National High Conservation Value Framework for the United Kingdom

Revision D1-1, September 2021

What are High Conservation Values?

A High Conservation Value (HCV) is 'a biological, ecological, social or cultural value of outstanding significance or critical importance' (Brown *et al*., 2013). The six categories of HCVs are:

- HCV 1 Species diversity
- HCV 2 Landscape-level ecosystems and mosaics
- HCV 3 Ecosystems and habitats
- HCV 4 Critical ecosystem services
- HCV 5 Community needs
- HCV 6 Cultural values

It is important to note that, while the FSC Principles and Criteria specifically require the maintenance and/or enhancement of HCVs, other values, though not of 'outstanding significance or critical importance', may also be worthy of protection, and indeed may be subject to other FSC requirements or legal protection.

What is this Framework for, and who should use it?

This National High Conservation Value Framework is a tool for the identification, management and monitoring of HCVs in forests in the United Kingdom of Great Britain and Northern Ireland. It is intended specifically for use alongside the FSC National Forest Stewardship Standard for the UK, and has been developed in accordance with FSC-STD-60-004 V2-0 EN *International Generic Indicators*.

The Framework is intended for the use of owners/managers of FSC certified forests in the UK. Use of the Framework is not compulsory but is strongly recommended to help owners/managers meet the requirements of Principle 9.

Guidance on the management of HCVs in this Framework is deliberately general in nature, because it is impossible to be prescriptive when so much depends on context. The emphasis is on highlighting published best practice, sources of information, experts and other interested parties who may be able to help owners/managers to develop effective management strategies. For general guidance on the management and monitoring of HCVs, including adaptive management, refer to *Common Guidance for the Management & Monitoring of High Conservation Values* (Brown and Senior, 2014).

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Note on definitions

The definitions of the six high conservation values used in this document are taken from the *International Generic Indicators*. Within these definitions, terms in italics followed by an asterisk are also defined in FSC-STD-60-004 V2-0 EN. They are reproduced at the end of this document for the convenience of readers, but updated definitions in FSC normative documents should always be taken as definitive.

HCVs in the UK Woodland Assurance Standard

The UK National Forest Stewardship Standard is familiar to most forest managers in the user-friendly format of the UK Woodland Assurance Standard, or UKWAS[1]. This version of the standard contains the same requirements but in a different structure. UKWAS uses the term 'high conservation value' in a narrower and more traditional sense to refer to areas and features of ecological and biodiversity interest, effectively HCVs 1-4, but while they are described in different terms HCVs 5 and 6 are still given the same protections. The relationship between the six categories of HCVs and UKWAS requirements can be summarised as follows:

- HCV 1 Species diversity – UKWAS section 4.1 (statutory nature conservation sites).
- HCV 2 Landscape-level ecosystems and mosaics – Not considered to be present in the UK.
- HCV 3 Ecosystems and habitats – UKWAS sections 4.1 (statutory nature conservation sites), 4.2 (ancient semi-natural woodland) and 4.3 (plantations on ancient woodland sites).
- HCV 4 Critical ecosystem services – UKWAS section 4.5 (watershed management and erosion control).
- HCV 5 Community needs – UKWAS section 5.1 (specifically private water supplies).
- HCV 6 Cultural values – UKWAS section 4.8 (cultural and historic environment sites).

See the descriptions of the individual HCVs below for an explanation of why these features are considered to meet the definitions of each category. Also relevant to implementing FSC HCV requirements are UKWAS sections 2.11 (conservation management planning) and 2.15 (monitoring).

[1] https://ukwas.org.uk/

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HCV 1 Species diversity

Concentrations of *biological diversity** including endemic species, and *rare**, *threatened** or endangered species, that are *significant** at global, regional or national levels.

Interpretation in the UK context

The UK is fortunate to have an extensive network of biological Sites of Special Scientific Interest (SSSIs, in England, Scotland and Wales) and Areas of Special Scientific Interest (ASSIs, in Northern Ireland). (There are also geological SSSIs and ASSIs, which are not relevant in the context of HCV 1.) A similar rationale underlies both SSSIs and ASSIs, and a similar approach is taken to their selection. The following text is taken from *Guidelines for the Selection of Biological SSSIs* (Bainbridge *et al*., 2013):

> The SSSIs of Great Britain are the fundamental units of our network of protected areas for nature conservation in terrestrial and coastal… environments. The most important areas for habitat and species conservation, at both national and international levels, lie within them, and all are considered to be of national importance for nature conservation. They make the major contribution towards the establishment of an ecologically coherent national network of protected areas, and are where the interest is most highly concentrated or of the highest quality. Each SSSI represents a significant component of the biodiversity resource of Great Britain, and its protection is an important part of Great Britain's biodiversity conservation activity.
>
> …
>
> They provide statutory protection under UK law for the network of terrestrial and freshwater Natura 2000 sites classified under the European Birds and Habitats Directives, and for sites designated under the Ramsar Convention. They help to deliver and underpin the UK's contribution to the Convention on Biological Diversity (especially the 20 Aichi targets) as expressed through the Global Strategy for Plant Conservation, the EU Biodiversity Strategy, UK post-2010 Biodiversity Framework, and the biodiversity strategies of the four countries of the UK.

Most importantly in the context of HCV 1, 'The purpose of biological SSSIs is to safeguard the diversity and geographic range of habitats and species throughout Great Britain, within which the viable populations of all our threatened native species will be represented'. As such, SSSIs and ASSIs encompass those sites which are significant to the conservation of

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threatened species at national, regional (EU) and (in the case of Ramsar sites) global levels. Species rarity is also a factor in the designation of SSSIs and ASSIs.

In the UK context, therefore, particularly since the selection of SSSIs and ASSIs by statutory nature conservation bodies involves a review of site, species and context information which is well beyond the capacity of most woodland owners/managers, these designated sites are taken as a proxy for HCV 1.

Note that this interpretation refers primarily to SSSIs and ASSIs because, as noted above, most other areas with statutory nature conservation designations, such as National Nature Reserves, Special Areas of Conservation, Special Protection Areas or Ramsar sites, are also SSSIs or ASSIs. However, even where such a site is not also designated as a SSSI or ASSI, it should still be treated as a proxy for HCV 1 in recognition of its global, regional or national significance.

Identification

Description of Best Available Information in the UK for identifying HCV 1

Official maps of Sites and Areas of Special Scientific Interest are held by the statutory nature conservation bodies – Natural England, the Northern Ireland Environment Agency, NatureScot and Natural Resources Wales – and are freely available online; see below.

Individuals or populations of endemic, rare, threatened or endangered species found outside designated sites are unlikely to represent nationally, regionally or globally significant concentrations of biological diversity, but in case of any doubt advice should be sought from the relevant statutory nature conservation body. Regardless of their HCV status, these species may be subject to statutory protection in their own right. Individuals or populations can be identified through general observations, specific surveys, past records or freely available data sources such as the NBN Atlas[2] (UK) or Aderyn[3] (Wales).

Description of interested and affected stakeholders

Generally speaking, it should only be necessary to engage with the statutory nature conservation bodies in order to identify HCV 1. While other stakeholders such as environmental non-governmental organisations or wildlife enthusiasts may have professional or personal interests in species diversity, their observations are unlikely to be of the same

[2] https://nbnatlas.org/
[3] http://aderyn.lercwales.org.uk/

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national, regional or global significance as designated sites; however, as above, in case of any doubt advice should be sought from the relevant statutory body.

Description of culturally appropriate engagement for identifying HCV 1

Engagement should be through the formal channels of the statutory nature conservation bodies. While there is unlikely to be any need to engage with other stakeholders in order to identify HCV 1, there are likely to be other good reasons to engage with them, and in any such engagement the owner/manager should be alert and receptive to any observations which may suggest the presence of HCV 1 outside designated sites.

Examples of HCV 1 species in the UK

For species significant at a global level, an April 2021 search of the IUCN Red List of Threatened Species[4] for forest habitats in the UK reveals 40 species which are Near Threatened, Vulnerable, Endangered or Critically Endangered (i.e. roughly equivalent to *rare species** and *threatened species** as defined by FSC). These include insects, gastropods, fungi, lower plants, and several species of whitebeam (*Sorbus*). The Asian Small-clawed Otter (*Aonyx cinereus*), classified as Vulnerable, would not be considered a priority species in the UK context as it has been introduced outside its native range.

For examples of species significant at a national level, the Joint Nature Conservation Committee (JNCC) holds data on national red lists developed using IUCN guidelines[6]. The data held by the JNCC cannot be filtered by habitat type, but an April 2021 search for species which are Near Threatened, Vulnerable, Endangered or Critically Endangered includes the Aspen Hoverfly (*Hammerschmidtia ferruginea*, Endangered), Black Grouse (*Tetrao tetrix*, Vulnerable), Common Juniper (*Juniperus communis* subsp. *Communis*, Near Threatened), Devil's Bolete (*Boletus satanus*, Vulnerable) and the Eurasian Beaver (*Castor fiber*, Endangered).

Full lists of national priority species may be found online:

- For England at https://webarchive.nationalarchives.gov.uk/20140712055944/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx
- For Northern Ireland at https://www.daera-ni.gov.uk/articles/northern-ireland-priority-species

[4] http://www.iucnredlist.org/search
[6] https://jncc.gov.uk/our-work/red-lists-in-great-britain/

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- For Scotland at https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy/scottish-biodiversity-list
- For Wales at http://www.biodiversitywales.org.uk/Section-42-Lists

The JNCC holds consolidated UK data on priority species[7].

Geographic areas where HCV 1 is likely to be present

Biological Sites of Special Scientific Interest and Areas of Special Scientific Interest may be found throughout the UK.

Maps of HCV 1 areas in the UK

Official maps of Sites and Areas of Special Scientific Interest are freely available online:

- For England, Scotland and Wales at http://www.magic.gov.uk/MagicMap.aspx
- For Northern Ireland at https://appsd.daera-ni.gov.uk/nedmapviewer/
- For Scotland at https://sitelink.nature.scot/map
- For Wales at http://lle.gov.wales/catalogue/item/ProtectedSitesSitesOfSpecialScientificInterest/?lang=en

Threats to HCV 1 areas in the UK

There are many potential threats to the species within designated sites, including overgrazing, invasive species and unsympathetic timber harvesting. As part of the designation process, operations which might potentially damage the special interest of a site or area will have been identified, and permission must be sought from the relevant statutory nature conservation body before carrying out such an operation.

Threats to the existence of designated sites themselves usually take the form of major infrastructure projects or other built developments.

[7] https://jncc.gov.uk/our-work/uk-bap-priority-species/

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Management

Management of designated sites should conform to any plans agreed with the relevant statutory nature conservation bodies, including seeking permission for any operations requiring consent and conforming to any conditions imposed.

Guidance is available online:

- For England at https://www.gov.uk/guidance/protected-areas-sites-of-special-scientific-interest
- For Northern Ireland at https://www.daera-ni.gov.uk/topics/land-and-landscapes/areas-special-scientific-interest
- For Scotland at https://www.nature.scot/professional-advice/safeguarding-protected-areas-and-species/protected-areas/national-designations/sites-special-scientific-interest
- For Wales at https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/guidance-to-site-of-special-scientific-interest-sssi-land-owners-and-occupiers/?lang=en

Monitoring

Monitoring of designated sites is carried out by the statutory nature conservation bodies, and owners/managers should discuss with the relevant bodies any opportunities to co-operate with or supplement their work. Management should be informed by the results of condition assessments and the recommendations of the relevant statutory nature conservation bodies.

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HCV 2 Landscape-level ecosystems and mosaics

*Intact Forest Landscapes** and large *landscape**-level *ecosystems** and *ecosystem** mosaics that are *significant** at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

Interpretation in the UK context

The UK has no Intact Forest Landscapes, as defined by FSC and mapped by the IFL Mapping Team[8] and Global Forest Watch[9].

Other large landscape-level ecosystems and mosaics are not present in the UK's highly modified landscape, with the possible exception of extensive areas of native pinewoods and associated open habitats in the Scottish Highlands. However, these areas have been significantly modified by human activity, and it is questionable whether they contain 'viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance'. On balance, the landscape-level ecosystems covered by HCV 2 are not currently considered to be present in the UK. Importantly, the most significant pinewood areas, such as Abernethy and Glen Affric, are effectively protected under HCV 1 thanks to statutory designations.

Owners/managers should be aware that landscape-level restoration projects may ultimately create significant ecosystems or ecosystems mosaics which meet the definition of HCV 2.

Identification

N/A

Management

N/A

Monitoring

N/A

[8] http://www.intactforests.org/world.map.html
[9] https://www.globalforestwatch.org/

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HCV 3 Ecosystems and habitats

*Rare**, *threatened**, or endangered *ecosystems**, *habitats** or *refugia**.

Interpretation in the UK context

Many Sites and Areas of Special Scientific Interest are relevant to HCV 3, with rarity at both national and European levels an important factor in determining which habitats to protect (Bainbridge *et al*., 2013):

> A critical part of the selection process is to evaluate and understand the relative rarity of habitats in the landscape, regardless of quality. Habitats that are rarer are given higher priority, simply because options and opportunities for conserving them are more limited and if all such habitats are lost, so too are the species and processes associated with them. Hence, the rarity of a habitat has an important effect on an assessment and can make selection against uniform minimum standards inappropriate. There is therefore a differential standard according to geographical variations in the extent of the habitat. The Habitats Directive (92/43/EEC) Annex I identifies a number of threatened habitats at a European scale, the conservation of which requires site designation. The continuing loss and increasing scarcity of near- and semi-natural habitats over much of lowland Britain has led to the view that, for some habitats, all remaining examples above a certain quality should be protected. The scarcer the habitat, the stronger is the case that the qualifying standards should be more flexible.

As such, as with HCV 1, SSSIs and ASSIs are important proxies for HCV 3.

In addition to formally designated sites, given the scarcity of semi-natural woodland in the UK, all ancient woodland sites are considered to be of high conservation value. Ancient woodland sites are sites which have been under continuous woodland cover since before AD 1600 in England, Wales and Northern Ireland or since before AD 1750 in Scotland. These sites are considered to be of value, regardless of whether they currently carry semi-natural woodland (ancient semi-natural woodland, ASNW) or plantations of native or non-native species (plantations on ancient woodland sites, PAWS), because of the remnant features which may be present, such as woodland specialist flora, veteran trees or deadwood.

Furthermore, priority habitats are identified by the statutory nature conservation bodies in England, Northern Ireland, Scotland and Wales as part of the UK response to the Convention

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on Biological Diversity. Priority habitats are those considered to be the most threatened at the country level[10], and as such are also important proxies for HCV 3.

Identification

Description of Best Available Information in the UK for identifying HCV 3

Official maps of Sites and Areas of Special Scientific Interest are held by the statutory nature conservation bodies – Natural England, the Northern Ireland Environment Agency, NatureScot and Natural Resources Wales – and are freely available online; see below.

Ancient Woodland Inventories (AWIs) have been carried out by the statutory nature conservation bodies in England[11], Scotland[12] and Wales[13] and by the Woodland Trust in Northern Ireland[14]. Because they are based on historical mapping with varying degrees of field verification, AWIs are usually described as provisional and as guides to identifying ancient woodland sites, rather than being definitive. Field survey, supported with historical mapping or records, remains the best approach to determining whether the characteristic features of ancient woodland are present on a site; guidance on this subject is provided in the UK National Forest Stewardship Standard. Published inventories may include categories other than ancient woodland sites, such as the 'long-established woodlands of plantation origin' in the Scottish AWI; here again field survey is likely to be necessary to determine whether features of importance are present. In all cases of doubt, expert opinion should be sought and a precautionary approach should be taken.

The statutory nature conservation bodies maintain lists of priority habitats for England[15], Northern Ireland[16], Scotland[17] and Wales[18]. Descriptions of priority habitats are available from the Joint Nature Conservation Committee[19], although detailed information may also be available from the individual nature conservation bodies[20]. Identification must be by field

[10] https://jncc.gov.uk/our-work/uk-bap-priority-habitats/
[11] https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences
[12] https://www.nature.scot/professional-advice/planning-and-development/natural-heritage-advice-planners-and-developers/planning-and-development-trees-and-woodland
[13] http://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/woodlands-and-the-environment/ancient-woodland-inventory/?lang=en
[14] https://ati.woodlandtrust.org.uk/back-on-the-map
[15] https://webarchive.nationalarchives.gov.uk/20140712055944/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx
[16] https://www.daera-ni.gov.uk/publications/northern-ireland-list-priority-habitats
[17] https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy/scottish-biodiversity-list
[18] http://www.biodiversitywales.org.uk/Section-42-Lists
[19] https://jncc.gov.uk/our-work/uk-bap-priority-habitats/
[20] See, for example, https://www.nature.scot/scotlands-biodiversity/habitat-definitions.

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survey, aided by any maps, records or observations from the relevant statutory bodies or other interested organisations or individuals.

Description of interested and affected stakeholders

The statutory nature conservation bodies are the principal stakeholders in designated sites and priority habitats. Both nature conservation bodies and statutory forestry authorities may have interests in ASNW and PAWS. In addition to these statutory bodies, other stakeholders may have interests in particular habitats and may be able to make valuable contributions to their identification, management or monitoring; these stakeholders may include environmental non-governmental organisations (such as the Woodland Trust or Wildlife Trusts), local or national experts, local wildlife groups or individual wildlife enthusiasts.

Description of culturally appropriate engagement for identifying HCV 3

For designated sites, ancient woodland sites and priority habitats, engagement should be through the formal channels of the statutory nature conservation bodies and/or forestry authorities.

For ancient woodland sites and priority habitats, it may be possible to engage directly with other known stakeholders, especially organisations or experts with clear points of contact, but owners/managers should also provide opportunities for engagement with currently unknown stakeholders, especially organisations or individuals with local knowledge; this may be achieved through public notices or meetings, in the course of normal consultation on forest management. In all cases, owners/managers should be receptive to any approaches they receive from organisations or individuals with information which may help to identify ancient woodland sites or priority habitats.

Examples of HCV 3 ecosystems and habitats in the UK

Sites and Areas of Special Scientific Interest cover the full range of habitats in the UK.

The habitat on ancient woodland sites may vary from semi-natural woodland through modified or planted woodlands of native species to plantations of introduced species; all may be of value, depending on the presence and status of remnant features. Forestry Commission guidance on the management of semi-natural woodlands (see below) groups them into eight different types:

- Lowland acid beech and oak woodlands
- Lowland beech-ash woodlands
- Lowland mixed broadleaved woodlands

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- Upland mixed ashwoods
- Upland oakwoods
- Upland birchwoods
- Native pinewoods
- Wet woodlands

National priority habitats include relevant semi-natural woodland types as well as non-woodland habitats. Examples from the list of priority habitats in Scotland include:

- Wood pasture and parkland
- Upland hay meadows
- Lowland heathland
- Upland flushes, fens and swamps
- Blanket bog
- Mountain heaths and willow scrub

Geographic areas where HCV 3 is likely to be present

Potentially important habitats may be found throughout UK.

Maps of HCV 3 areas in the UK

Official maps of Sites and Areas of Special Scientific Interest are freely available online; see links under HCV 1.

Ancient Woodland Inventory maps may be available:

- For England at http://www.magic.gov.uk/MagicMap.aspx
- For Northern Ireland at https://ati.woodlandtrust.org.uk/back-on-the-map
- For Wales at http://lle.gov.wales/catalogue/item/AncientWoodlandInventory2021/?lang=en

In Scotland, AWI data can be downloaded at http://gateway.snh.gov.uk/natural-spaces/index.jsp, or information from the Native Woodland Survey of Scotland, which shows native woodland and PAWS, may be viewed at https://forestry.gov.scot/support-regulations/scottish-forestry-map-viewer.

Priority habitat maps may also be available:

- For England at http://www.magic.gov.uk/MagicMap.aspx
- For Northern Ireland at https://appsd.daera-ni.gov.uk/nedmapviewer/

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- For Wales at http://lle.gov.wales/catalogue/item/Glastir%20Woodland%20Creation%20-%20Sensitivity%20Layer%20-%20Priority%20Habitats/?lang=en

A habitat map for Scotland is also available; see https://www.nature.scot/landscapes-and-habitats/habitat-map-scotland.

Threats to HCV 3 areas in the UK

There are many potential threats to the habitats within designated sites. As part of the designation process, operations which might potentially damage the special interest of a site or area will have been identified, and permission must be sought from the relevant statutory nature conservation body before carrying out such an operation.

Threats to the existence of designated sites and ancient woodland sites themselves usually take the form of major infrastructure projects or other built developments.

Remnant features in ASNW and PAWS may be threatened by a lack of management, for example the shading of ground flora by unthinned plantations, or by unsympathetic management, for example the disruption of characteristic soil profiles by cultivation or herbicide application.

All habitats are potentially threatened by wider issues such as changes in drainage or invasive species.

Management

Management of designated sites should conform to any plans agreed with the relevant statutory nature conservation bodies, including seeking permission for any operations requiring consent and conforming to any conditions imposed.

Management of semi-natural woodlands, on ancient woodland sites or as priority habitats elsewhere, should conform to the relevant Forestry Commission Practice Guides (Forestry Commission, 1994a-h). Owners/managers should also consider national guidance, such as the Forestry Commission England Practice Guide *Managing ancient and native woodland in England* (Forestry Commission England, 2010). Full or partial restoration of native woodland on ancient woodland sites or maintenance of existing ecological values should conform to the relevant Forestry Commission Practice Guides (Thompson *et al.*, 2003; Harmer and Thompson, 2013).

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Management of other priority habitats should conform to guidance provided by the statutory nature conservation bodies, where available:

- For England at https://webarchive.nationalarchives.gov.uk/20140605090438/http://publications.naturalengland.org.uk/category/7002
- For Northern Ireland at https://www.daera-ni.gov.uk/publications
- For Scotland at https://www.nature.scot/scotlands-biodiversity/habitat-definitions
- For Wales at http://www.biodiversitywales.org.uk/Ecosystems-Species-Expert-Groups

Monitoring

Monitoring of designated sites is carried out by the statutory nature conservation bodies, and owners/managers should discuss with the relevant bodies any opportunities to co-operate with or supplement their work. Management should be informed by the results of condition assessments and the recommendations of the relevant statutory nature conservation bodies.

Monitoring of semi-natural woodlands should conform to the relevant Forestry Commission Practice Guides (Forestry Commission, 1994a-h). Monitoring of features in plantations on ancient woodland sites should also conform to the relevant Forestry Commission Practice Guide (Thompson *et al*., 2003).

Statutory nature conservation bodies may have recommendations for the monitoring of other priority habitats. NatureScot habitat documents, for example, include Common Standards Monitoring guidance in their references, the same monitoring approach used for designated sites[22]. As a minimum, monitoring of priority habitats should be at least equivalent to that for semi-natural woodlands.

[22] https://jncc.gov.uk/our-work/common-standards-monitoring-guidance/

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HCV 4 Critical ecosystem services

Basic *ecosystem services** in *critical** situations, including *protection** of water catchments and control of erosion of vulnerable soils and slopes.

Interpretation in the UK context

In the UK context, ecosystem services in critical situations are likely to be limited to areas and features of critical importance for watershed management or erosion control. These may include forests upstream of public water supplies (where regulation of water quality and quantity is critical) or areas liable to flooding (where regulation of water quantity is critical), or forests on steep slopes above settlements or infrastructure where management of slope stability is critical to avoid risks to human safety or serious economic impacts.

HCV 4 refers explicitly to 'critical situations'. An ecosystem service is considered to be critical where a disruption of that service is likely to cause, or poses a threat of, severe negative impacts on the welfare, health or survival of local communities, on the environment, on HCVs, or on the functioning of significant infrastructure (roads, dams, buildings etc.). In the UK context, statutory environment protection bodies or national geological surveys (British Geological Survey or Geological Survey of Northern Ireland) will be best placed to determine what constitutes a critical situation, and owners/managers should defer to their judgement.

Although the examples above are the most likely instances of HCV 4 in the UK context, there may be other situations where ecosystem services could be considered to be 'critical', as defined by FSC and the HCV Resource Network. These should be assessed on a case by case basis.

Identification

Description of Best Available Information in the UK for identifying HCV 4

For watershed management, information from statutory environmental protection bodies – the Environment Agency (England), the Northern Ireland Environment Agency, the Scottish Environment Protection Agency and Natural Resources Wales – may be available in the form of River Basin Management Plans[23] (including measures of chemical and biological condition) or flood risk maps (see below). Further information on flood risk in England and Wales may be

[23] For England at https://www.gov.uk/government/collections/river-basin-management-plans-2015, for Northern Ireland at https://www.daera-ni.gov.uk/topics/water/river-basin-management, for Scotland at http://www.sepa.org.uk/environment/water/river-basin-management-planning, and for Wales at https://naturalresources.wales/evidence-and-data/research-and-reports/water-reports/river-basin-management-plans-published/?lang=en.

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available from the Flood Forecasting Centre[24]. Locations of public water supplies may be available from water companies in England and Wales (information on which company supplies a particular area is available from the industry regulator Ofwat[25]), Northern Ireland Water or Scottish Water.

For steep slope management, the British Geological Survey holds data on landslides/slope instability; similar information may be available from the Geological Survey of Northern Ireland. Assessments of specific risks to infrastructure may be available from water suppliers (see above), highways authorities (Highways England, DfI Roads (in Northern Ireland), Transport Scotland, South Wales Trunk Road Agent or North and Mid Wales Trunk Road Agent), local authorities, rail network operators (Network Rail or Northern Ireland Railways) or energy network operators (e.g. National Grid). Assessments of specific risks to dwellings or other buildings may be available from property owners, insurance companies or local authorities.

Description of interested and affected stakeholders

For watershed management, affected stakeholders include water suppliers (see above) and directly affected parties such as home or business owners. The statutory environment protection bodies and local authorities are interested stakeholders, but may also be directly affected if, for example, changes to water flows or siltation impact on any flood defences they manage.

For steep slope management, affected and interested stakeholders include water suppliers, highways authorities, local authorities, rail network operators, energy network operators and directly affected parties such as home or business owners.

Description of culturally appropriate engagement for identifying HCV 4

Engagement with organisations such as statutory authorities, network operators or suppliers should be through the formal channels of the organisation.

Direct engagement with home or business owners is unlikely to be feasible where, for example, there are many downstream stakeholders potentially affected by changes in water flow; in these cases, public notices or meetings are likely to be the most appropriate forms of engagement. Direct engagement is only likely to be feasible where a relatively small number of stakeholders are affected, for example where landslides threaten only a small number of properties or their infrastructure; in these cases, depending on the nature of existing

[24] http://www.ffc-environment-agency.metoffice.gov.uk/
[25] https://www.ofwat.gov.uk/households/your-water-company/

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relationships with stakeholders, targeted letters or visits to properties may be the most appropriate forms of engagement.

Examples of HCV 4 critical ecosystem services in the UK

An example of an area where the protection of water catchments is of critical importance is the reservoirs area in the Brecon Beacons National Park, in South Wales. Here major public water supplies such as the Pontsticill and Talybont reservoirs are surrounded by heavily forested catchments where the underlying geology means that forest management operations such as felling, tracking or roading may result not only in changes in water quantity but also in significant siltation. Changes in the volume of available water or in the costs of treatment may affect hundreds of thousands of downstream stakeholders. In this situation, effective water catchment management must be at the forefront of any forestry decision making.

An example of an area where the control of erosion on steep slopes is of critical importance is the A82 corridor in the Scottish Highlands[26]. The A82 is a trunk road which, because the mountainous surroundings severely limit alternative routes, is vital not only to local communities but also to the hugely significant tourist industry in the region. If trees planted in the 1920s and 1930s on steep slopes above the road are not felled, windthrow may threaten the road and its traffic. However, felling operations may themselves threaten to destabilise slopes. In this situation, all forestry decision making must take into account both short- and long-term effects of operations and forest structure on slope stability in order to avoid immediate safety risks to road users as well as the community welfare and economic impacts of damage to the road.

Geographic areas where HCV 4 is likely to be present

Critically important water catchments may potentially occur anywhere, but are most likely to be found in the uplands.

Critically important sites for erosion control are most likely to occur in the uplands due to topography, but forests may have similar protective functions in very different locations, for example stabilising sand dunes.

[26] https://forestryandland.gov.scot/a82

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Maps of HCV 4 areas in the UK

Flood risk maps may be available:

- For England at https://flood-warning-information.service.gov.uk/long-term-flood-risk/map
- For Northern Ireland at https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding/flood-maps-ni
- For Scotland at http://www.sepa.org.uk/environment/water/flooding/flood-maps/
- For Wales at https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en

Landslide potential maps for England, Scotland and Wales may be available from the British Geological Survey at https://www.bgs.ac.uk/datasets/bgs-geosure-landslides/.

Threats to HCV 4 areas in the UK

Threats to water catchments or vulnerable soils or slopes may include sudden changes in forest cover, point or diffuse pollution, and any forest operations causing soil disturbance, such as ground preparation or the construction of tracks or roads.

Management

Management should be as per *UK Forestry Standard* (Forestry Commission, 2017) Forests and Soil and Forests and Water requirements and, as far as possible, guidelines. Additional guidance should be sought from the statutory environment protection bodies and/or the British Geological Survey/Geological Survey of Northern Ireland as appropriate.

For watershed management, River Basin Management Plans may give some high level indications of appropriate management, for example where new planting may be of greatest benefit.

For steep slope management, owners/managers should consider the results of studies by Forest Research, for example Stokes (2010). Where specific built infrastructure is at risk, owners/managers should consider adopting best practices developed by relevant bodies, for example highways authorities.

Monitoring

For watershed management, advice should be sought from statutory environment protection bodies and/or water companies on measures of the quality and quantity of water leaving the

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forest proportionate to the likely impacts of management. In some high risk cases, it may be appropriate to cooperate with monitoring carried out by these bodies and/or companies.

For steep slope management, advice should be sought from the British Geological Survey/Geological Survey of Northern Ireland on measures of slope stability proportionate to the likely impacts of management. In some high risk cases, it may be appropriate to cooperate with monitoring carried out by the geological surveys or by other relevant bodies, for example rail network operators.

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HCV 5 Community needs

Sites and resources fundamental for satisfying the basic necessities of *local communities** or *Indigenous Peoples** (for livelihoods, health, nutrition, water, etc.), identified through *engagement** with these communities or Indigenous Peoples.

Interpretation in the UK context

There are no recognised Indigenous Peoples in the UK. There are very few circumstances under which local communities are dependent on forests for their basic necessities, with the notable exception of private water supplies; in rural areas, some dwellings or farms may rely on water supplies located within forests, in the form of boreholes or wells, or water abstracted directly from water courses. Public water supplies are considered under HCV 4.

Identification

Description of Best Available Information in the UK for identifying HCV 5

Private water supplies may be identified using Ordnance Survey or Ordnance Survey of Northern Ireland maps, deeds or other legal agreements (although some long-standing arrangements may not have a formal legal basis), field survey (although much of the infrastructure may be underground and not easily seen), local knowledge or engagement with neighbours. Direct engagement may often be the only definitive means of establishing whether a neighbour has a water supply in a forest, although some neighbours may be reluctant to discuss their arrangements if they have no formal legal basis.

Description of interested and affected stakeholders

Any neighbouring landowner or tenant depending on a private water supply in a forest.

Description of culturally appropriate engagement for identifying HCV 5

Information on public water supplies may be solicited from neighbours by letter, public notice, public meeting, or by visiting them at their properties. Public methods may be more suitable for gathering information at a large scale as part of forest management planning, but some neighbours may be reluctant to volunteer information, especially in a public forum, if their arrangements have no formal legal basis. Direct contact may be more effective but is only feasible on a relatively small scale, and for large forest holdings may only be appropriate in advance of particular planned operations. The response to direct contact is likely to depend on the nature of existing relationships with neighbours.

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Examples of HCV 5 sites and resources fundamental for communities in the UK

Water supplies may vary greatly in their age and sophistication, from a brick-lined, stone-capped borehole with a ceramic pipe carrying water out of the forest, to an alkathene pipe with a simple filtered inlet laid directly in a watercourse. In all cases, the maintenance of the water supply will depend on the management of the area immediately around and upstream of the intake and of the area through which any pipe is laid.

Geographic areas where HCV 5 is likely to be present

Private water supplies may be present anywhere where there are dwellings, farms or business premises in or adjacent to forests, particularly, but not exclusively, in more remote rural locations without mains water.

Maps of HCV 5 areas in the UK

Some water supplies may be shown on Ordnance Survey or Ordnance Survey of Northern Ireland maps.

Threats to HCV 5 areas in the UK

The most obvious threats to water supplies are direct damage to pipes, tanks or inlets by machinery, infrastructure developments, windthrow or felled trees, and the pollution or siltation of water by nearby or upstream operations.

Management

Management should be as per *UK Forestry Standard* (Forestry Commission, 2017) Forests and Water requirements and, as far as possible, guidelines, especially the establishment of a buffer area with a minimum width of 50 m.

Monitoring

Formal monitoring of private water supplies in England and Wales is carried out by local authorities, supervised by the Drinking Water Inspectorate[27]. Monitoring in Scotland is also carried out by local authorities, supervised by the Drinking Water Quality Regulator for Scotland[28]. Monitoring in Northern Ireland is carried out by the Drinking Water Inspectorate[29].

[27] https://www.dwi.gov.uk/private-water-supplies/
[28] http://dwqr.scot/about-us/
[29] https://www.daera-ni.gov.uk/articles/duties-drinking-water-inspectorate-dwi

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In most cases it is unreasonable to expect owners/managers to monitor water supplies actively when there are no operations or events (e.g. large scale windthrow) likely to affect them. During these times, owners/managers should be receptive to any concerns raised by the users of water supplies or local authorities, and should carry out visual inspections only when it is convenient to do so during the course of other management activities. When operations or events are likely to affect water supplies, owners/managers should actively engage with users, carry out regular visual inspections, and, where there is a particularly high risk of impacts, consider cooperating with monitoring carried out by local authorities or drinking water regulators.

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HCV 6 Cultural values

Sites, resources, *habitats** and *landscapes** of global or national cultural, archaeological or historical significance, and/or of *critical** cultural, ecological, economic or religious/sacred importance for the traditional cultures of *local communities** or Indigenous Peoples, identified through *engagement** with these *local communities** or Indigenous Peoples.

Interpretation in the UK context

Sites or landscapes of global or national importance are designated as Scheduled Monuments, Listed Buildings, Conservation Areas, Areas of Outstanding Natural Beauty (in England, Northern Ireland and Wales), National Scenic Areas (in Scotland), National Parks (currently only in England, Scotland and Wales) or World Heritage Sites, including Cultural Landscapes. While these designations vary in their significance in a forest setting, they are all potentially important proxies for HCV 6.

There are also a number of non-statutory registers of sites or landscapes of national significance, such as Landscapes of Historic Interest, Parks and Gardens of Special Historic Interest and Historic Battlefields in Wales. While lacking the degree of legal protection afforded to statutory designations, these sites and features should also be considered in any assessment of HCV 6.

Tree Preservation Orders (TPOs) may be made by local planning authorities to protect specific trees, groups of trees or woodlands in the interests of amenity (Scottish legislation also makes explicit provision for protecting trees and woodlands on the basis of their cultural or historical value). On their own, TPOs may not indicate features of national significance or of critical importance to local communities, but they should at least be considered in any assessment of HCV 6. Regardless of their HCV status, TPOs do, of course, confer a degree of legal protection on the trees or woodlands they cover. The Woodland Trust is campaigning for a register of nationally important trees, which may or may not be protected by TPOs; should this campaign be successful, the register may be an important proxy for HCV 6.

As noted under HCV 5, there are no recognised Indigenous Peoples in the UK. Most features of critical cultural importance for local communities are likely to be covered by the various statutory and non-statutory designations. However, there may be some features of particular local significance, such as sites or trees associated with figures from history or folklore, which can only be identified through engagement with communities.

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Identification

Description of Best Available Information in the UK for identifying HCV 6

Information on designated sites or landscapes is available from the statutory historic environment services – Historic England, the Historic Environment Division of the Northern Ireland Department for Communities, Historic Environment Scotland and Cadw (Wales) – or, in the case of World Heritage Sites, from UNESCO. The statutory historic environment services may also hold non-statutory registers of sites or landscapes of national significance.

Information on Tree Preservation Orders is available from local planning authorities, often in map and/or database form.

As noted above, features of critical cultural importance for local communities which are not designated are only likely to be identified through engagement with those communities. However, a basic knowledge of oral or written local history and folklore may be of considerable assistance.

Owners/managers and workers should always be aware of the possibility of finding previously unknown, unrecorded or undesignated sites during work or surveys. For owners/managers in particular, a working knowledge of the Historic Environment section of the *UK Forestry Standard* (Forestry Commission, 2017) is essential. In case of any doubt advice should be sought from the relevant statutory historic environment service.

Description of interested and affected stakeholders

The statutory historic environment services are the principal stakeholders in designated or other nationally significant sites or landscapes. The UNESCO website[30] provides details of local contacts for specific World Heritage Sites, but in many cases it may be appropriate to contact the relevant statutory historic environment service in the first instance.

For features of critical cultural importance for local communities, the principal stakeholders will be the local people themselves, but other interested stakeholders may include local history groups or specialists in local history or folklore.

[30] http://whc.unesco.org/en/list/

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Description of culturally appropriate engagement for identifying HCV 6

For designated sites or landscapes, other nationally significant sites or landscapes and World Heritage Sites, engagement should be through the formal channels of the statutory historic environment services.

Information on features of critical cultural importance for local communities may be solicited from local people by letter, public notice, or public meeting. As features of cultural significance may potentially be relevant to people over a wide area, it is unlikely to be appropriate to engage directly with individual stakeholders except in the most sparsely populated areas or where an individual is known to be an authority on local history or folklore.

Examples of HCV 6 significant cultural values in the UK

Aconbury Camp is an Iron Age hillfort on wooded Aconbury Hill in Herefordshire, and has been designated a Scheduled Monument. Its record in the National Heritage List for England, maintained by Historic England, states that 'In view of the rarity of large univallate hillforts and their importance in understanding the organisation and regional structure of Iron Age society, all examples with surviving archaeological remains are believed to be of national importance. Despite afforestation and the insertion of tracks and fences, the hillfort known as Aconbury Camp survives comparatively well.' In such a situation, where a nationally important site forms an intimate part of a woodland, sensitive management is clearly required to ensure that the archaeological value of the site is not diminished.

World Heritage Sites in the UK are principally concerned with cultural, rather than natural, heritage, with notable exceptions including the 'Giant's Causeway and Causeway Coast' and the 'Dorset and East Devon Coast'. Some of the cultural heritage features they protect may be located in or near to woodlands, or woodlands may form part of the setting for features or part of cultural landscapes. For example, the buffer zone of the 'Frontiers of the Roman Empire' site encompasses areas of woodland around Hadrian's Wall in the north of England, while the 'Blaenavon Industrial Landscape' site encompasses areas of woodland in South Wales.

Many individual trees of national significance will be protected by Tree Preservation Orders, such as the Major Oak in Nottinghamshire. Sites or trees of critical local significance may not enjoy the same level of legal protection. Examples might include a locally famous lover's leap or trysting tree.

Geographic areas where HCV 6 is likely to be present

Globally or nationally significant or locally critically important sites, resources, habitats or landscapes may be found throughout UK.

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Maps of HCV 6 areas in the UK

Official maps of Scheduled Monuments and Listed Buildings are freely available online:

- For England at https://historicengland.org.uk/listing/the-list/
- For Northern Ireland at https://www.communities-ni.gov.uk/services/historic-environment-map-viewer
- For Scotland at http://pastmap.org.uk/ (also shows Conservation Areas)
- For Wales at https://coflein.gov.uk/en/map/

A map of Areas of Outstanding Natural Beauty in England, Northern Ireland and Wales is available at https://landscapesforlife.org.uk/about-aonbs/aonbs/overview, with links to websites for individual Areas for more detailed maps.

Maps of National Scenic Areas in Scotland are available at https://www.gov.scot/publications/national-scenic-areas-of-scotland-maps/. Alternatively, spatial data can downloaded at https://data.gov.uk/dataset/8d9d285a-985d-4524-90a0-3238bca9f8f8/national-scenic-areas.

A map of National Parks in England, Scotland and Wales is available at https://secure.nationalparks.uk/visiting/maps#, with links to websites for individual Parks for more detailed maps.

A map of World Heritage Site locations and detailed maps of individual sites are available from UNESCO at http://whc.unesco.org/en/list/. World Heritage Sites may also be shown on maps maintained by statutory historic environment services.

The availability of maps for Tree Preservation Orders varies greatly between local planning authorities. Freely available mapping for the Lake District National Park (http://www.lakedistrict.gov.uk/planning/tree_preservation/tpomap), for example, shows TPOs as well as Conservation Areas. For other areas, such as Newark and Sherwood District Council (http://www.newark-sherwooddc.gov.uk/trees/), TPOs may only be available to view in list form.

Threats to HCV 6 areas in the UK

Threats to HCV 6 depend very much on the nature of the feature. Trees of cultural or historic significance may be threatened by felling or unsympathetic management of surrounding stands which might increase windthrow risk or fail to address crowding, for example. Other common threats include inconsiderate agricultural/land management (browsing/poaching), vandalism and arson. Features on the ground are most likely to be affected by heavy

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machinery, through deliberate excavation for infrastructure, cultivation or drainage, or incidentally through compaction, erosion or vibration. Changes in hydrology, through drainage or tree planting, can affect the preservation of buried artefacts.

Management

Management of designated sites should conform to any plans agreed with the relevant statutory historic environment services. Management of World Heritage Sites should take account of guidance produced by UNESCO (e.g. Stolton *et al*., 2012; Wijesuriya *et al*., 2013).

Management of all other sites should be as per *UK Forestry Standard* (Forestry Commission, 2017) Forests and Historic Environment requirements and, as far as possible, guidelines. Sympathetic management of features of critical cultural importance for local communities should be agreed with the relevant communities.

Monitoring

Monitoring of designated sites including World Heritage Sites should be agreed with the relevant statutory historic environment services.

Monitoring of other sites should be discussed with local communities; in some cases, members of the community may be well placed to cooperate in monitoring.

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Sources

The following sources have been consulted in developing this Framework, though not all are referenced directly in the text. Many online sources were also consulted; particularly important online sources are identified in footnotes to the text.

Bainbridge, I., Brown, A., Burnett, N., Corbett, P., Cork, C., Ferris, R., Howe, M., Maddock, A., Mountford, E., and Pritchard, S. (Eds.) (2013). *Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection*. JNCC, Peterborough.

British Geological Survey (2012). *Landslides*. UK Geohazard Note. British Geological Survey, Nottingham.

Brown, E., Dudley, N., Lindhe, A., Muhtaman, D.R, Stewart, C., and Synnott, T. (Eds.) (2013). *Common Guidance for the Identification of High Conservation Values*. HCV Resource Network.

Brown, E., and Senior, M.J.M. (Eds.) (2014). *Common Guidance for the Management & Monitoring of High Conservation Values*. HCV Resource Network.

Forestry Commission (1994a). *The management of semi-natural woodlands: 1. Lowland acid beech and oak woods*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Forestry Commission (1994b). *The management of semi-natural woodlands: 2. Lowland beech-ash woods*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Forestry Commission (1994c). *The management of semi-natural woodlands: 3. Lowland mixed broadleaved woods*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Forestry Commission (1994d). *The management of semi-natural woodlands: 4. Upland mixed ashwoods*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Forestry Commission (1994e). *The management of semi-natural woodlands: 5. Upland oakwoods*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

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Forestry Commission (1994f). *The management of semi-natural woodlands: 6. Upland birchwoods*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Forestry Commission (1994g). *The management of semi-natural woodlands: 7. Native pinewoods*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Forestry Commission (1994h). *The management of semi-natural woodlands: 8. Wet woodlands*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Forestry Commission (2017). *The UK Forestry Standard*. Fourth edition. Forestry Commission, Edinburgh.

Forestry Commission England (2010). *Managing ancient and native woodland in England*. Forestry Commission England Practice Guide. Forestry Commission, Bristol.

Harmer, R., and Thompson, R. (2013). *Choosing stand management methods for restoring planted ancient woodland sites*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Stokes, V. (2010). *The impact of forests and forest management on slope stability: Can CCF management improve slope stability?* Forest Research, Edinburgh.

Stolton, S., Dudley, N., and Shadie, P. (Eds.) (2012). *Managing natural world heritage*. World Heritage Resource Manual. United Nations Educational, Scientific and Cultural Organization, Paris.

Thompson, R.N., Humphrey, J.W., Harmer, R., and Ferris, R. (2003). *Restoration of native woodland on ancient woodland sites*. Forestry Commission Practice Guide. Forestry Commission, Edinburgh.

Wijesuriya, G., Thompson, J., and Young, C. (Eds.) (2013). *Managing cultural world heritage*. World Heritage Resource Manual. United Nations Educational, Scientific and Cultural Organization, Paris.

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Glossary of terms

The following definitions are taken from FSC-STD-60-004 V2-0 EN *International Generic Indicators*. They are reproduced here for the convenience of readers, but updated definitions in FSC normative documents should always be taken as definitive.

Biological diversity: The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems (Source: Convention on Biological Diversity 1992, Article 2).

Conservation/Protection: These words are used interchangeably when referring to management activities designed to maintain the identified environmental or cultural values in existence long-term. Management activities may range from zero or minimal interventions to a specified range of appropriate interventions and activities designed to maintain, or compatible with maintaining, these identified values (Source: FSC-STD-01-001 V5-2).

Critical: The concept of criticality or fundamentality in [Principle] 9 and HCVs relates to irreplaceability and to cases where loss or major damage to this HCV would cause serious prejudice or suffering to affected stakeholders. An ecosystem service is considered to be critical (HCV 4) where a disruption of that service is likely to cause, or poses a threat of, severe negative impacts on the welfare, health or survival of local communities, on the environment, on HCVs, or on the functioning of significant infrastructure (roads, dams, buildings etc.). The notion of criticality here refers to the importance and risk for natural resources and environmental and socio-economic values (Source: FSC-STD-01-001 V5-2).

Ecosystem: A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit (Source: Convention on Biological Diversity 1992, Article 2).

Ecosystem services: The benefits people obtain from ecosystems. These include:

- provisioning services such as food, forest products and water;
- regulating services such as regulation of floods, drought, land degradation, air quality, climate and disease;
- supporting services such as soil formation and nutrient cycling; and
- cultural services and cultural values such as recreational, spiritual, religious and other non-material benefits.

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(Source: Based on R. Hassan, R. Scholes and N. Ash. 2005. Ecosystems and Human Well-being: Synthesis. The Millennium Ecosystem Assessment Series. Island Press, Washington DC).

Engaging / engagement: The process by which The Organization communicates, consults and/or provides for the participation of interested and/or affected stakeholders ensuring that their concerns, desires, expectations, needs, rights and opportunities are considered in the establishment, implementation and updating of the *management plan** (Source: FSC-STD-01-001 V5-2).

Habitat: The place or type of site where an organism or population occurs (Source: Based on the Convention on Biological Diversity, Article 2).

Indigenous Peoples: People and groups of people that can be identified or characterized as follows:

- The key characteristic or Criterion is self-identification as Indigenous Peoples at the individual level and acceptance by the community as their member;
- Historical continuity with pre-colonial and/or pre-settler societies;
- Strong link to territories and surrounding natural resources;
- Distinct social, economic or political systems;
- Distinct language, culture and beliefs;
- Form non-dominant groups of society;
- Resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities.

(Source: Adapted from United Nations Permanent Forum on Indigenous, Factsheet 'Who are Indigenous Peoples' October 2007; United Nations Development Group, 'Guidelines on Indigenous Peoples' Issues' United Nations 2009, United Nations Declaration on the Rights of Indigenous Peoples, 13 September 2007).

Intact Forest Landscape: A territory within today's global extent of forest cover which contains forest and non-forest ecosystems minimally influenced by human economic activity, with an area of at least 500 km² (50,000 ha) and a minimal width of 10 km (measured as the diameter of a circle that is entirely inscribed within the boundaries of the territory) (Source: Intact Forests / Global Forest Watch. Glossary definition as provided on Intact Forest website. 2006-2014).

Landscape: A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given

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area (Source: Based on World Conservation Union (IUCN). Glossary definitions as provided on IUCN website).

Local communities: Communities of any size that are in or adjacent to the Management Unit, and also those that are close enough to have a significant impact on the economy or the environmental values of the Management Unit or to have their economies, rights or environments significantly affected by the management activities or the biophysical aspects of the Management Unit (Source: FSC-STD-01- 001 V5-2).

Protection: See definition of Conservation.

Rare species: Species that are uncommon or scarce, but not classified as threatened. These species are located in geographically restricted areas or specific habitats, or are scantily scattered on a large scale. They are approximately equivalent to the IUCN (2001) category of Near Threatened (NT), including species that are close to qualifying for, or are likely to qualify for, a threatened category in the near future. They are also approximately equivalent to imperiled species (Source: Based on IUCN. (2001). IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission. IUCN. Gland, Switzerland and Cambridge, UK).

Refugia: An isolated area where extensive changes, typically due to changing climate or by disturbances such as those caused by humans, have not occurred and where plants and animals typical of a region may survive (Source: Glen Canyon Dam, Adaptive Management Program Glossary as provided on website of Glen Canyon Dam website).

Significant: For the purposes of Principle 9, HCVs 1, 2 and 6 there are three main forms of recognizing significance.

- A designation, classification or recognized conservation status, assigned by an international agency such as IUCN or Birdlife International;
- A designation by national or regional authorities, or by a responsible national conservation organization, on the basis of its concentration of biodiversity;
- A voluntary recognition by the manager, owner or Organization, on the basis of available information, or of the known or suspected presence of a significant biodiversity concentration, even when not officially designated by other agencies.

Any one of these forms will justify designation as HCVs 1, 2 and 6. Many regions of the world have received recognition for their biodiversity importance, measured in many different ways. Existing maps and classifications of priority areas for biodiversity conservation play an essential role in identifying the potential presence of HCVs 1, 2 and 6 (Source: FSC-STD-01-001 V5-2).

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Threatened species: Species that meet the IUCN (2001) criteria for Vulnerable (VU), Endangered (EN) or Critically Endangered (CR), and are facing a high, very high or extremely high risk of extinction in the wild. These categories may be re-interpreted for FSC purposes according to official national classifications (which have *legal** significance) and to local conditions and population densities (which should affect decisions about appropriate conservation measures) (Source: Based on IUCN. (2001). IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission. IUCN. Gland, Switzerland and Cambridge, UK.).

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