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:

H5130 - *Juniperus communis* formations on heaths or calcareous grasslands

SCOTLAND

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 (Scotland information only)**
1.2 Habitat code	**5130 - Juniperus communis formations on heaths or calcareous grasslands**

2. Maps

2.1 Year or period	2003-2012
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	References within - http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H5130_SCOTLAND.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2498679. Juniper heath and scrub (upland) feature type (JNCC, (2009), Common Standards Monitoring Guidance for Upland Habitats, Version July 2009 and previous versions) http://jncc.defra.gov.uk/page-2237

4. Range

4.1 Surface area (in km²)		
4.2 Short-term trend Period		
4.3 Short-term trend Direction	Uncertain (u)	
4.4 Short-term trend Magnitude	a) Minimum	b) Maximum
4.5 Short-term trend Method used		
4.6 Long-term trend Period		
4.7 Long-term trend Direction		
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)	
	b) Operator	
	c) Unknown	No
	d) Method	
4.11 Change and reason for change in surface area of range	Improved knowledge/more accurate data	
	The change is mainly due to:	Improved knowledge/more accurate data
4.12 Additional information	Increased knowledge of distribution is likely to increase the mapped range. However this knowledge remains incomplete and therefore the range and the Favourable reference range are not properly known, so the trend in range is uncertain.	

5. Area covered by habitat

5.1 Year or period	2012-012-

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5.2 Surface area (in km²)	a) Minimum 10	b) Maximum 20	c) Best single value 15
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Based mainly on extrapolation from a limited amount of data		
5.5 Short-term trend Period	2012-2016		
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	Based mainly on extrapolation from a limited amount of data		
5.9 Long-term trend Period			
5.10 Long-term trend Direction			
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used			
5.13 Favourable reference area	a) Area (km²) b) Operator c) Unknown No d) Method		
5.14 Change and reason for change in surface area of range	Improved knowledge/more accurate data The change is mainly due to: Improved knowledge/more accurate data		
5.15 Additional information	Conclusions are based on absence of evidence of significant change in extent in Scotland in the period. Within this period, no losses of extent have been recorded on upland designated sites which have been assessed (SCM database, extract A2298772). However, some losses of extent to tree colonisation, burning and Phytophthora austrocedrii infection are likely, while colonisation of new areas also occurs, largely outwith (and often adjacent to) designated sites.Planting of juniper also occurs, but this is not recorded systematically.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 8	Maximum 8
	b) Area in not-good condition (km²)	Minimum 1	Maximum 1
	c) Area where condition is not known (km²)	Minimum 1	Maximum 11
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	2002-2016		
6.4 Short-term trend of habitat area in good condition Direction	Increasing (+)		
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	Site Condition Monitoring provides a means of assessing the structure and function of H5130 in Scotland. Assessment is based on the results of fieldwork		

carried out between 2002 and 2016. Results are recorded on the SNH SCM database, from which data was extracted to A2298772 on 23/05/2017. Within this period, the proportion of H5130 on SACs considered to be in Favourable condition has remained stable at 87% between 2012 (based on assessments carried out between 2002 and 2009) and 2016. Less than 1% of H5130 is assessed as recovering, the same as 2012. An additional <1% of the extent is now reported to be Unfavourable but recovering due to management, half the 2012 figure. 2016 results for SSSI not overlapping SAC are poorer than those for SACs, but these are not directly comparable as they are based on number of features rather than extent data which is not available.However, they do show some improvement, with 3 features Favourable and 5 Unfavourable in 2016, compared to one and 6 respectively in 2012. No SAC H5130 was assessed as declining in condition (Unfavourable declining or Favourable declining), with 8ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 22ha and 4ha respectively for 2012. As the proportion in Favourable condition is stable, and the extent reported to be recovering exceeds the extent reported as declining, overall condition is judged to be slightly improving.

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Extensive grazing or undergrazing by livestock (A10)	H
Burning for agriculture (A11)	M
Management of fishing stocks and game (G08)	H
Problematic native species (I04)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H
Increases or changes in precipitation due to climate change (N03)	M

Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Extensive grazing or undergrazing by livestock (A10)	H
Burning for agriculture (A11)	M
Management of fishing stocks and game (G08)	H
Problematic native species (I04)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H
Increases or changes in precipitation due to climate change (N03)	M

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7.2 Sources of information	
7.3 Additional information	Grazing - sheep and cattle Dense vegetation preventing regeneration Actually burning for grouse but no category Deer grazing and trampling Bracken, scrub, tree colonisation Tree colonisation Phytophthora austrocedrii Increased soil wetness increasing susceotibility to disease?

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	Increase the population size and/or improve population dynamics (improve reproduction success, reduce mortality, improve age/sex structure) (related to 'Population')	
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		

Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Prevent conversion of (semi-) natural habitats into forests and of (semi-)natural forests into intensive forest plantation (CB01)
Manage drainage and irrigation operations and infrastructures (CB14)
Management of problematic native species (CI05)
Management of habitats (others than agriculture and forest) to slow, stop or reverse natural processes (CL01)
Implement climate change adaptation measures (CN02)
Other measures related to problematic species (CI06)
Management of hunting, recreational fishing and recreational or commercial harvesting or collection of plants (CG02)

8.6 Additional information	Conservation measures are generally implemented through designation of protected areas, voluntary and statutory procedures (Deer Act), agri-environment and woodland schemes (SRDP). While some results are achievable in the short term (eg reducing herbivore pressure), some attributes will recover only over longer timescales, and increasing the extent of H5130 through planting for augmentation or establishment of new areas is a long-term project. Although conservation measures have been identified, implementation is patchy.

9. Future prospects

9.1 Future prospects of parameters	a) Range b) Area c) Structure and functions
9.2 Additional information	Both Range and Favourable reference range remain uncertain, and therefore no judgement on future prospects is realistically possible. Both losses and gains of

extent occur, and these are judged to be approximately in balance, but this is based on little quantitative evidence. Structure and function has been stable, with a small extent reported as improving and none as declining . Given the extent still unfavourable, and the patchy nature of both pressures and application of conservation measures, it would be premature to consider improvements to be better than slight.

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	
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 No change The change is mainly due to: b) Overall trend in conservation status No change 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 b) Maximum c) Best single value 9.42
11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Based mainly on extrapolation from a limited amount of data
11.4 Short-term trend of habitat area in good condition within the network Direction	Increasing (+)
11.5 Short-term trend of habitat area in good condition within network Method used	Based mainly on extrapolation from a limited amount of data
11.6 Additional information	Site Condition Monitoring provides a means of assessing the structure and function of H5130 on SACs in Scotland. Assessment is based on the results of fieldwork carried out between 2002 and 2016. Results are recorded on the SNH SCM database, from which data was extracted to A2298772 on 23/05/2017. Within this period, the proportion of H5130 on SACs considered to be in Favourable condition has remained stable at 87% between 2012 (based on assessments carried out between 2002 and 2009) and 2016. Less than 1% of H5130 is assessed as recovering, the same as 2012. An additional <1% of the

extent is now reported to be Unfavourable but recovering due to management, half the 2012 figure. No SAC H5130 was assessed as declining in condition (Unfavourable declining or Favourable declining), with 8ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 22ha and 4ha respectively for 2012. As the proportion in Favourable condition is stable, and the extent reported to be recovering exceeds the extent reported as declining, overall condition is judged to be slightly improving.

12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

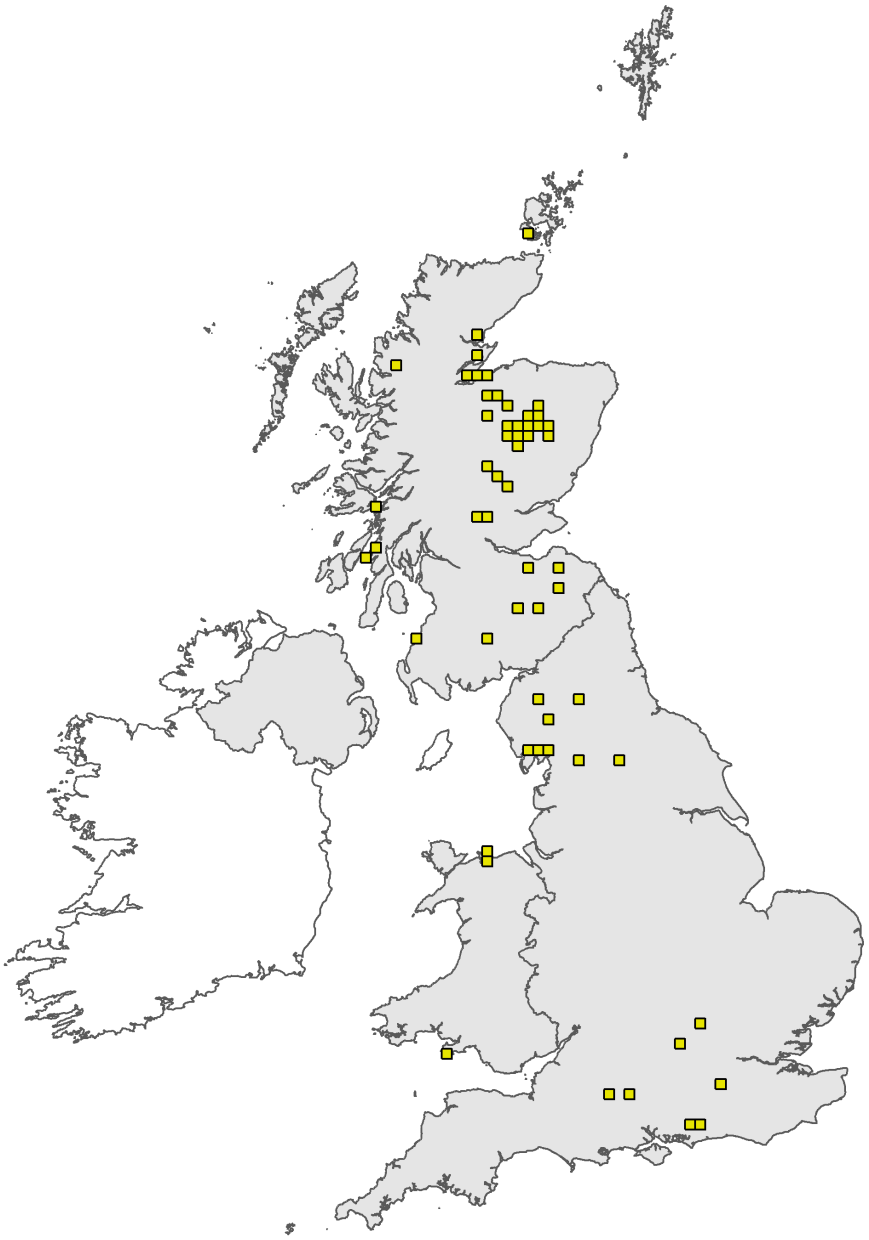

Figure 1: UK distribution map for H5130 - *Juniperus communis* formations on heaths or calcareous grasslands. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and 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

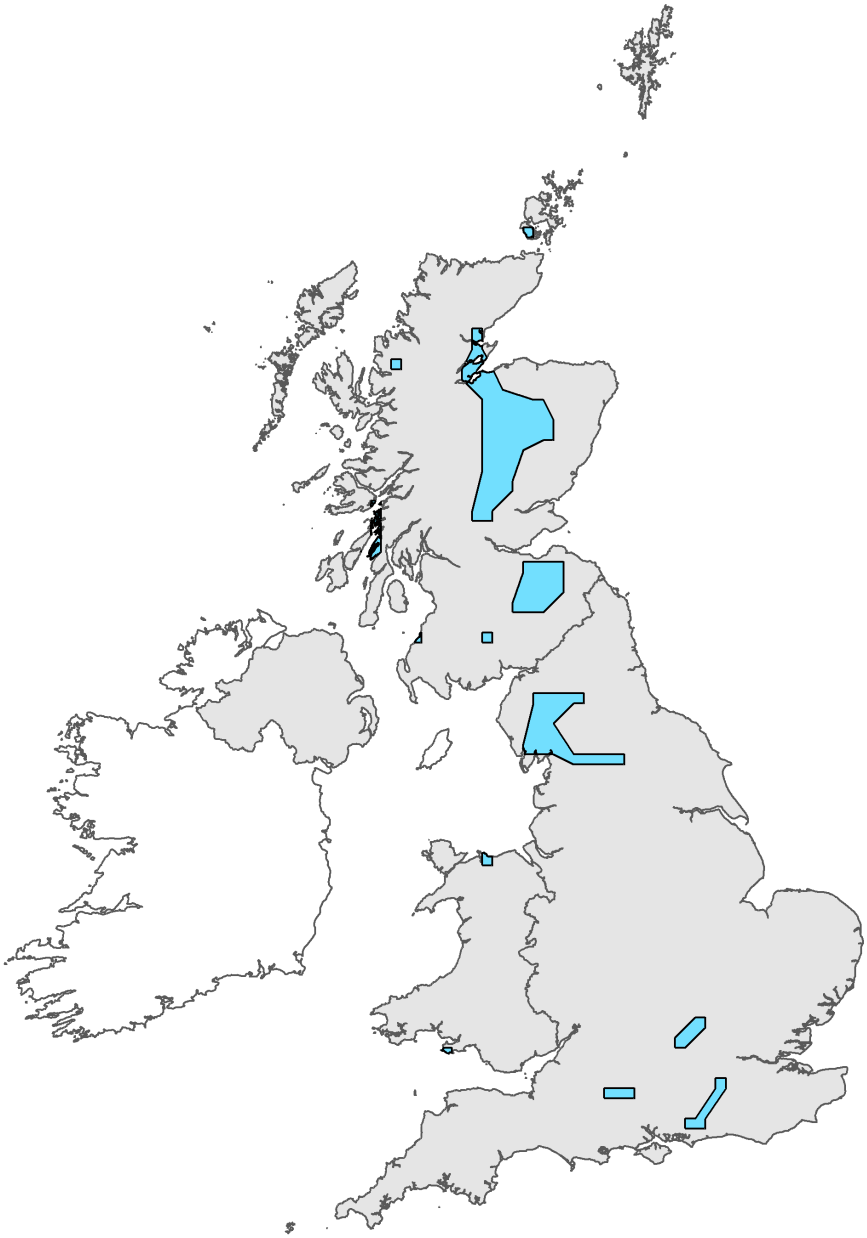

Figure 2: UK range map for H5130 - *Juniperus communis* formations on heaths or calcareous grasslands. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.