WORKING PAPER 2

OPERATIONALISING CRITERIA TO PROTECT HIGHLY BIODIVERSE GRASSLANDS UNDER THE RENEWABLE ENERGY DIRECTIVE (2009/28/EC)

FEBRUARY 2010

This paper was commissioned by WWF European Policy Office from the Institute for European Environmental Policy (IEEP). The content of this report represents the opinion of the authors and not the funder.

This paper sets out an approach to the implementation of Article 17.3.c of European Community Directive 2009/28/EC aimed at fulfilling the requirements for the protection of highly biodiverse grassland from negative impacts of biofuels production. The approach is intended to be both effective and practical, offering a legally sound and robust basis for decision making regarding the origins and grassland impacts of biofuel feedstocks used to meet the targets set in Directive 2009/28/EC. It is vital that the EU approach adopted is acceptable to biodiversity experts, industry, Member States and Third Countries.

Constructing a fair proportionate and reliable screening process may not be easy but is vital if there is to be any confidence that biofuel feedstocks are not damaging biodiversity.

This paper builds on the analysis conducted within IEEP Working Paper 1 (WP1), which provides an interpretation of and commentary on the detailed requirements on grassland set out in Directive 2009/28/EC. The two papers should be read in conjunction.

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Acknowledgements: this working paper draws extensively on the expertise and contributions of a large number of people. The authors would like to especially thank the following for research support and advice: Imke Lübbeke, WWF European Policy Office; Klaus Hennenberg, Oeko Institute; Clare Pinches and Richard Jefferson, Natural England; Stephen Grady, JNCC; Carrie Rimes, CCW; Melina McMullan, NIEA; and Miles King, The Grassland Trust.

We would like to thanks the World Wide Fund for Nature (WWF) for funding this work.

This working paper should be cited as follows: Bowyer, C., Tucker, G., By, H. and Baldock, D. (2010) Operationalising Criteria to Protect Highly Biodiverse Grasslands under the Renewable Energy Directive (2009/28/EC), Institute for European Environmental Policy: London.

Published February 2010 by WWF, World Wide Fund for Nature (formerly World Wildlife Fund) .

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1 INTRODUCTION

1.1 Context

Article 17.3 of Directive 2009/28/EC, sets out sustainability criteria that biofuels and bioliquids must meet in order: to count towards the achievement of the Directive's targets for the use of renewable energy and renewable transport fuels; or to be eligible for financial support. Article 17.3 states that biofuels and bioliquids shall not be made from raw materials (known as feedstocks) obtained from land considered to have high biodiversity value in or after January 2008. One of the land types protected under this clause is 'highly biodiverse grassland' (Article 17.3.c). There is a need, therefore, to ensure that a reporting system is in place so that biofuels used in Europe can be verified as not having been sourced from such lands. This is necessary in order to demonstrate compliance with the Directive.

This paper (in conjunction with Working Paper 1) explains some of the issues and concerns, relating to the implementation of the grassland requirements set out in the Directive 2009/28/EC. It goes on to present an assessment system as a basis for the protection of highly biodiverse grasslands in line with the Directive's requirements and examines how this might be implemented. While conclusions may be applicable more broadly to the development of biofuel sustainability criteria, this paper focuses exclusively upon grassland. This is due to the imminent comitology process through which Member States and the Commission will establish '*criteria and geographic ranges to determine which grasslands*' are to be protected under the Directive. It is anticipated that this should form part of a broader assessment process designed to implement all the sustainability requirements set out in Directive 2009/28/EC.

1.2 Locating the Grassland Requirements within the broader assessments of biofuel sustainability

Within Article 17.3 of the renewable energy Directive environmental criteria are set out that perform in essence two separate requirements:

1. Setting a minimum level of greenhouse gas saving associated with any biofuels that receive financial incentives or contribute to meeting the EU's 10 per cent target for renewables by 2020.
2. Identifying sensitive land types that should be avoided when meeting the EU's expanded biofuel and bioliquid demands and, therefore, limiting the negative consequences of land use change for biodiversity and carbon storage capacity.

The process for assessing compliance with the sustainability criteria set out in the Directive can in essence be broken down into three steps:

1. Ensuring that feedstocks grown can deliver fuels compliant with the requirement for biofuels that deliver a minimum greenhouse gas saving of 35 per cent (50 per cent by 2017) relative to fossil fuels.

2. Identifying land use as of January 2008 – the base date set within Directive 2009/28/EC, Article 17 beyond which land use change should be assessed.
3. Identifying the extent of direct land use change associated with biofuel feedstock production and minimising the conversion of sensitive land, that is land of high biodiversity value or holding significant carbon stocks.

I***t is important to clearly locate the requirement to protect highly biodiverse grasslands within the context of this wider assessment process for biofuels***. In order to 'pass' criteria in Article 17.3.c on the avoidance of highly biodiverse grasslands it is necessary to perform an assessment that addresses both points 2 and 3 above. It is the specification of such an assessment process that is the focus of this paper.

1.3 Limitations and the Need for Precaution

It should be noted that the analysis and assessment process set out in this paper are base purely on delivering a system in line with Directive 2009/28. As such there are some limitations to coverage associated with the content of the Directive. ***The limitations set out below underline the importance of adopting a precautionary approach to the conversion of grasslands for biofuel feedstock production. A robust system for assessment is essential in order to deliver this***.

In addition to their potential biodiversity value, permanent grasslands also represent a significant, terrestrial carbon store[1]. The conversion of such grasslands to arable production (for biofuel feedstocks or otherwise) would be anticipated to result in carbon losses[2][3][4]. However this paper does not discuss in detail the carbon storage role that grasslands fulfil. This is not because we do not recognise this important role, nor believe that this is unimportant in terms of the location of biofuel feedstock production. Rather, the relevant Article of Directive 2009/28/EC (Article 17.4), does not explicitly recognise grasslands as one of the three types of land with '*high carbon stock'.*

In 2009 the FAO[5] highlighted the need to avoid conversion and degradation of grasslands, and also concluded that there is a vast untapped potential for carbon sequestration in grasslands - mainly through improved management practices and restoration of degraded land. While ***on the basis of the Directive there is no justification for the avoidance of biofuel production on grasslands purely to preserve carbon stocks, hence the importance***

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[1] Grasslands cover 70 percent of global agricultural areas, and are a major store of carbon - 71 percent of which is found below the soil surface (White, et al., 2000).

[2] Guo and Gifford (2002) found that conversion from grassland to cropland always led to a soil carbon loss, with up to 32 percent reduction in cropland soil carbon relative to pasture systems. The rate of reduction was directly related to the number of years of cropping (FAO, 2004).

[3] Guo, L. and Gifford, R. 2002. Soil carbon stocks and land use change: a meta analysis. Global Change Biol. 8: 345–360.

[4] FAO. 2004. Carbon sequestration in dryland soils. World Soils Resources Reports 102, Rome.

[5] FAO, 2009, Review of evidence on drylands pastoral systems and climate change Implications and opportunities for mitigation and adaptation. Land and water discussion paper, Rome.

of ensuring that grassland related biodiversity criteria are properly implemented.

In addition to the lack of consideration of carbon storage generated by grasslands, there are other significant limitations to assessments based on Directive 2009/28/EC that should be noted. The approach proposed is only capable, at present, of limiting the negative consequences for highly biodiverse grasslands by minimising the impact of direct land use change associated with biofuel feedstock production. Any significant increase in biofuel feedstock production, stemming from the implementation of Directive 2009/28/EC or other drivers, that leads to a net additional demand for arable land will put pressure on other land uses and thereby indirectly impact on biodiversity. Moreover, the consequences of land use change associated with other forms of agricultural production would remain unchecked. ***The type of assessment outlined here will not protect biodiverse lands from exploitation but will simply act to limit the direct land use change impacts associated with Europe's expanded biofuel demand***.

2 BIOFUEL DEVELOPMENT PATHS

Before considering a possible process for implementing the criteria on highly biodiverse grassland set out in Directive 2009/28/EC, it is first important to examine the characteristics of the supply chains that might be used to produce feedstocks, their current state and the implications arising from the potential for different production routes for land use change and importantly grasslands. This is necessary in order to identify the different needs and requirements any assessment system must be able to effectively deal with.

If there is an expanded area of biofuel feedstock production, as required in response to EU legislation, this can be achieved through one of two land management options:

- Option 1 is to cultivate non-agricultural land or for the first time land that is subject to a very low intensity of agricultural activity. This, however, poses substantial risks for biodiversity and carbon stocks associated with land conversion.
- Option 2 involves biofuel production on land that is already under conventional agricultural use, whether that be arable or more intensive grassland. This would appear to be a less environmentally damaging option, but may still lead to indirect land use change, negative carbon balances and biodiversity impacts associated with the intensification of agricultural production or the displacement of food production into other previously non cultivated areas.

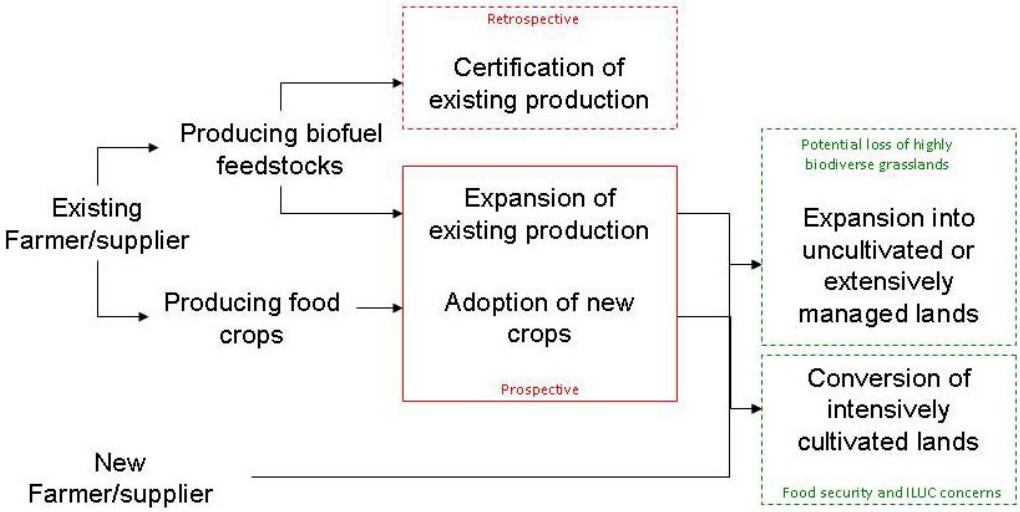
A more detailed review shows that there are a number of different production routes (see figure 1, below) from which biofuel feedstocks, used to meet EU requirement, could be sourced, now or in future. Supplies could come from:

1. existing biofuel producers inside or outside Europe;
2. existing farmers who maintain their crop position but change the market to which they supply – that is palm oil or rape oil producers switch to supply the biofuel market but continue to farm the same area for crop production;
3. existing farmers who switch their cropping regime to cultivate a potential biofuel feedstock but farm an area of land already in arable production;
4. existing farmers who expand the area of land devoted to arable production in order to supply biofuel feedstocks;
5. existing farmers or biofuel producers who intensify production to allow production of more crops on a given area of land;
6. existing farmers expanding the total area of intensively cropped land, extending it into previously uncultivatived or low intensity production areas;
7. new entrants to the market place, taking up new land or intensify production in less productive areas.

Within the list of 7 potential options 4, 6 and 7 are anticipated to pose a potential threat in terms of the direct conversion of grassland to arable land. However, the other options, excluding 1, may lead to impacts upon grasslands, were a net increase in demand for arable land to result. Moreover, some of the options will require retrospective proof of land use change before January 2008, while for others it will be possible to use a system of prospective assessment coupled with proofs demonstrating land use in 2008. ***Any system must, therefore, be able to: deal with the variety of different supplier types; and generate both prospective and retrospective assessments of compliance***. It must also have the capacity to deal with the full range of different actors and the consequent challenges with respect to reporting and monitoring.

Producers of biofuel feedstocks (captured under any of the 7 categories above) can consist of medium to large scale plantations including large scale mono cropped farmland; mixed use and small scale production occurring both independently or as part of a collective; or a mix of the above. ***When considering environmental criteria it will be necessary to consider all the different producer types, the support and infrastructure needed to enable their participation in any scheme***.

Figure 1 – Sources of supply for biofuel feedstocks and the consequences for certification systems and land use impacts.



3 IDENTIFYING THE COMPLIANCE OF BIOFUELS WITH ARTICLE 17.3.C ON THE AVOIDANCE OF HIGHLY BIODIVERSE GRASSLANDS

3.1 Principles and assumptions

In order to develop an assessment system to take account of highly biodiverse grasslands, in line with Directive 2009/28/EC, it is necessary to clearly set out assumptions and core principles. The following are a list of principles upon which the authors consider ANY system for delivering the grassland criteria in Directive 2009/28/EC should build.

General

- ***Embodying the Precautionary Principle*** - The Lisbon Treaty, Article 191 specifies that EU policy on the environment "shall be based on the precautionary principle", that is there is an institutional preference in support of a precautionary approach to environmental change. It is fundamental that the principle of precaution be applied to the development of grasslands, given the irreversibility of damage to grasslands from ploughing and reseeding for crop based production with potential significant impacts upon biodiversity and carbon stocks. In the event of uncertainty over the biodiverse status of a grassland, development should not be pursued.
- ***Burden of proof -*** The onus must be placed upon the operator to prove that a grassland is not highly biodiverse. Based on the Directive text the objective of Article 17.3 is to protect lands of high biodiversity value, hence in situations where status is uncertain the emphasis must be to prove that land is not biodiverse. The inappropriate application of the burden of proof could undermine the Directive's objectives for the protection of highly biodiverse lands and lead to a system that requires administrative effort but delivers limited or no environmental benefit.

Protecting biodiverse grasslands

- **Recognising the Directive's aim** - That the overall ambition of Directive 2009/29 /ECArt 17 is to protect land of high biodiversity value of which highly biodiverse grasslands are one subset
- ***Taking account of other rules on biodiversity protection*** - Decisions on the appropriate location for biofuels feedstock production should take into account international, national and local biodiversity conservation obligations and policies, including national biodiversity strategies and action plans (NBSAPs) developed in accordance with the Convention on Biological Diversity.
- **Protecting all grasslands of biodiversity value** - Within Directive 2009/28/EC there is no hierarchy distinguishing levels of protection between natural and non-natural grasslands. All grasslands that are deemed highly biodiverse should be protected irrespective of whether it is possible to easily differentiate between the two.

Natural grassland[6]

- **Human activity and defining natural grasslands -** That non natural grasslands are assumed to be those created by extensive human interventions that have dramatically changed the natural system, for example via deforestation. Despite not being created by human intervention many natural grasslands may be maintained by human activity, for example domestic livestock populations or mowing which have replaced the maintenance role previously provided by wild herbivore populations. In the majority of cases natural grasslands will be 'used' by humans in some way.
- **Looking beyond vegetation composition** - That natural grasslands are valued based on the maintenance of their natural assemblages, but this should take account of more than simply vegetation composition.
- **Taking account of natural variability** - That natural composition expected within a grassland will vary considerably depending upon the biological system and bio-geographic region.

Assessing non natural grassland[7]

- **Variable biodiversity value** - That there is a hierarchy of appropriateness in terms of conversion of non natural grasslands for feedstock production, not all non natural grasslands are of equal biodiversity value.
- **Assessing species richness** - The consideration of species richness in non-natural grasslands should not be restricted to plants. Thus species-rich non-natural grasslands should include grasslands that are species-rich with respect to any taxa group (for example plants, invertebrates, reptiles, birds and mammals). Furthermore, consideration of species richness should not be solely based on small-scale assessments, for example species per m^2. Larger scale species diversity patterns are equally important. Thus grasslands should also be protected if they hold rare or otherwise threatened species or species assemblages, the loss of which would reduce larger scale biodiversity.
- **Accounting for degradation** - That degradation of grassland should be shown to be beyond a certain threshold, given that this is part of a continuum. In particular care should be taken if establishing that degradation has been caused by overgrazing, as this can often be rapidly reversed once grazing pressure is reduced. When determining the quality of grassland long-term indicators of sward condition and, in particular, species composition and richness should be used rather than indicators of immediate condition/degradation.

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6 Natural grasslands are defined in Directive 2009/28/EC as '*namely grassland that would remain grassland in the absence of human intervention and which maintains the natural species composition and ecological characteristics and processes'*

7 Non natural grassland is defined in Directive 2009/28/EC as '*namely grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded, unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status'.*

The decision process

- **Agreeing the dataset** - The best available data (for example on the location of natural grasslands or other areas of high biodiversity value) should be used for assessments and these should be agreed by national / regional competent environmental authorities.
- **Balancing comparability and regional flexibility** - Assessment and accreditation systems should be based on agreed generic principles and standards, but allow some flexibility to take into account local circumstances (for example the ecological characteristics, condition and functions of grassland types present, data availability and capacity for assessments).
- **Expert assessments** - Expert assessments should be carried out by appropriately trained, accredited and independent assessors, and overseen by an independent third-party certification body.
- **Non expert assessments** - Non expert assessments can be used in some instances, but to ensure effective application this needs to be supported by a transparent and publically reported validation system overseen by an independent third-party.

3.2 Developing an Information Base for Decision Making

The resources available

There are in essence four potential sources of data to support decisions regarding the use of grassland for biofuels. These are:

- Maps or remote sensing based on high level assessments of land use characteristics.
- On farm data, surveys and plans that might demonstrate the historic land use and cultivation of land – discussed in detail in section 5 and Annex I.
- Non expert assessment that might be used to distinguish key features – discussed in detail in section 5 and Annex I.
- Expert assessments prior to land conversion - – discussed in detail in section 5 and Annex I.

All these sources can be usefully deployed to support the implementation of Directive 2009/28/EC, however, it is important to consider the uses for which each is appropriate. For example maps are a useful tool but should not be used as the only evidence base upon which biofuel feedstock production can be deemed in compliance with Directive 2009/28/EC. This is due to the uncertainties inherent in their development. Despite this, however, there are two priority issues for which maps should urgently be developed in order to support the implementation specifically of Article 17.3.c[8]. Doing this will offer a clearer evidence base, a fundament part

[8] It should be noted that there are potentially other important mapping based tools that could be used to support the implementation of Article 17 of the Directive, but which are not specific to the requirements placed on grasslands ie the scope of this work. Ideally a full toolkit of maps would include maps setting out all protected

of the toolkit needed to inform developers and decision makers. The priorities identified are as follows.

- **The identification of natural grasslands -** as discussed in Working Paper 1, the development of natural grassland systems will likely have resulted from determinable natural processes and as such their potential range can be collated based on existing data and maps, for example, produced by White et al (2000)[9]. More detailed national or sub national maps may also exist or be developed and these could be approved and taken into account as part of the institutional process recommended above. Moreover, the potential for areas to hold natural grasslands can also be modelled, for example a recent modelling study mapped the expected locations of habitats protected under the Habitats Directive across the EU[10].
- **Indicative maps identifying areas sensitive to biofuel development** – these maps could be developed based on remote sensing data and other data sources to identify areas of grassland (and other habitats) deemed sensitive to biofuel development. In several Member States indicative or sensitivity maps are used to support stakeholders, developers and decision makers. While not legally binding these can highlight areas deemed of concern and could be developed as part of a participative process with NGOs, Member States and Third Countries. Ideally this tool would best be developed at the international level by for example UNEP or the FAO to ensure third country trust in the process; however, initially this could be established by the EU.

It should be noted that IEEP's analysis has focused on the use of forms of data other than maps and remote sensing, as it is believed this is being assessed by others in more detail (for example work by Ecofys and IUCN for the European Commission, work by JRC and work by the Oeko Institute). ***One issue of particular importance to note is that there will be a need for some form of institutional arrangement to approve a minimum requirement of mapped or remote sensing data sets. This would need to be iterative given the evolution both in the data resources and the biofuels market place***.

January 2008 – The challenge posed by retrospective assessment

To prevent prospective destruction of habitats, and the circumventing of the environmental requirements in Directive 2009/28/EC, Article 17.3 specifies that land must not have been in one of the states deemed of high biodiversity value 'on or after January 2008'. This poses a particular challenge when implementing the Directive's requirements and the demonstration of compliance by producers. In theory, the wording of the Directive would require a producer supplying biofuel feedstocks for the European market to provide

sites/areas and other important habitats based on data on habitats and species at risk. This would cover all habitats, including grasslands.

9 White, R.P., Murray, S., & Rohweder, M. (2000). Pilot analysis of global ecosystems. Grassland ecosystems. World Resources Institute, Washington, D.C.

10 Mücher, C.A., Hennekens, S.M., Bunce, R.G.H., Schaminée, J.H.J., & Schaepman, M.E. (2009) Modelling the spatial distribution of Natura 2000 habitats across Europe. Landscape and Urban Planning, 92, 148-159.

proof of the land use as of January 2008, demonstrating that said land is not considered of 'value' under the Directive.

In some instances this may be possible, for example: if the land has been consistently farmed for an extended period – although the ease with which the assessment can be made will depend on the nature of the farm records held; or where it can be demonstrated that land use has not significantly changed since 2008. This becomes increasingly challenging, however, when trying to demonstrate the lack of biodiversity value of land that has changed in its use since 2008, where land is initially converted for the cultivation of non biofuel crops and then adapted for biofuel crops or for which there are no records specifying use.

In essence the January 2008 base date means that an infield assessment of current condition is not sufficient to determine whether the land retrospectively complies with the Directive. As there was no global stock-take of grasslands in January 2008, it could be almost impossible to create a robust system for identifying the land use at this cut-off date - especially in future years - and one may have to rely on simple proxies that use the latest records and best available data, however imperfect these may be. Potential sources for information could be management plans, maps, research; local knowledge; national-level work on High Conservation Value Forest (HCVF) - especially where local forest and grasslands may overlap based on the definitions in Directive 2009/28/EC; government data sources, such as information on endangered species, rare forest types, protected animals and birds (which should be available in maps or reports); environmental NGOs.

As part of any process the Commission should provide clear guidance as to the specific mechanisms for drawing conclusions regarding the state of land as of January 2008. This should specify the different circumstances under which this might apply and details of the proofs needed. Without effective implementation there will be a failure to address the very problem that the January 2008 base date was intended to avoid, that is that of prospective destruction of habitats prior to any application to supply biofuel feedstocks for EU consumption. This must take account of the major potential loophole of farmers converting grasslands for arable food production and then converting that food production to biofuel production.

4 DELIVERING AN ASSESSMENT PROCESS

Building on the principles and proofs discussed in section 4 the subsequent sections set out in detail the conceptual basis and practical decision steps envisaged within an assessment process. The proposed approach should provide a clear and robust system, but also offer the flexibility to take account of regional variations and the diversity of the market place.

This approach has been developed in consultation with grassland experts, environmental NGOs, agriculture specialists, national experts and industry representatives.

4.1 A potential assessment model

Set out below and in Figure 2 is a proposed model for a 3 level assessment process. Detailed proofs and decision steps under each level are presented in Annex I. ***It should be noted that all biofuels would not have to undergo all 3 levels of assessment***. Biofuels would only need to progress through the process to the point at which the evidence base is sufficient to determine whether land is deemed either:

- highly biodiverse grassland, therefore unsuitable for biofuel development to meet the EU demand generated by Directive 2009/28/EC; or
- not of high biodiversity value and therefore biofuel production would comply with EU requirements for the protection of grassland.

There are a number of other requirements that biofuels entering the EU market place must comply with, based on Article 17. ***This three level assessment process for grassland is, therefore, envisaged as part of the wider approach to the assessment of biofuels to approve their environmental credentials*** in line with Directive 2009/28/EC. It is intended that the three levels will deliver a process that is robust but also not excessively onerous.

Level 1 aims to exclude from further assessment grasslands that are obviously intensively managed, not species–rich or of any other known biodiversity importance. This assessment would be undertaken by the proponent/farmer/developer, with a transparent verification system established by a national competent authority (for example involving checks of a proportion of assessments). It would entail a simple screening of the land based on clear guidelines (see Annex I).

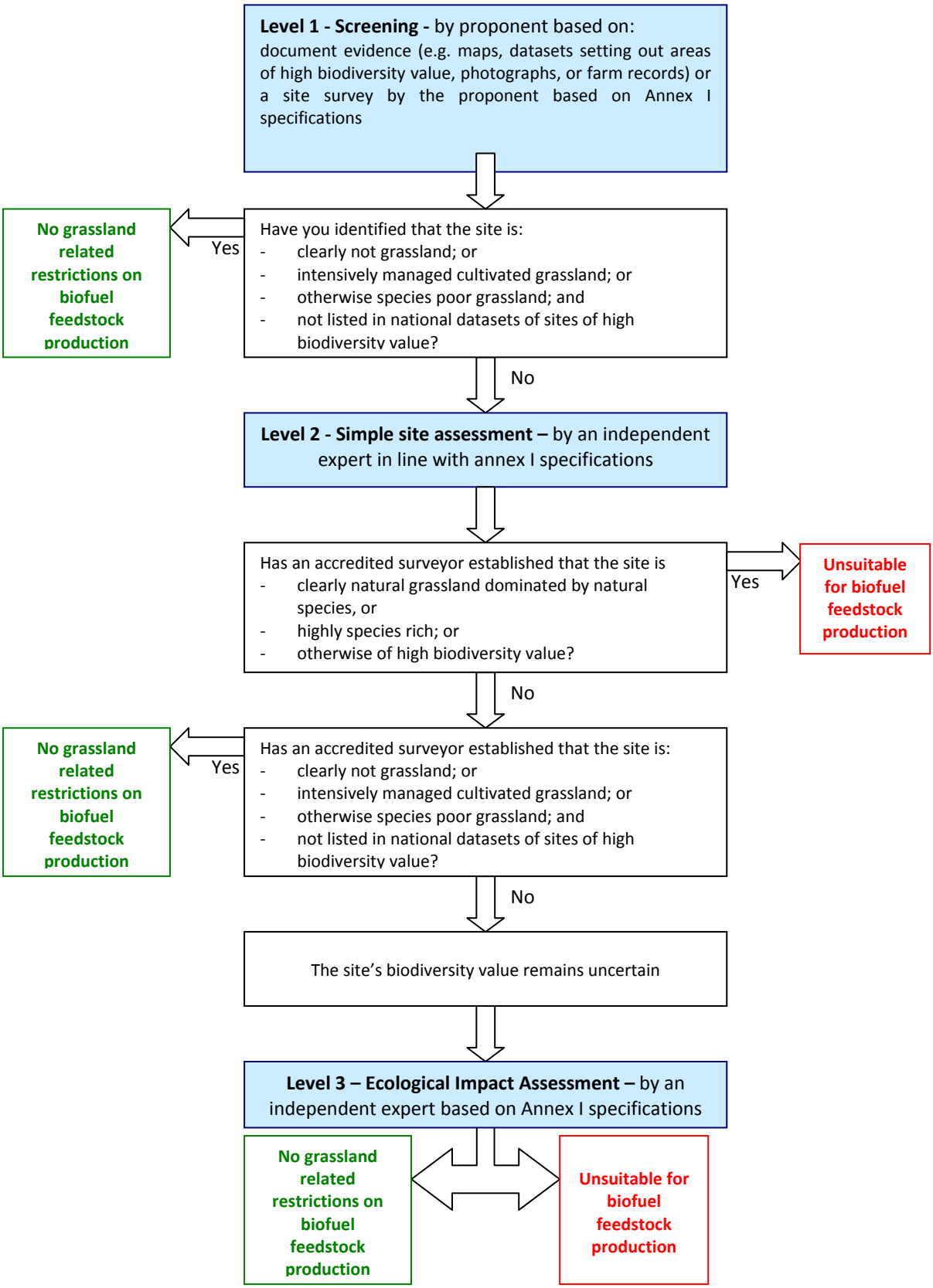
If it is not possible to identify, and provide sufficient proof, that a grassland is suitable for conversion to biofuel feedstock production from a Level 1 assessment, then the analysis of the land progresses to ***Level 2*** (assuming the proponent still wishes to proceed with the development of land for biofuel feedstocks). Under Level 2 a simple site survey is required to establish if the site is potentially suitable for biofuel production. This would be carried out by an independent accredited assessor, although as set out in Annex I this should not involve onerous cost to the proponent with the assessment constrained in terms of duration and level of effort. At this stage a site might

be identified as suitable or unsuitable for biofuel feedstock production in line with Directive 2009/28/EC, or the status of the land remains uncertain.

If it has still not been possible to determine the status of the land's suitability under Directive 2009/28/EC, and the proponent still wishes to take this forward, they should progress to ***Level 3***. This encompasses a detailed assessment based on good practice standards for Ecological Impact Assessment completed by an independent specialist. This assessment should provide a judgement and include proofs to demonstrate that the grassland is not of biodiversity value. ***If after all three assessment levels are complete significant doubt remains over its biodiversity value, biofuel feedstock production on that land should not be considered to qualify under Directive 2009/28/EC Article 17***.

Proof, based on level 1, 2 or 3, demonstrating that land does not contain grassland of high biodiversity value would need to be provided to demonstrate compliance before biofuel feedstocks could be processed. A record of this proof and the assessment process undertaken would need to be presented to the processer, forming the first stage of a traceable chain of custody allowing EU Member States to identify the compliance of biofuels entering the EU with Directive 2009/28/EC. This process would need to be supported by institutions to support the assessment processes, review of records and undertake verification. This is necessary to ensure clarity, consistency of approach and avoid frustrating developers.

Figure 2 – A three level decision structure - a basis for assessment



4.2 Identifying the status of a grassland – a quick guide to suitable, unsuitable and uncertain land

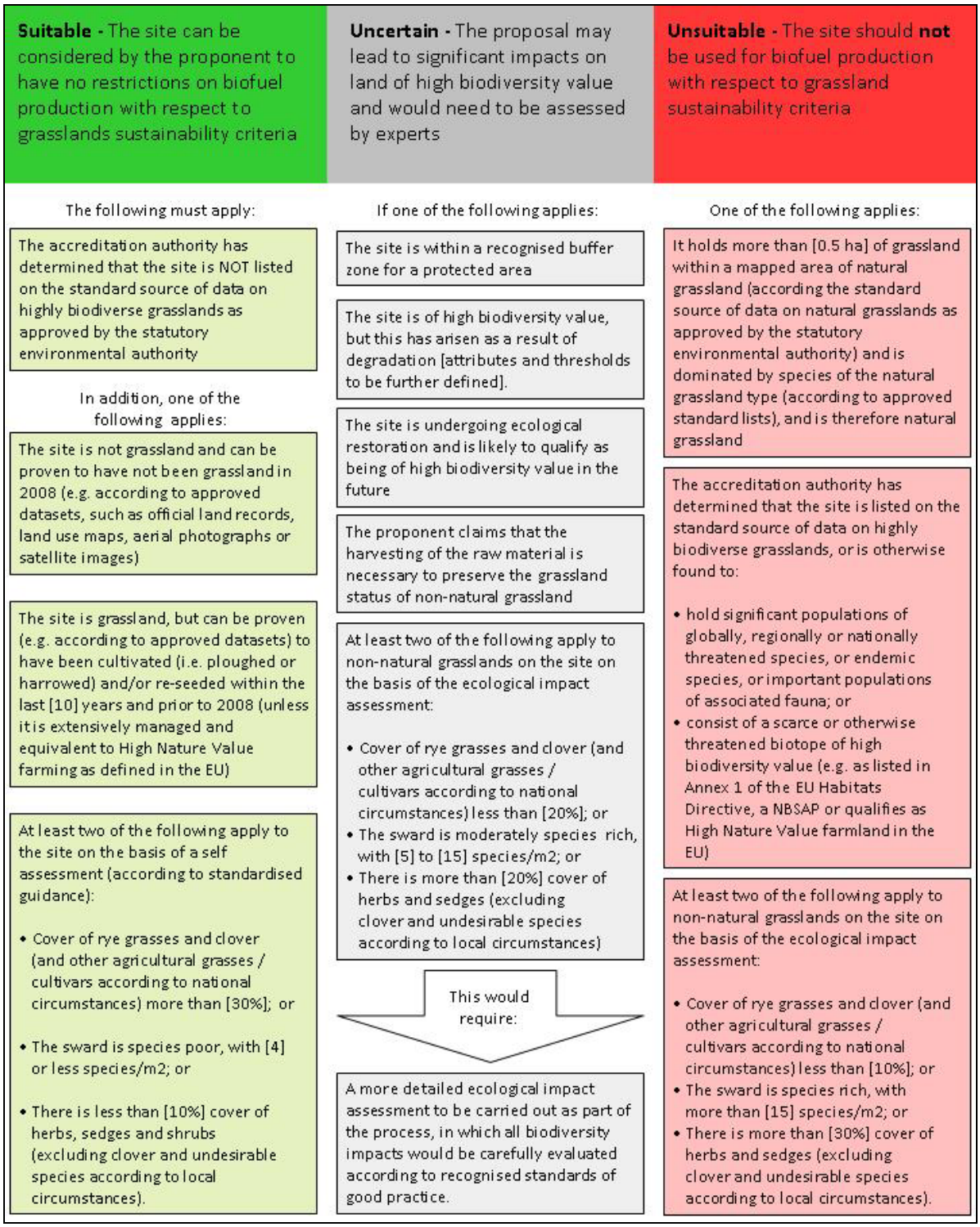
The three level decision process set out above offers a basis around which assessments of land suitability, in line with Directive 2009/28/EC, can be defined. While Figure 2 is conceptually very useful in terms of understanding the questions that need to be answered to establish suitability for biofuel production, ***it is felt necessary also to provide decision makers and developers with a quick guide to the types of sites that are consider suitable and unsuitable for development, and where there are ambiguities that need further investigation***.

Figure 3, below, brings together the detailed assessment requirements pertaining to the three levels (set out in detail in Annex I) within the intention of offering an illustration of how such a quick guide might look. This is intended to help users to distinguish simply between the characteristics of grasslands: ***suitable for biofuel production, classified green*** in Figure 3; ***unsuitable for biofuel production, classified red*** in Figure 3; and those which fall into an ***uncertain 'grey area'***. It is the intention that a Level 1 assessment, conducted by the proponent (that is the farmer or developer) should be able to distinguish the green and red areas set out in Figure 3. Meanwhile, assessment Levels 2 and 3 would be used to resolve whether land, which initially falls into the grey area, should be deemed suitable or unsuitable for biofuel feedstock production.

There is a need for tools, such as that set out in Figure 3, to be provided in guidance in order to aid developers and farmers in making site selection decisions. This approach could be expanded to include similar assessment questions for forests, carbon stock, wetlands, etc, to create an integrated assessment to deliver Article 17 to be used to generically establish the appropriateness of land based on all the criteria set out in Directive 2009/28/EC.

Figure 3 – An illustration setting out how suitable (green), unsuitable (red) and uncertain (grey) land could be identified

Please Note: all threshold numbers, quoted below in square brackets, are indicative only[11].



[11] Actual threshold values should be determined at a national level by the statutory environmental authority, through a transparent science-based process in consultation with stakeholders. If this is not possible an alternative international process to develop criteria suitable to the whole variety of biogeographic regions should be developed.

5 SUPPORTING THE ASSESSMENT PROCESS

This paper has primarily focused on the development of an assessment process, its needs and operational requirements. This is intended offer an information source for the Commission consultation and to support the discussions anticipated under comitology. There are, however, some additional issues that must be taken into account of when implementing such an assessment system.

5.1 Institutions, reporting and traceability

For the requirements in Directive 2009/28/EC for the protection of highly biodiverse grasslands to be effectively implemented proof must be supplied at the farmer/producer level demonstrating that land is not considered to support highly biodiverse grasslands. This must take account of the 2008 base year the current land use. This first level of assessment is vital, however, there is a complex supply chain that takes the raw feedstock and converts this into a biofuel or bioliquid. While generating proofs at the crop production phase is key, ***it is essential to have a clear, transparent process to establish the traceability of fuels*** along this supply chain and ensure that only those feedstocks that can prove they were produced in a way that avoids highly biodiverse grasslands are processed into the fuels used to comply with the targets set out in Directive 2009/28/EC.

At present few of the institutional arrangements necessary to implement Directive 2009/28/EC are in place and these require development at the EU, national and international levels. This is of importance given that, while under development, the operational capacities of round tables intended to provide the market with 'sustainable biofuels' are currently limited. ***To implement the Directive's legally binding text there is a need to set up a system to demonstrate compliance for all potential biofuel feedstock commodities***.

To overcome this deficiency and effectively implement the approach set out in this working paper and within Directive 2009/28 Article 17, institutional arrangements must be clarified. A system that is clear and robust while at the same time limiting the burden placed upon individual farmers and producers of feedstock, needs to be developed. This should ideally represent a coordinated approach with institutions in place to approve verifiers, their methods and review performance.

These new institutional arrangements are needed to deliver the following:

- Establish the information base - bringing together data, maps and other sources of potential proof into a toolkit for decision makers and industry. This process should be led by competent environmental authorities, and be participatory. It should provide an information resource to minimise the burden of assessment upon individual actors.
- Establish a baseline and better understanding of biofuel imports and production in the EU – this would require reporting on the scale of imports, the nature of the material imported and the country/region from which the biofuel feedstock originated.

- Ensure that the assessment process is clearly established and maintained – a body is need to develop agreed and transparent standards that are widely understood. Moreover accredited expert need to be made available to support farmers that is providing industry with a clear understanding of the actions needed to ensure compliance.
- Establish a chain of custody system to provide clear rules on the evidence or proofs of compliance that must be passed between actors – this should establish clarity over chain of custody requirements and the role of the different actors. Moreover, it should set out standard documentation formats to enable the role of verifiers or auditors.
- Independently verify that standards are being met, that is ensuring the robustness of the system and compliance with the Directive's requirements.

5.2 Access for small scale and low intensity suppliers

There is a concern that putting in place an assessment system for biofuel compliance will limit or exclude small-scale or less intensive producers from supplying the EU market. Support should be offered to small operators wishing to establish a "producer group entity" that takes responsibility for ensuring compliance of group members with the certification standards. Specific exemptions from certain certification requirements could also be offered to less intensive producers. It is considered that such arrangements should be incorporated into an assessment system aimed at implementing Directive 2009/28/EC.

It should, however, be noted that it is not considered appropriate that small producers should be exempted completely from the Directive's requirements. This could pose a risk with potential negative consequences for biodiversity; the cumulative impact of a large number of small producers could be substantial.

5.3 Creating a flexible yet globally acceptable system

To ensure acceptance by third countries and to take account of natural variability – spatially (for example across biogeographic regions) and temporally (for example annual/seasonal/longer time-scale variations), there should be a globally consistent framework within which flexibility is sufficient to take account of local conditions. This could, for example, consist of a process where by third countries develop their own threshold values for the different assessment levels set out in section 5. These would then be approved by an independent body at the EU or international level in consultation with experts.

Although some may wish to impose more restrictive criteria on non-EU sourced raw materials, when compared to European supplies, any such restrictions would be in violation of world trade rules. The underlying principles of the agreements of the World Trade Organization (WTO) are those of most-favoured-nation treatment and national treatment. That is, the EU can neither discriminate between trading partners nor can it treat imports less favourably than the same or similar domestically-produced goods. Hence, the EU can, in theory, adopt regulations for third countries that are equivalent to existing EU

regulation or adopt new regulation that applies to all raw materials regardless of origin[12].

Given the important question of comparability, one question that must quickly be resolved is what documents or proofs should EU farmers use to demonstrate compliance with the assessment requirements. There are currently several existing EU requirements that may apply to grasslands: the monitoring of the conversion of permanent pastures; an Environmental Impact Assessment requirement for the conversion of permanent pasture land; EU nature protection requirements and protected sites; and cross compliance requirements (such as GAEC). These offer proof options for farmers - but guidance should be provided by the Commission as to how existing EU standards can be best utilised and, as a consequence, what comparable proof should be required for third country producers.

[12] World trade rules do, however, have some scope for 'inconsistent' regulation and even the imposition of stricter requirements for raw materials from third countries: GATT Article XX (Genral exceptions) allows for an exception if the measure is deemed necessary for the conservation of exhaustible natural resources and such measures are made effective in conjunction with restrictions on domestic production or consumption.

The renewable energy Directive 2009/28/EC could be justified under the Article XX exception if it is agreed that clean air (with less than, for example, 400 ppm CO_2) is an exhaustible natural resource. The prohibition on the use of raw materials from savannahs and other highly biodiverse grasslands could also, in theory, be justified under the Article XX exception. It may, however, be harder to defend restrictions on raw materials from non-natural grasslands and other grasslands where the biodiversity may be of local value but not threatened on a regional or national level. Likewise, restrictions applied to grasslands in third countries must be equally applied to similar grasslands within Europe.

6 ANNEX I –DETAILED LEVEL BASED ASSESSMENT

Note: all threshold numbers quoted below in square brackets are indicative only. It is recommended that actual threshold values should be set at a national level by the statutory environmental authority, through a transparent science-based process in consultation with stakeholders.

The following methodology, presented below, is an illustration of the approach that could be taken to assessing the suitability of all grassland areas (natural and non natural) for the production of biofuels. This sets out in detail the assessment questions and criteria that should be applied to assessment Levels 1, 2 and 3 set out in Figure 2 and section 5.1 above. The purpose of the different assessment levels and their application is explained in section 5.1 of this paper.

Level 1: screening (by proponent)

The site can be considered by the proponent to have no restrictions on biofuel production with respect to grassland sustainability criteria (and therefore no requirement for further survey) if:

- The site is not grassland and can be proven not to have been grassland in 2008 (for example according to approved datasets[13] such as official land records, land use maps, aerial photographs or satellite images); OR

- The site is grassland, but can be proven (for example according to approved datasets) to have been cultivated (that is ploughed or harrowed) and/or reseeded within the last [10] years and prior to 2008[14]; OR

- At least two of the following apply to the site on the basis of a self assessment[15] (according to standardised guidance):
  - Cover of rye grasses and clover (and other agricultural grasses / cultivars according to national circumstances) more than [30%]; or
  - The sward is species poor, with [4] or less species/m^2; or
  - There is less than [10%] cover of herbs, sedges and shrubs (excluding clover and undesirable species according to local circumstances).

AND

- The accreditation authority has determined that the site is NOT listed on the standard source of data on highly biodiverse grasslands as approved by the statutory environmental authority[16],[17].

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13 I.e. the best available data as identified and approved by the competent environmental authority.

14 Unless it is an extensively managed (with no or minimal use of fertilisers) and equivalent to High Nature Value farmland as defined in the EU.

15 An agreed percentage of self assessment would be verified by an appropriate competent authority, with prosecutions made where appropriate.

16 This should include protected areas (which are excluded from biofuel production according to Article 17.c.2 of the Directive) and sites that are not formally protected, but are nevertheless of high biodiversity value, such as Important Plant Areas, Important Bird Areas and, within the EU, areas of High Nature Value farmland (Cooper et al. 2007).

ALL OTHER PROPOSALS MUST CARRY OUT A LEVEL 2 GRASSLAND SURVEY.

Level 2: grassland survey

A grassland survey is carried out by an independent accredited assessor to establish key ecological and management information, including the grassland/biotopes present (for example with respect to, plant species richness, dominant species present in the sward, overall cover of agricultural cultivars (for example rye-grasses and clover), cover of herbs and sedges, management systems in place and ecological condition (with respect to key attributes). The assessor would also check the location of the site against maps and other data sources indicating the location of natural grasslands, protected areas and other areas identified as being of high biodiversity value (for example Important Bird Areas).

The site should NOT be used for biofuel production with respect to grassland sustainability criteria if:

- It holds more than [0.5 ha] of grassland within a mapped area of natural grassland (according the standard source of data on natural grasslands as approved by the statutory environmental authority) and is dominated by species of the natural grassland type (according to approved standard lists), and is therefore natural grassland as described in the Directive; OR

- The site is listed on the standard source of data on highly biodiverse grasslands as approved by the statutory environmental authority, or is otherwise found by survey to:
  - hold significant populations of globally, regionally or nationally threatened species, or endemic species, or important populations of associated fauna;
  - consist of a scarce or otherwise threatened biotope of high biodiversity value (e.g. as listed in Annex 1 of the EU Habitats Directive, a NBSAP or qualifies as a High Nature Value farmland area in the EU); OR

- At least two of the following apply to non natural grasslands on the site on the basis of the expert assessment:
  - Cover of rye grasses and clover (and other agricultural grasses / cultivars according to national circumstances) less than [10%]; or
  - The sward is species rich, with more than [15] species/m^2; or
  - There is more than [30%] cover of herbs and sedges (excluding clover and undesirable species according to local circumstances).

The proposal may lead to significant impacts on land of high biodiversity value that need to be assessed by a Level 3 ESIA if:

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[17] Cooper, T., Arblaster, K., Baldock, D., Farmer, M., Beaufoy, G., Jones, G., Poux, X., McCracken, D., Bignal, E., Elbersen, B., Wascher, D., Angelstam, P., Roberge, J.-M., Pointereau, P., Seffer, J., & Galvanek, D. (2007). Final report for the study on HNV indicators for evaluation. Institute for European Environmental Policy, London

- The site is within a recognised buffer zone for the protected area; OR

- At least two of the following apply to non natural grasslands on the site on the basis of the expert assessment:
  - Cover of rye grasses and clover (and other agricultural grasses / cultivars according to national circumstances) less than [20%]; or
  - The sward is moderately species rich, with [5] to [15] species/m^2; or
  - There is more than [20%] cover of herbs and sedges (excluding clover and undesirable species according to local circumstances).

- The site is of high biodiversity value, but this has arisen as a result of degradation [attributes and thresholds to be further defined].

- The site is undergoing ecological restoration and is likely to qualify as being highly biodiverse in future.

Otherwise, the site can be considered to have no restrictions on biofuel production with respect to grassland sustainability criteria.

Level 3: Expert Assessment

A more detailed expert assessment would be carried out as part of the ESIA process, in which all biodiversity impacts would be carefully evaluated according to recognised standards of good practice, for example CBD guidance on Ecological impact assessment (EIA) (CBD, 2006[18]).

[18] CBD (2006) Global biodiversity outlook 2 Secretariat of the Convention on Biological Diversity, Montreal.

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- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
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