---|
| 12.1 Justification of % thresholds for trends | |
| 12.2 Other relevant information | |

# Distribution Map

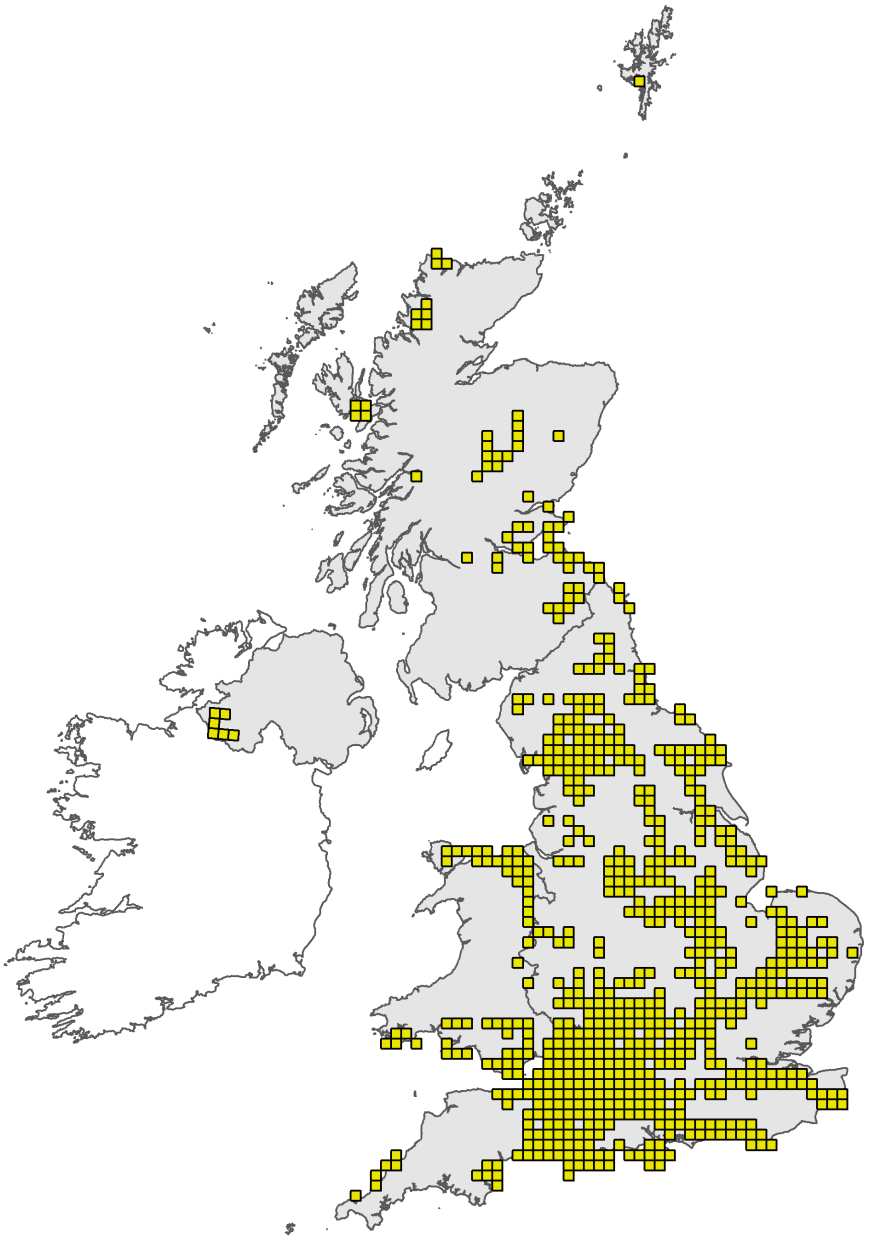

Figure 1: UK distribution map for H6210 - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available habitat records which are considered to be representative of the distribution within the current reporting period. For further details see the 2019 Article17 UK Approach document.

# Range Map

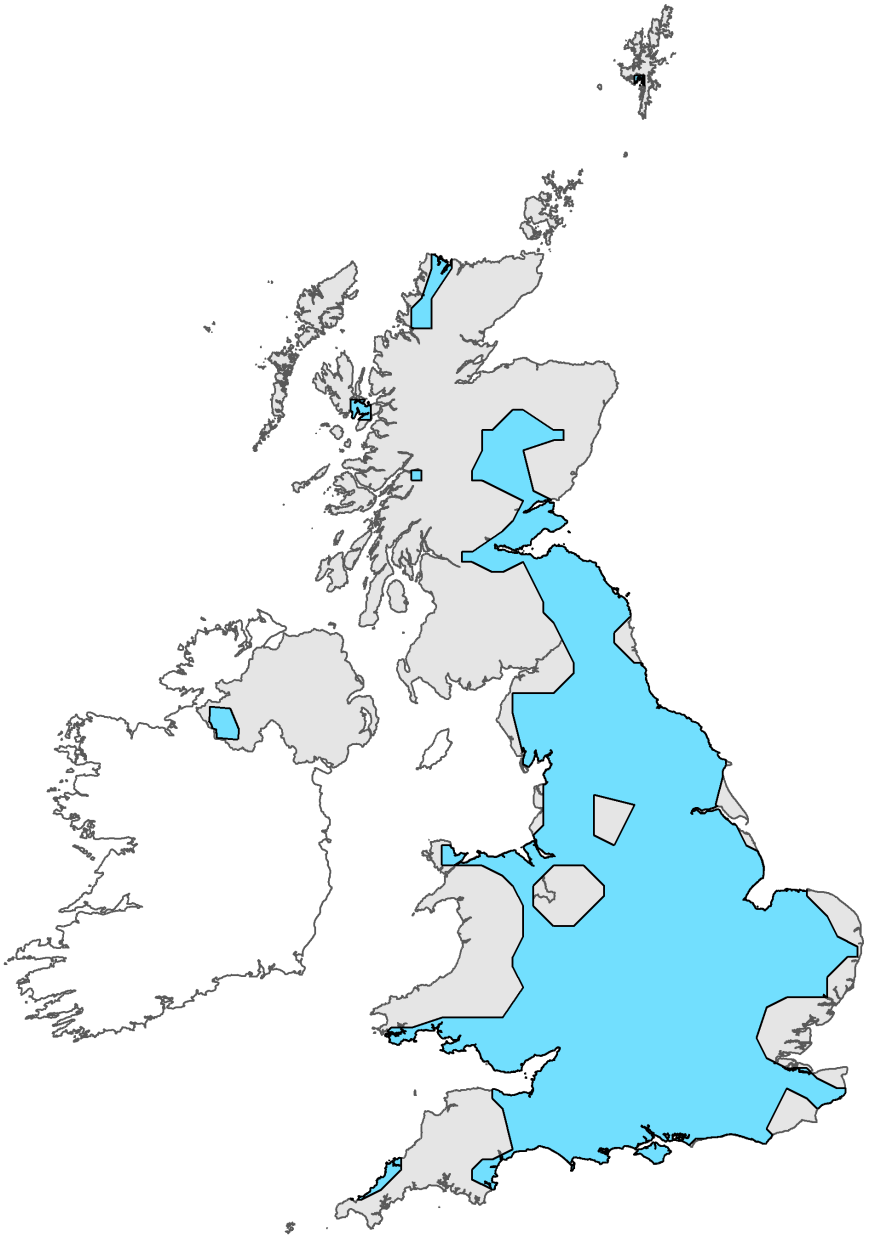

Figure 2: UK range map for H6210 - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this habitat was 25km. For further details see the 2019 Article 17 UK Approach document.

# Explanatory Notes

**Habitat code: 6210**

| Field label | Note |
|---|---|
| 2.2 Distribution map | Semi-natural dry grasslands are now a scarce and threatened habitat, with less than 60,000 ha in the UK. The main sub-types of these grasslands correspond in the UK to the following NVC types: CG1 Festuca ovina-Carlina vulgaris grassland, CG2 Festuca ovina-Avenula pratensis grassland, CG3 Bromus erectus grassland, CG4 Brachypodium pinnatum grassland, CG5 Bromus erectus-Brachypodium pinnatum grassland, CG6 Avenula pubescens grassland, CG7 Festuca ovina-Hieracium pilosella-Thymus praecox/pulegioides grassland, CG8 Sesleria albicans-Scabiosa columbaria grassland and CG9 Sesleria albicans-Galium sterneri grassland. This habitat type has a wide range of variation, in terms of the structure of the vegetation, the range of slope and aspect and other physical variations (e.g. presence of rock outcrops, screes, areas of shallow soils) and the presence of transitions to adjoining contrasting habitat types. Note that similar grassland communities on non-calcareous rocks are excluded from the definition. CG9 Seslaria grassland is the only one of the NVC types listed above that occurs in NI to any significant extent, and this is limited to the Carboniferous Limestones of County Fermanagh. All of the examples from NI are 'non-Orchid' sites, because none of the key orchid species occur in NI. The SAC network for NI includes 2 examples - Monawilkin and West Fermanagh Scarplands. In addition, 3 ASSIs include the habitat - Knockninny Hill, Marlbank, Belmore Mountain. The main NVC type associated with this Annex 1 habitat is CG9, which is a fairly restricted habitat in NI; it is generally found on shallow, freely-draining soils on base-rich parent material. Due to climate and soils drainage characteristics, such conditions are generally limited to steep slopes. The previous range map for NI included all known occurrences of calcareous grassland, which included CG10 grassland communities in other parts of NI (particularly on the Tertiary Basalts and Cretaceous Chalks of Cos Antrim and Londonderry). UK interpretation guidance suggests that this Annex 1 type includes examples of CG10 only in certain parts of Scotland. Hence only examples of CG9 are included as H6210 in NI. |
| 2.3 Distribution map; Method used | Survey nearly complete - due to restricted nature of the habitat in NI. |

**Habitat code: 6210 Region code: ATL**

| Field label | Note |
|---|---|
| 10.6 Overal trend in Conservation Status | Trend believed to be stable or improving. |
| 5.2 Surface area | The most recent estimate for area of 936 ha is based on Northern Ireland Countryside Survey data from a period of just over 20 years and was the closest available to a surrogate for the area in 1994. |
| 5.4 Surface area; Method used | Habitat area estimated from mapped data taken from ASSIs declared for this habitat. Habitat very restricted in extent outside designated sites. |
| 5.9 Long term trend; Period | 1986-2007 |
| 5.10 Long term trend; Direction | Long-term trend in habitat area was based upon estimates from the Northern Ireland Countryside Survey for the broad habitat 'Calcareous grassland'. This included a wider range of grassland types than H6210. Between 1986 and 1998 there was a 7% decrease in area recorded in Broad Habitat Calcareous grassland, whilst there was a 2% increase recorded between 1998 and 2007. The main reasons for habitat loss were scrub encroachment and agricultural intensification. It is probable that recent conservation initiatives, including agri-environment schemes, reduced the rate of decline in area and encouraged some restoration. |

| | |
|---|---|
| 5.12 Long term trend; Method used | Trends in habitat area were estimated from the Northern Ireland Countryside Survey, which involved field survey of stratified random sample for the broad habitat 'Calcareous grassland'. |
| 5.13 Favourable reference area | Favourable reference area for NI has been estimated at 10km2. The most recent estimate for area was based on Northern Ireland Countryside Survey data for a period of just over 20 years and was the closest available to a surrogate for the area in 1994. For this reason it probably predated the measured decline and has been set as the favourable reference area. |
| 6.1 Condition of habitat | All 429.81 ha of habitat on SACs in favourable condition; 306 ha in favourable condition in ASSI, 15 ha of the habitat in ASSI in unfavourable condition. The condition of the habitat on SACs and ASSIs is a good indicator of the condition in the wider countryside, as a high proportion of the habitat is within the protected sites network. |
| 6.2 Condition of habitat; Method used | Data taken from the most recent Common Standards Monitoring on SACs and ASSIs that contain the habitat. |
| 6.3 Short term trend of habitat area in good condition; Period | 2007-2018 |
| 6.4 Short term trend of habitat area in good condition; Direction | Stable |
| 6.5 Short term trend of habitat area in good condition; Method used | Data taken from the most recent Common Standards Monitoring on SACs and ASSIs that contain the habitat. |
| 6.8 Additional information | The current condition of the habitat structure and functions was assessed using Common Standards Monitoring site condition monitoring. This involved assessing the following attributes: - Extent - Grass:herb ratio - Positive indicator species - Negative indicator species - Indicators of local distinctiveness - Height - Litter - Bare ground The two SACs in NI supporting H6210 were assessed in 2017 (Monawilkin) and 2014 (West Fermanagh Scarplands); they covered 64.7ha and 365.11 ha respectively; and were both found to be in favourable condition. Three ASSIs in NI supporting calcareous grassland comparable to H6210 were assessed; they covered 15 ha (Knockninny ASSI) and 261 ha (Marlbank ASSI) 45ha (Belmore Mountain), and were found to be in favourable condition on Marlbank and Belmore Mountain, unfavourable-unclassified condition for Knockninny . There was no condition data available for H6210 outside of designated sites. However, the bulk of the habitat in NI is within SACs and ASSIs and, therefore, the above information provided a strong indication of the habitat condition in NI. In summary 78.52% of the area was favourable and 1.6% was unfavourable-unclassified condition with the remainder in unknown condition outside of protected sites. |

| | |
|---|---|
| 7.1 Characterisation of pressures/ threats | H6210 generally occurs within a very narrow ecological range on very shallow, well-drained, base-rich soils. Significant stands of the habitat are generally confined to rocky escarpments and steep craggy slopes on upland areas of limestone. As a result, the habitat is generally not subjected to many of the threats and pressures that are prevalent in the lowlands and more accessible parts of the uplands. The habitat depends upon a low level of grazing, so the main threats to the habitat are from insufficient grazing or complete abandonment - ultimately leading to rank growth and scrub encroachment. In some places, overgrazing is still an issue, which can lead to invasion by species such as Ragwort and Daisy. The shallow soils are subjected to rapid irrigation by rainwater, so are fairly well-buffered against damaging impacts from sources of eutrophication such as fertiliser and atmospheric Nitrogen deposition. Pressure/threat from fertiliser application is given a Pressure Ranking of Medium. APIS data indicate that Nitrogen deposition levels are below the critical thresholds for the habitat at most of its locations - e.g. West Fermanagh Scarplands - Critical Loads 15-25 (kg N/ha/yr) Predicted Nitrogen Deposition 8.7-12.3 kg N/ha/yr (average 9.2); Monawilkin SAC Critical Loads 15-25 (kg N/ha/yr) Predicted Nitrogen Deposition 8.1-12.3 kg N/ha/yr (average 10.3). However, it is important that the air quality is monitored to ensure that Nitrogen loading does not increase to damaging levels. Invasion by non-native species (Cotoneaster spp; ) has been recorded at 2 of the sites for the habitat, but are currently localised and hence recorded as medium. Climate change may produce (as yet unknown) changes in species composition (most likely through changes in temperature and/or precipitation) and these are therefore recorded as a Medium threat. Some of the areas where the habitat occurs are within shale gas exploration areas - so this listed as a medium future threat. |
| 7.2 Sources of information | Sources of information for atmospheric Nitrogen deposition come from the APIS website - http://www.apis.ac.uk/ . Other threats and pressures information comes from Common Standards monitoring of the habitat at designated sites and from surveying potential ASSIs using the Northern Ireland Grassland Inventory. |
| 7.3 Additional information | Assessment of pressures based upon 3 data sources: NICS, NIEA condition assessment and survey of grasslands for ASSI designation. NICS pressures have been based upon an analysis of transitions between NI countryside survey field mapped habitats. Estimated from baseline 1998 to re-survey 2007 in 288 25ha samples. Condition assessments based on CSM provide a means to assess the structure and functioning of H6210 in the UK. Re-survey of grasslands within NI grassland Inventory for selection as ASSI has allowed an assessment of change in un-notified grasslands in parts of the wider countryside. |
| 8.1 Status of measures | Measures identified and being taken in the form of Conservation Management Plans within SAC's and through Environmental Farming Scheme on ASSI's and in the wider countryside. Some measures such as development pressure to be identified through development plans in local councils and agricultural air pollution yet to be implemented. |
| 8.2 Main purpose of the measures taken | This is a habitat that requires a low level of grazing to maintain it, so the main measures are to encourage extensive grazing in sites that contain the habitat. Some of the sites are owned and managed by NIEA and other nature conservation bodies so there is effective control of the management regime within these. |
| 8.2 Main purpose of the measures taken | This is a habitat that requires a low level of grazing to maintain it, so the main measures are to encourage extensive grazing in sites that contain the habitat. Some of the sites are owned and managed by NIEA and other nature conservation bodies so there is effective control of the management regime within these. |
| 8.3 Location of the measures taken | Both inside and outside of Natura 2000 |
| 10.1 Range | Range constrained by geology (exposures of Carboniferous Limestone). Little evidence of recent reclamation for agriculture, so range asessed as Favourable. |

| | |
|---|---|
| 10.2 Area | Although there was an estimated decline in habitat extent during the 1990's, the more recent trend has been towards a slight increase in extent. No loss in extent within designated sites has been noted since condition assessment began in 2002 - hence assessed as Favourable. |
| 10.3 Specific structure and functions | Condition assessment data suggest that the structure and function of the habitat is largely favourable condition, with a small area unfavourable and some currently unknown. Hence reported as Unfavourable Inadequate. |
| 10.4 Future prospects | With conservation measures in operation or planned (Conservation Management Plans, Interreg, EFS etc) future prospects assessed as favourable. |
| 10.5 Overall assessment of Conservation Status | Three parameters Favourrable; one Unfavourable Inadequate - overall assessment Unfavourable Inadequate. |
| 11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network | 429.81 ha |
| 11.3 Surface area of the habitat type inside the network; Method used | Complete survey |
| 11.4 Short term trend of habitat area in good condition within the network; Direction | stable |
| 11.5 Short term trend of habitat area in good condition within the network; Method used | Data taken from the most recent Common Standards Monitoring on the SACs that contain the habitat; two sites maintained in favourable condition. |