

Land criteria evidence sources for UK grown biofuels¹ and bioliquids²

- 1.1** The following tables, compiled by Defra, aim to supplement the guidance that has been prepared by the European Committee for Standardisation (CEN) and assist economic operators with the types and sources of evidence that might be used to show that the biofuels or bioliquids from the UK have been sourced in a manner that is consistent with the land-related sustainability criteria in the Directive.
- 1.2** It is important to note that the evidence suggestions in the tables have not been designed specifically to show compliance with the sustainability criteria nor are they meant to be an exhaustive list. The tables also attach no priority to the evidence options. It is for the economic operator (and their verifier) to ensure that the evidence provided is sufficient to demonstrate that their biofuel or bioliquid meets all the relevant sustainability criteria in the Directive.
- 1.3** In some cases one piece of evidence could be considered sufficient and in others several pieces might be necessary; it will depend on individual circumstances. In many cases, Local Records Centres³ will be a useful source of information and evidence. The statutory nature conservation bodies and the Forestry Commission / Forest Service (in Northern Ireland) (for woodland-related evidence) will be able to help in some instances and there are a number of web-based sources which could provide information, particularly on land cover in 2008. Note that some suppliers may levy a charge for their information.
- 1.4** It is important to note that the suggestions in the tables below are for biofuels and bioliquids sourced in the UK. The suggestions are not meant to demonstrate compliance with other relevant laws, whether they be environmental or otherwise. The economic operator will need to ensure that their biofuel or bioliquid does not contravene any relevant laws.
- 1.5** As well as the tables this document contains the following annexes of useful resources:
 - Annex A: Useful websites
 - Annex B: Areas designated for the purposes of nature conservation

¹ Biofuels means a liquid or gaseous fuel for transport produced from biomass

² Bioliquid means liquid fuel for energy purposes other than for transport, including electricity and heating and cooling produced from biomass

³ Local Records Centres (LRCs) are organisations that collect, collate, manage and disseminate information relating to the biodiversity and geodiversity of a region on a not-for-profit basis. This information plays an essential role in decision-making at all levels, and its use helps to protect and improve biodiversity and geodiversity within the region and beyond.

- Annex C: Advisory thresholds that show the harvesting of non-natural highly biodiverse grasslands is necessary to preserve its grassland status

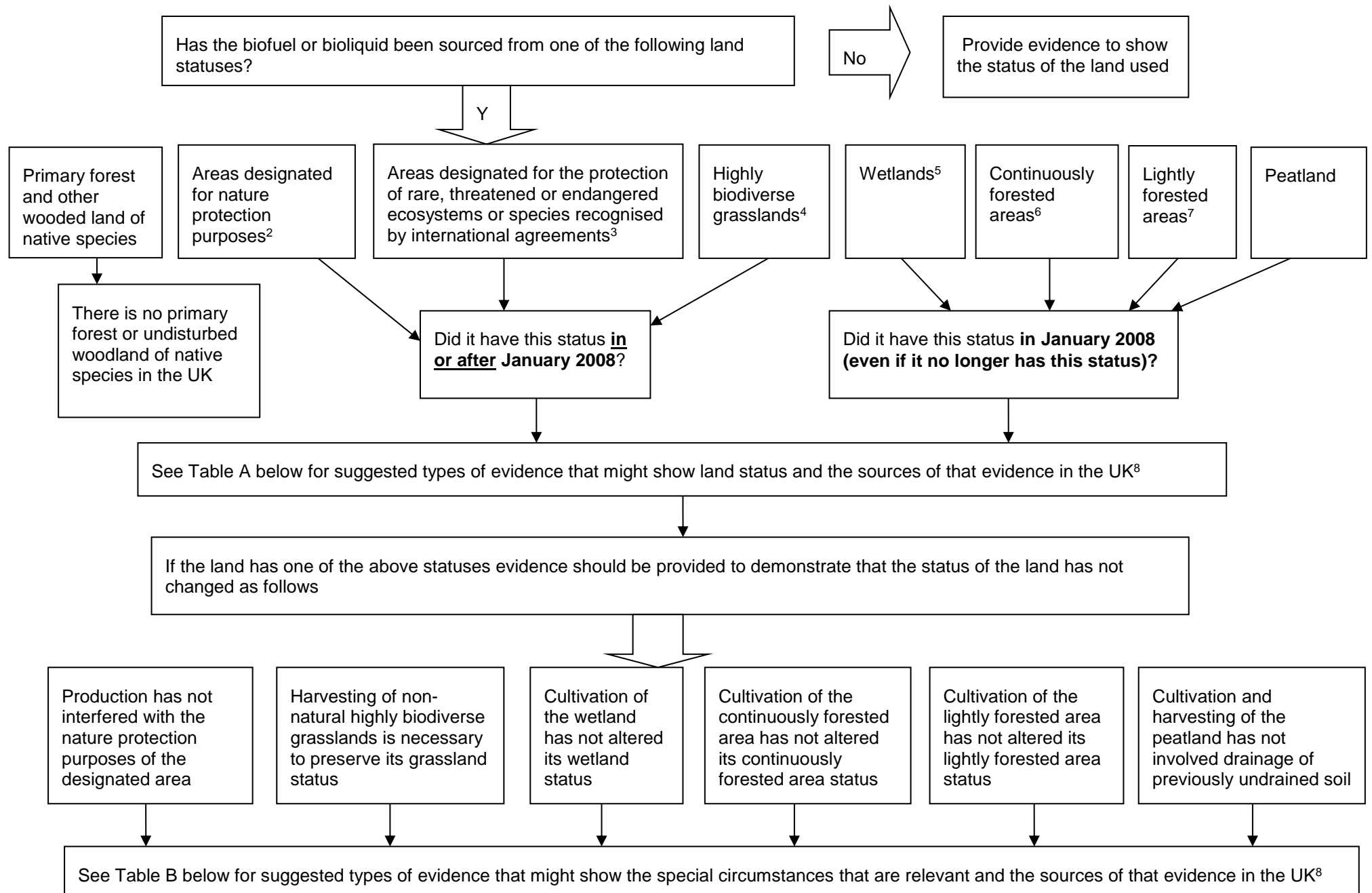


Table A: Suggested types of evidence that might show land status and the sources of that evidence in the UK

Sustainability criteria	Suggested types of evidence that might show the land status	Sources of evidence in the UK (see Annex A)
<p>Areas designated for nature protection purposes</p> <p>Areas designated for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements</p>	<p>Maps of designated areas with details of designation date</p>	<p>Local Record Centres</p> <p>Statutory nature conservation bodies⁴</p> <p>National Biodiversity Network Gateway</p> <p>Other websites</p>
<p>Highly biodiverse grasslands, wetlands, continuously forested areas, lightly forested areas and peatlands</p>	<p>Farm and other records (e.g. aerial photos, satellite images, land use/cover maps) showing land status</p> <p>Farm or other records showing land has been cultivated in accordance with the Environmental Impact Assessment (Agriculture) Regulations</p> <p>Habitat inventories for conservation priority habitats</p>	<p>Farm records</p> <p>Local Record Centres</p> <p>Centre for Ecology and Hydrology (land cover map)</p> <p>National Biodiversity Network Gateway</p> <p>Statutory nature conservation bodies</p>
<p>Continuously forested areas and lightly forested areas</p>	<p>Woodland and forest inventories</p>	<p>Local Record Centres</p> <p>Forestry Commission</p> <p>Northern Ireland Forest Service</p> <p>Other websites</p>

⁴ Natural England, Northern Ireland Environment Agency, Natural Resources Wales, Scottish Natural Heritage, Joint Nature Conservation Committee

Table B: Suggested types of evidence that might demonstrate that the status of the land has not changed and the sources of that evidence in the UK

Sustainability criteria	Suggested types of evidence that might show the special circumstances are relevant	Sources of Information in the UK (see Annex A)
<p>Areas designated for nature protection purposes</p> <p>Areas designated for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements</p>	<p>Statement from an expert that the cultivation has not interfered with the nature protection purposes of the designated area</p> <p>Farm or other records (e.g. aerial photos, satellite images) showing the land in the designated area has been cultivated in accordance with the Environmental Impact Assessment (Agriculture) Regulations</p> <p>Forestry Commission-approved forest plan, Forestry Commission-approved woodland management plan, felling licence, woodland grant scheme showing cultivation is in accordance with UK Forestry Standards</p>	<p>Certified expert – The Chartered Institute of Ecology and Environmental Management has details of experts.</p> <p>Farm records</p> <p>Local Record Centres</p> <p>Forestry Commission</p>
<p>Highly biodiverse grasslands</p>	<p>Farm or other records showing that the harvesting of the grassland is consistent with the management prescriptions for the agri-environment scheme associated with the site or a comparable site</p> <p>Farm or other records showing that the harvesting of the grassland is consistent with a restoration plan recognised by a nature conservation body for the site or a comparable site</p> <p>Farm or other records showing that the harvesting of the grassland is in line with the advice at Annex C</p> <p>Harvesting practices for the grassland are consistent with published research for comparable sites that clearly shows that the harvesting is necessary to preserve the grassland status</p>	<p>Farm records, including agri-environment agreements</p> <p>Farm records</p> <p>Farm records</p> <p>Farm records</p>
<p>Highly biodiverse grasslands, wetlands, continuously forested areas, lightly forested areas and peatlands</p>	<p>Land use/cover maps showing the current status of the land (could be used for wetlands, grasslands, woodlands and peatlands)</p> <p>Dated satellite images (could be used for wetlands, grasslands, woodlands, peatlands)</p>	<p>Local Record Centres</p> <p>Centre for Ecology and Hydrology (for land cover map)</p> <p>Statutory nature conservation bodies</p>

	Dated aerial photos (could be used for wetlands, grasslands, woodlands, peatlands) Woodland and forest inventories	Water authorities - Environment Agency, Scottish Environment Protection Agency Forestry Commission Northern Ireland Forest Service
Peatlands	Statement from a certified expert that the undrained soil in the peatland has not been drained	Certified expert – The Chartered Institution of Water and Environmental Management and/or the Chartered Institute of Ecology and Environmental Management have details of experts.

¹ Primary forest and other wooded land of native species with no clearly visible indication of human activity and ecological processes not significantly disturbed (Art. 17(3)(a) of the RED)

² Areas designated by law or competent authority for nature protection purposes (Art. 17(3)(b)(i) of the RED) – see also Annex B

³ Areas designated for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or drawn up in intergovernmental organisations and IUCN lists (Art. 17(3)(b)(ii) of the RED) – Note: the European Commission has to formally recognise these designated areas. No areas have been recognised to date – please check Commission website <http://ec.europa.eu/energy/en/topics/renewable-energy/renewable-energy-directive>⁴ Highly biodiverse grassland - natural, namely grassland that would remain grassland in the absence of human intervention and which maintains the natural species composition and ecological characteristics and processes; or non-natural, namely grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded (Art. 17(3)(c)(i) and(ii) of the RED) – Note: the European Commission adopted in December 2014 an [Implementing Regulation](#) (EU) No 1307/2014) which establishes criteria and geographic ranges for the grasslands captured by this definition. This shall apply from 1 October 2015.

⁵ Wetlands – land that is covered with, or saturated by, water permanently or for a significant part of the year (Art. 17(4)(a) of the RED)

⁶Continuously forested areas – land spanning more than one hectare with trees higher than five metres and canopy cover of more than 30%, or trees able to reach those thresholds in situ (Art. 17(4)(b) of the RED)

⁷ Lightly forested areas – land spanning more than one hectare with trees higher than five metres and a canopy cover of 10-30%, or trees able to reach those thresholds in situ (Art. 17(4)(c) of the RED)

⁸It is important to check a number of sources of data to capture as much information as possible

Annex A: Useful websites

- Local Records Centers - <http://www.alerc.org.uk>

Certified experts

- The Chartered Institute of Ecology and Environmental Management - <http://www.cieem.net/>
- The Chartered Institution of Water and Environmental Management - <http://www.ciwem.org/>

Statutory nature conservation bodies (and their data/information website links)

- Natural Resources Wales <http://naturalresourceswales.gov.uk/>
- Welsh protected sites and landscapes map <http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/protected-sites-map.aspx?lang=en>
- Natural England <https://www.gov.uk/government/organisations/natural-england>
- MAGIC (Nature on the Map - for England) <http://www.natureonthemap.naturalengland.org.uk/>
- Northern Ireland Environment Agency <http://www.doeni.gov.uk/niea/>
- Scottish Natural Heritage <http://www.snh.gov.uk>
- Scottish Natural Heritage Information Service (SNHi) <http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/>
- Joint Nature Conservation Committee <http://www.jncc.defra.gov.uk/>

Other data/information websites

- National Biodiversity Network Gateway (UK biodiversity data) <https://data.nbn.org.uk/>
- UK Post-2010 Biodiversity Framework <http://jncc.defra.gov.uk/page-6189>, including the UK Biodiversity Action Plan <http://jncc.defra.gov.uk/page-5155>
- Back on the Map (Northern Ireland's ancient and long-established woodland inventory) <http://www.backonthemap.org.uk/>
- Scotland's environment <http://www.environment.scotland.gov.uk/>

Other bodies

- Centre for Ecology and Hydrology <http://www.ceh.ac.uk/>
- Environment Agency <http://www.environment-agency.gov.uk/>
- Forestry Commission <http://www.forestry.gov.uk/>

- Forest Service (in Northern Ireland)
<http://www.dardni.gov.uk/forests-service/>
- Scottish Environment Protection Agency <http://www.sepa.org.uk/>

Annex B: Area types designated for nature protection purposes

- Sites of Special Scientific Interest (SSSIs)
- Areas of Special Scientific Interest (ASSIs) – Northern Ireland only
- National Nature Reserves
- Local Nature Reserves
- Areas of Special Protection (for Birds) – England and Wales only
- Forest Nature Reserves
- Special Areas of Conservation, candidate Special Areas of Conservation and Sites of Community Importance
- Special Protection Areas and potential Special Protection Areas
- Ramsar Sites
- Local Sites
- Areas of Outstanding Natural Beauty – England, Northern Ireland and Wales only
- National Parks – England, Scotland and Wales only
- The Broads – England only
- Heritage Coasts – England and Wales only

Annex C: Advisory thresholds and information to show that the harvesting of non-natural grassland is required to maintain the grassland status

For neutral grasslands and fen meadows:

- Neutral grassland and fen meadows will normally be subject to a single summer hay cut between late June and late July. However, a later cut in late August or September, one year in five, may be required to allow seed production of late flowering species. Cutting dates are weather dependent and may be later in the north of Scotland.
- The growth should be cut back to a height of approximately 5cm and the cut grass, weather permitting, should be dried on site and baled within seven days of cutting.
- Sustained early cutting in May to mid-June is known to reduce species richness, harm breeding birds and insects. Persistent late cutting can cause rank, less diverse vegetation.
- Cutting for silage is generally viewed as harmful to these grasslands as it is associated with more intensive farm management practices, such as fertilisation to increase production and enable two or three cuts to be taken. The first cut typically takes place in late May before farmland birds have had their chicks and before meadow species have flowered and set seed. This reduces the quantity of seed that is returned to the soil. However, an occasional silage cut at hay time (see first bullet) is unlikely to change the plant species composition.

For calcareous or acid grasslands:

- Calcareous or acid grasslands are typically less productive than neutral grasslands and are usually managed as pasture, being grazed as livestock with no hay cut. Where a cutting regime is implemented (e.g. in the absence of grazing), between one and three cuts would normally be taken per year depending on geographic location. Generally, fewer cuts are necessary at higher latitudes in order to maintain sward composition and condition, and therefore closely replicating usual local livestock grazing regimes.
- Precise timings of cutting would be influenced by the composition of the sward, rare species present, the prevailing weather conditions in any given year as well as geographic location, where cutting dates tend to be later at higher latitudes. Cuts in May, June and July to a height of 5cm with the grass removed within three days should help to maintain the conservation interest, although cutting dates may be later than this, for example, in the north of Scotland. Regional differences should always be taken into account.

Summary of grassland types

- Neutral grasslands include upland hay meadows, and lowland meadows.

RTFO Guidance for 2019: UK land use evidence sources

- Fen meadows are components of purple moor grass and rush pastures.
- Calcareous grasslands include lowland calcareous grasslands and upland calcareous grasslands.
- Acid grasslands include lowland dry acid grasslands and upland acid grasslands.

Descriptions of these grasslands can be found on the JNCC website at: <http://jncc.defra.gov.uk/page-5155> and <http://jncc.defra.gov.uk/page-2>.