Woodland Creation - Evidencing Delivery of SMNR

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Introduction

This guidance aims to set out and document evidence that Sustainable Management of Natural Resources (SMNR) objective and principles have been considered in the context of NRW's functions relating to land use change to new woodland creation. In meeting SMNR, NRW will have also met their Section 6 duty in relation to new woodland creation.

This guidance will sit below the overarching SMNR statutory guidance already issued to NRW 'Environment (Wales) Act 2016 Part 1 - Sustainable Management of Natural Resources (SMNR), Guidance for Natural Resources Wales' which sets out NRW's duties in the pursuance of SMNR in relation to its wider remit. This guidance will address sections 3, 4 and 5 of the decision flow chart in the above statutory guidance, in relation to those functions which deal with woodland creation.

Meeting the SMNR objective and principles should be undertaken *within* the delivery and exercise of NRW's functions, not in addition to them or prevent their delivery. In discharging their functions under the Forestry Act 1967, NRW must endeavour to achieve a "reasonable balance" between woodland creation, management and timber production, and the conservation of flora, fauna and geological features of special interest. This fits with the objective and principles of SMNR.

Natural Resources Wales (NRW) have an integral role in the process of woodland creation as set out at Annex 1. This guidance is relevant to **all** NRW staff involved in new woodland creation. It provides an SMNR decision framework (Annex 3) to guide, record and evidence the decision making process in relation to SMNR. This should be completed for all new woodland creation proposals by the NRW Woodland Programme Team in relation to grant-supported woodland creation proposals AND by the NRW Permitting (forestry) team in relation to un-funded EIA applications for opinion or consent. This will ensure that *most* new woodland creation proposals will undergo an assessment against SMNR. Input from other NRW staff in the woodland creation process should also meet SMNR principles and objectives in line with this guidance.

The SMNR decision framework sets out how the UK Forestry Standard (UKFS) supports and delivers against the objective and principles of SMNR, hence proposals must meet the UKFS as a minimum.

The SMNR decision framework and the principles behind it can be incorporated into NRW processes to enable a streamlined approach to new woodland creation assessment. However the end result **must** be a justified record of decision making in line with SMNR that is robust to challenge.

The information recorded should be proportional to the scale and complexity of the proposal, and **not all SMNR principles will be relevant**. It should also be noted that **ALL the principles of SMNR are EQUAL and complementary**. **Ultimately the aim is to demonstrate whether the proposal meets the objective of SMNR and the decision process behind this** –applying the SMNR principles will help achieve this.

The guidance also provides clarification on the application of SMNR to a number of areas highlighted while undertaking this work. These are set out at Annex 4. This

section is more relevant to pre-application advice provided by NRW to Registered Planners/applicants.

In addition to implementing this guidance, NRW should reference an independent review panel of senior NRW managers to adjudicate complex or politically sensitive cases or where conflicting evidence is difficult to resolve in order to support staff and ensure a consistent approach in Wales.

While the requirement to pursue SMNR **only applies to NRW**, this guidance should be made available to wider stakeholders involved in the woodland creation process (Annex 2), to inform them of the approach NRW will take in applying SMNR to woodland creation proposals. This will enable Registered Planners/applicants to take SMNR into account when developing new woodland creation proposals, and ensure that compliance with the UKFS is clearly demonstrated.

Policy Context

This guidance supports the delivery of the policy commitments set out in:-

- Natural Resources Policy for Wales
- Woodlands for Wales Welsh Government's Strategy and Action plan for Woodlands and Trees
- Prosperity for All: A Low Carbon Wales, and Climate Conscious Wales
- Clean Air Plan Wales
- Welsh Governments response to Part 2 of the Environment (Wales) Act
- Nature Recovery Action Plan for Wales

These recognise the contribution forests and woodland can make to the sustainable management of natural resources in Wales and the well-being of its people.

Woodland creation forms a significant part of the Welsh response to the Climate Emergency announced in April 2019. New woodlands can help other land uses adapt to climate change through integration while capturing carbon and delivering other ecosystem benefits. The escalating nature crisis makes it important to ensure that we plant the right tree in the right place to enhance our environment and economy and contribute to health and wellbeing. This guidance sets out a framework to ensure decisions on land use change for woodland creation take into account the objective and principles of SMNR in order to achieve this.

Objectives of this guidance

The objectives of this guidance are to:-

- Provide clarity to the woodland creation process for all those involved, to remove uncertainty, increase consistency, manage expectations and provide a record of how SMNR has been applied to the decision process.
- Provide guidance on how to record and evidence the application of the SMNR objective and principles (as laid out in the Environment Act) when considering woodland creation projects in relation to grant schemes, EIA and other regulatory decisions.
- Act as a point of reference in the event of a challenge or appeal against NRW's decision.
- Demonstrate how the UK Forestry Standard can help support and deliver against SMNR.

NB. This guidance does not aim to provide a definitive matrix or set of instructions but provides a clear objective and framework of defined principles to be used to guide and evidence decisions for individual proposals. Each proposal will be different depending on context and it will be for NRW to interpret and justify its decisions around this guidance based on its expertise.

Sustainable Management of Natural Resources (SMNR)

This section sets out NRW's obligations under the Environment (Wales) Act in relation to the objectives and principles of SMNR, and how these relate to the UKFS.

The **general purpose** of Natural Resources Wales (NRW) as set out in sect 5 of the Environment (Wales) Act 2016 is:-

The Body must:

- (a) Pursue sustainable management of natural resources in relation to Wales, And
- (b) Apply the principles of sustainable management of natural resources, in the exercise of its functions, so far as consistent with their proper exercise.

The **objective** of SMNR is to:

Maintain and enhance the resilience of ecosystems and the benefits (ecosystem services) they provide, and in doing so meet the needs of present generations of people without compromising the ability of future generations to meet their needs,

and contribute to the achievement of the well-being goals in Section 4 of the Well-being of Future Generations (Wales) Act 2015.

The **Principles** of SMNR define how NRW should work to achieve the objective of SMNR and reflect the specific actions that need to be undertaken in relation to maintaining and enhancing ecosystem resilience through the ecosystem approach. This helps to increase the ecosystem services provided by a new woodland, which should be considered wherever possible. **Not all SMNR principles will be relevant** or have a significant bearing on every proposal. **It should also be noted that ALL the principles of SMNR are EQUAL and complementary** - there is no emphasis on one principle over another. Registered Planners should be aware of the principles of SMNR and consider these in developing their proposals.

Section 6 of the Environment (Wales) Act also introduced a stronger biodiversity and ecosystem resilience duty also relevant to NRW. This states:A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in doing so promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.
In meeting the objective of SMNR, NRW will be delivering on its *general* Section 6 duty in relation to woodland creation proposals; the separate *reporting* duty under section 6 (6) requiring the preparation and publishing a report on how NRW will comply with Section 6 is not covered by this guidance.

Section 7 of the Act replaces Section 42 of the NERC Act, placing a duty on Welsh Ministers to publish, review and revise lists of species and habitats considered to be of key significance to sustain and improve biodiversity in Wales. Also to take all reasonable steps to maintain and enhance species/habitats on those lists and encourage others to do so. These Section 7 habitats and species are often referred to as Priority habitats and species and are important in assessing whether SMNR has been met.

The UK Forestry Standard (UKFS) is the Governments' reference standard for sustainable forest management in the UK and includes requirements and guidelines in relation to new woodland creation. Areas covered include biodiversity, people, soils, water, climate change, landscape and historical considerations. Version four of the Standard was published in 2017 and it is presently being updated, once again in formal consultation with multiple sector stakeholders, including for example the RSPB. It continues to be widely accepted by the forest industry. Compliance in Wales is embedded through grant support schemes and forestry regulations such as felling licences and the Environmental Impact Assessment process.

The requirement to pursue SMNR only applies to NRW. The UKFS supports and delivers against the objective and principles of SMNR as set out in the SMNR Decision Framework. While all Registered Planners/ agents must ensure that new woodland creation proposals comply with UKFS as a minimum, this does not automatically mean they meet SMNR. The Legal and Good Forestry Practice requirements of UKFS use mandatory terms for compliance, however the UKFS Guidelines use a range of imperative terms appropriate to context and relevance, in some cases appearing less obligatory as a result. NRW's purpose means that they must apply SMNR when assessing UKFS-compliant new woodland proposals to

demonstrate/evidence that the objective of SMNR has been met. Therefore it would be prudent for Registered Planners/applicants to take SMNR into account when developing new woodland creation proposals, and ensure that compliance with the UKFS is clearly demonstrated.

Annex 3 sets out an SMNR decision framework for recording how each new woodland creation proposal meets the objective of SMNR and the decision process behind it. The SMNR Decision Framework should be completed for **each** proposal by the NRW Woodland Programme Team in relation to grant-supported woodland creation proposals AND by the NRW Permitting (forestry) team in relation to unfunded EIA applications for opinion or consent. The SMNR decision framework and the principles behind it can be incorporated into NRW processes to enable a streamlined approach to new woodland creation assessment. However the end result **must** be a justified record of decision making in line with SMNR that is robust to challenge.

Completion of this SMNR decision framework will demonstrate how the new woodland creation proposal has developed through the principles of SMNR to become the best fit "solution" as outlined in sections 3, 4 and 5 in the Decision Flow Chart of the overarching statutory guidance already issued to NRW 'Environment (Wales) Act 2016 Part 1 - Sustainable Management of Natural Resources (SMNR), Guidance for Natural Resources Wales'.

In considering woodland creation proposals, there are likely to be multiple, often competing constraints, opportunities and objectives. In line with the Well-being of Future Generations and Environment (Wales) Acts, there is a need to gain positive outcomes for as many of these competing factors as possible within NRW's function as regulator/assessor of woodland creation proposals. Considering and recording evidence through the application of SMNR principles will ensure decisions are informed and justified. Ultimately the aim is to demonstrate whether the proposal meets the objective of SMNR and the decision process behind this –applying the SMNR principles will help achieve this.

While the pursuit of SMNR objectives is not a requirement of Registered Planners/applicants, they should be aware of NRW's approach to applying SMNR and consider these in developing their proposals.

Areas of Clarification – Pre-application considerations

This exercise has highlighted a number of areas of inconsistencies in the application of SMNR when assessing woodland creation projects. This section is relevant to preapplication guidance to applicants as well as the SMNR Decision Framework at Annex 3. This section provides clarification on the application of SMNR to these areas.

a) Woodland Opportunity Map

The Welsh Government does **not** intend the Woodland Opportunities Map (WOM) to be a definitive prescription for the appropriateness of new planting. The map aims to encourage tree planting in Wales through the provision of a decision support tool to inform the development and design of new woodland creation proposals. The map provides a spatial record of sensitivities across Wales, flagging these to Registered Planners as a **starting point** for further evidence gathering and engagement with relevant bodies. Registered Planners/Agents are also able to approach NRW woodland programme or permitting services teams for additional information. This should be undertaken **well before** applying for an EIA opinion or submitting a grant application. The WOM also provides data layers on ecosystem services indicating areas where new woodland creation would be more beneficial. Welsh Government intends that the WOM should complement and, in time, be combined with the context of Area Statements.

b) Habitat and areas of contention

Section 7 priority habitats and species as required under the Environment (Wales) Act are an important element of SMNR and the accompanying Section 6 duty. Taking all reasonable steps to maintain and enhance the Section 7 species and habitats includes avoidance of damage, minimisation of unavoidable harm, mitigation to maintain and enhance, and compensatory measures where necessary¹. Evidence should be summarised as set out in Annex 3 to demonstrate the decision making process has been robust as the process will be open to challenge.

The following guides on habitat and sensitivities to be considered as part of new woodland creation proposals are already available:-

<u>GN002 – Glastir Woodland Creation Planners Guide</u> GN009 – Providing additional evidence on priority habitats and deep peat

These guides are applicable in non-funded woodland creation proposals that require EIA consent, as well as those that fall **under** the EIA thresholds, in order to create a sustainable and UKFS compliant woodland.

In addition to these guides, Annex 4 lists borderline habitat categories and areas of contention that have been identified as potential sites for woodland creation provided they meet certain considerations. Registered Planners/ applicants planning to include these habitat categories in planting proposals must discuss their proposals with NRW Woodland Programme team or NRW Permitting Services (forestry) team (EIA cases) in the first instance, well before submitting an application, in order to confirm appropriateness. This should be accompanied by photographic evidence of the site and wider land context, so that where necessary, NRW Woodland Programme team/ NRW Permitting Services (forestry) officers can discuss the site with the relevant NRW Specialist Advisors on habitats, who can advise whether a survey or site visit would be appropriate.

While the bulk of this guidance is on a habitat basis, *Section 7 species and European Protected Species (EPS)* are also relevant to delivery of NRW's Section 6 duty. The presence of Section 7 species or species with statutory protection can also

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¹ Adapted from Vital Nature, NRW's strategic steer for biodiversity to 2022

determine whether a site is important for biodiversity or whether a site can be considered for woodland planting (see Annex 4) and should be considered. Proposals should also ensure that species protection legislation is not breached.

c) Stakeholders

Two principles of SMNR relate specifically to stakeholders:-

- Promote and engage in collaboration and engagement
- Public participation in decision making

Both are reflected in the requirements of the UKFS. The extent to which this is undertaken should be **proportionate to the complexity and scale of the project**. It is for NRW to satisfy itself that a reasonable and proportionate approach has been taken which will vary hugely from a remote rural site to a densely populated urban setting.

Collaboration and Engagement

The WOM flags sensitivities as a starting point for the engagement and collaboration with relevant statutory and non-statutory stakeholders. Advice gained from statutory stakeholders must be reflected in the design of proposals. Advice from non-statutory stakeholders should also be considered. Only where issues cannot be resolved should advice from non-statutory consultees be discounted, and the Registered Planner/ applicant should provide strong justification for doing so. Registered Planners/applicants are encouraged to discuss these issues with the NRW Woodland Programme team or Permitting Services (forestry) team (EIA cases) during the development phase of the planting proposal. Internal collaboration and engagement with specialist NRW colleagues should also be accounted for and reflected in the SMNR Decision Framework at Annex 3. Specialist NRW colleagues should provide advice in line with the principles of SMNR.

Public Participation

There is no legal requirement to proactively invite and facilitate public participation. However as a matter of policy this will be an important step in the development of proposals, as planting proposals are not currently placed on the NRW Public Register as there is no statutory requirement for this. Public participation provides an opportunity for the public to raise concerns or show support and for registered planners/applicants to address potential areas of conflict at the development phase of designing proposals. Reaching a decision on a planting proposal involves the consideration of a range of aspects relevant to the planting proposal. **Issues raised by members of the public form a** *part* **of those considerations and their relevance and importance has to be balanced against other aspects.** The extent of public engagement should be in proportion to the nature and scale of the planting proposal, but as a minimum, close neighbours and those whose land adjoins the new woodland creation proposal should be engaged.

d) Unplanted land - landowner's intentions

A landowners' statement or indication of future management should not affect the decision to plant an area, as objectives and ownership can change. Decisions should

be based and evidenced through the SMNR objective. Equally it may not be practical for areas left unplanted for habitat or open space to be grazed due to poor access, remoteness or lack of a water supply. While management of habitat is to be encouraged, there is no legal requirement to continue to manage these areas as previously.

Annex 1 - NRW roles and responsibilities in relation to forests, woodlands and trees

Role	Responsibilities
	NRW manage the Welsh Government Woodland Estate (WGWE) as well as National Nature Reserves which include some of the finest native woodlands in Wales with very high cultural and biodiversity value.
Land manager	The WGWE accounts for approximately 40% of the Welsh Forest Resource, supplying almost 60% of Welsh timber certified to FSC/PEFC.
	The WGWE is dedicated Open Access Land, providing opportunities across Wales for access under the Countryside and Rights of Way (CRoW) Act (2000), often close to where people live and work.
	In addition, NRW provide and manage a range of recreational events, facilities and trails including visitor centres, walking, riding, cycling, running and mountain biking routes. These opportunities attract over 4 million visits annually, providing opportunity for increased physical activity, for learning in and about the environment and for downstream economic benefit to communities.
Regulator	NRW are responsible for the control of felling and replanting of woodland, new woodland creation, deforestation, forest tracks and quarries, and tree health in forest situations through the granting of permits and licences, the assessment of compliance, the investigation of potential offences and taking enforcement action.
	NRW are the statutory conservation body for designated sites: SSSI to comply with Countryside and Rights of Ways Act (1981) and CRoW Act; SAC and SPA under EU Habitats and Species Directives. These sites safeguard some of our native woodland.
	NRW also administer the Ancient Woodland Inventory.
	NRW are a regulator under the Habitats Regulations (2010) where forestry/woodland activities may affect European Protected Species.
Advisor /	NRW provide statutory and non-statutory advice and guidance across the NRW organisational remit, to Welsh Government, industry and the wider public and voluntary sector. This includes development planning advice, conservation advice for protected sites, forest management and regulatory advice and guidance.
consultation body	NRW are a consultation body for their own and other programmes, plans and projects in respect of environmental assessments.
	NRW also advise on management of species that may be damaging woodlands such as deer and grey squirrels.
	NRW verifies Glastir Woodlands schemes in compliance with the UK Forestry Standard on behalf of Welsh Government.

Role	Responsibilities
Evidence gatherer	NRW monitor our environment, commissioning and undertaking research, developing our knowledge, and being a public records body, including in relation to forestry and woodland management.
	NRW manage third party activity on the WGWE (on which they may then provide statutory advice to other authorities and be required to consider applications for permits against regulatory regimes where they have responsibility).
Partner / Educator /	Through the Mynediad (formerly Woodlands and You) framework NRW encourage individuals, groups and other organisations to use the WGWE for activities, projects, events and learning.
Enabler	NRW aim to be a catalyst for others' work, helping them to also contribute to well-being goals. For example, offering advice, guidance, training and resources on woodland based learning, working with Forest School Practitioners and facilitating the Outdoor Learning Training Network which ensures the standards and quality of training for practitioners in partnership with Agored Cymru.

Annex 2 - Organisational Roles - Glastir woodland creation scheme example

Organisation	Team	Involvement
Natural Resources Wales	Woodland Programme (Partner, Enabler)	Verify Glastir Woodlands schemes (since 2015) to comply with the UKFS; includes site assessment, confirmation that sensitivities have been correctly identified and reflected in proposal design, evidence gathered and taken into account in the application; records decision making process in line with SMNR principles
	Forest policy (Advisor)	Forest policy leads within NRW – work with WG to provide woodland creation guidance to align with SMNR principles and to comply with UKFS.
	Forest Regulations and Permitting (Regulator)	Over the EIA afforestation threshold, FR officers carry out site assessment and provide technical advice on an EIA opinion taking into account SMNR principles; The permitting team issue an EIA opinion on behalf of NRW and include FR advice
	NRW consultees - Habitat and species specialists; designated sites officers (Consultation body)	Provide consultation response on S7 priority habitats, species and within (or within buffer) of designated sites in line with SMNR principles
Welsh Government	Forest Resources Policy team (Land, Nature and Forestry)	Set out woodland creation policies and guidance to deliver woodland creation outcomes. Supports the Woodland Opportunities mapping system Oversee Glastir scheme policy and design
	Glastir Woodlands Operations Team (Rural Payments Wales)	GWC Scheme implementation, including EOI selection, issuing of contracts, payments
	Rural Inspectorate Wales (Rural Payments Wales)	Inspect schemes for compliance with regulations, cross-compliance and scheme rules through on-the-spot checks

Organisation	Team	Involvement
Applicant/ Registered Planner ²		Registered planner or agent applies on behalf of landowner, including consultation/evidence gathering in relation to site sensitivities and to support the application. Woodland creation Plan should meet landowner's objectives, UKFS and regulatory requirements, take account of sensitivities and where applicable, support scheme requirements.
Consultees CADW, WATs, RSPB, Local Authorities, Butterfly Conservation Trust, National Parks, AONB		Provide consultation on sensitivities which are shown on the Woodland Opportunity map. All consultees should consider their responses in terms of SMNR principles.
Communities		Community councils are consulted on GWC schemes over the EIA threshold. Community consultation is recommended for larger GWC schemes close to communities
Individual stakeholders e.g. neighbours		The level of stakeholder engagement depends on proximity to a woodland creation proposal and the level of interest a stakeholder has in the site. The extent of public engagement should be in proportion to the nature and scale of the planting proposal.

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² Woodland Management Planners - the term has changed to Registered Planners (Registered woodland planners). Applicants to the GWC are required to engage a Registered Planner to develop a woodland creation plan for submission to WG.

Annex 3 – SMNR Decision Framework for woodland creation proposals

The SMNR Decision Framework below sets out detailed guidance on how to consider and record evidence of the SMNR principles and demonstrate how the proposal meets the objective of SMNR and the decision process behind it. This will also demonstrate how NRW has met its s.6 Duty by considering these issues. The SMNR Decision Framework sets out *examples* of how evidence should be captured for each planting proposal as part of the decision making process; in practice, actual evidence should be summarised in this column. The Framework also demonstrates how the UKFS supports and delivers the principles of SMNR, although it is acknowledged that there are other examples within the UKFS in addition to those stated below. Ultimately the aim is to demonstrate whether the proposal meets the objective of SMNR and the decision process behind this – applying the SMNR principles will help achieve this.

The SMNR Decision Framework should be completed for **each** proposal by the NRW Woodland Programme Team in relation to grant-supported woodland creation proposals AND by the NRW Permitting (forestry) team in relation to un-funded EIA applications for opinion or consent.

The information recorded should be **proportional to the scale and complexity of the proposal**. **Not all SMNR principles will be relevant** or have a significant bearing on every proposal. Where this is the case, this should be noted has having been considered but not pursed owing to lack of relevance. It should also be noted that **ALL the principles of SMNR are EQUAL and complementary** – there is no emphasis of one principle over another.

The level of detail in supplementary information or evidence provided as part of a woodland creation proposal **should reflect the** size, complexity and sensitivity of the planting proposal.

		Name and Reference of Planting Proposal:-
Objective of SMNR -	maintain and enhance the r	esilience of ecosystems and the benefits they provide, meeting needs
•		eet future needs, and contributing to the well-being goals.

The aim is to achieve this objective, through applying and evidencing the principles of SMNR. These should be summarised at the end of this SMNR decision framework and assessed in relation to the Objective of SMNR.

A resilient ecosystem is able to absorb disturbance and deliver longer term benefits to meet current /future social, economic and environmental needs. Woodland creation which contributes to improving the diversity, connectivity, scale or the condition of ecosystems will help to achieve this objective. Poorly designed or located woodland proposals can damage ecosystems. Typical ecosystem services delivered by woodlands are outlined at Annex 5.

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
(a) Manage adaptively, by planning, monitoring, reviewing and, where appropriate, changing action; This provides for an adaptive approach to decision-making. This involves generating new knowledge and seeking to reduce uncertainties, thereby allowing a	At the strategy level, monitor woodland creation in the context of habitat change and wider ecosystem resilience and benefit delivery At the woodland project level, a woodland creation plan will be the basis for decisions by WG and NRW. Provide evidence that a woodland creation plan complies with UKFS to demonstrate a sustainable and well-designed scheme, including monitoring, review and adaptation.	Species choice reflects objectives, are suited to the site and include diversity to increase resilience to future climate changes.	Forest Planning – Requirements 16-17 and pages 29-30 "Forests should be planned and managed to enhance their resilience and mitigate the risks posed to their sustainability by the effects of climate change or attack by pests or diseases. Management of the forest should conform to the plan, and the plan should

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
decision-maker to anticipate and cater for change.			be updated to ensure it is current and relevant." Forests and Climate Change UK Forest Guidelines 22-24
(b) Consider the appropriate spatial scale for action; This includes considering the appropriate local, regional or national spatial level to address issue(s).	The plan for the project should consider the needs of the ecosystem and habitats beyond the boundary of legal ownership to ensure that the whole ecosystem is considered. Applicants should provide woodland creation design map to demonstrate how the schemes fits in with the existing landscape and contributes to resilient ecological networks and delivery of ecosystem services. This should include justification of scale, relationship to existing landscape and habitat features outside the proposal area, as well as infrastructure and points of interest within the proposal.	A forest design map has been provided which indicates location of external SSSI. The nature and location of the proposal relative to this designation indicates that there will be no impact on the designation. The design of the proposal compliments the landform and is in scale with other landscape characteristics.	General Forest Practice Requirement 14 - "Forests and woodlands should be designed to achieve a diverse structure of habitat, and species and ages of trees, appropriate to the scale, context and ecological potential of the site". Forests and Biodiversity – Requirement 3 – "The implications of woodland creation and management for biodiversity in the wider environment should be considered, including the roles of forest habitats

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
			and open habitats in ecological connectivity." General Forest Practice Req. 11 and 18 p.25/26 – landscape Forests and Landscape – p. 102-127
(c)promote and engage in collaboration and co-operation;	This should be proportional to the complexity and scale of the proposal. The Woodland Opportunities Map (WOM) outlines sensitivities and benefits to be considered in developing planting proposals, based on stakeholder input. It provides a basis for engagement and collaboration. Registered Planners/applicants should also consider sensitivities outside the WOM e.g. wayleaves, watercourses, public rights of way. Applicants should provide evidence of engaging relevant bodies on sensitivities within or adjacent to a woodland creation proposal	Applicant and forestry planner engaged with the RSPB and part of the proposal is not planted because of present siting of nesting birds (curlew)	General Forest Practice – Requirement 13 - "Consultation on significant or sensitive proposals should be carried out with interested parties as forest management plans are developed." Consultation is also frequent throughout UKFS doc in a variety of issues e.g. biodiversity, water, and public participation.

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
	(see NRW's Glastir Woodland Creation Planners Guide – GN002) The application should demonstrate how engagement and consultation has been considered within the proposal plan. If applicable, collaboration with other landowners for landscape scale proposals should also be assessed and recorded here. NB - Collaboration and agreement between the appropriate professionals within NRW should also be recorded e.g. with specialist advisors on habitats or RIGS.		
(d)make appropriate arrangements for public participation in decision-making;	Stakeholder and community engagement is required for most woodland creation schemes Public/ neighbour participation and engagement should be evidenced where relevant, and reflected in amendments to the plan. GN002 also lists relevant sensitivities and contacts that may be of interest to the public. Urban tree planting – evidence of much more participatory work with local communities will be required.	An applicant/ agent organised a community engagement event re a 70Ha woodland proposal 2 miles from the community. Maps/ photos were provided and information on issues raised by the community e.g.	Forests and People Good Forest Practice Requirement 7 "Consideration should be given to involving people in the development of forestry proposals who have a recognisable interest in the proposal of its outcomes"

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
		viewpoints, permissive rights of way, timber wagons, retention of habitats. Evidence of this event and other responses received have been provided and the design of the proposal indicates concerns have been addressed, with justification provided for concerns outstanding.	Guidelines 1-4
(e)take account of all relevant evidence and gather evidence in respect of uncertainties	This section links to Paras (c) and (d) above and includes any other evidence and info gained e.g. from site visits. The application should demonstrate how evidence and information has been used to reach a decision and justification provided where evidence has been rejected.	Evidence provided by the applicant is listed at C and D above. The proposal has incorporated this evidence into the design in order to	UKFS General Forest Practice Legal 6 "The impacts of forestry on the environment must be taken into account in the submission of forestry proposals."

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
	This section enables NRW to record their own verification and justification of evidence gained if not already recorded in paras above, and includes any data/ internal advice gained from colleagues. "Evidence" is not solely a reference to scientific evidence and would include local knowledge as well as empirical data and scientific evidence. Clear justification is required where evidence has been considered but discounted. At a site level, NRW should ground truth proposals to ensure that the evidence underpinning the location and design of the proposal are borne out in the field. Notes from such site visits should be dated and recorded, along with staff details. Details of any surveys undertaken as evidence, and action taken should be recorded/referenced to where they are stored in the verification/assessment process.	remove contentious issues. Applicant/agent commissioned an ecological survey dated xx/xx/xx by a CIEEM qualified ecologist and priority habitats are excluded. A site visit was undertaken on x by y which concurs the evidence provided. No additional features or issues were found.	

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
(f) Multiple benefits - take account of the benefits and intrinsic value of natural resources and ecosystems; Opportunities for provisioning, supporting, regulating and cultural ecosystem services or benefits should be considered and maximised as appropriate. (NRW leaflet – introducing SMNR –	The Woodland opportunities map³ contain spatial information on a number of ecosystem services. Proposals should be designed or located to provide a range of ecosystem service benefits. List relevant ecosystem benefits AND/OR disbenefits delivered by the proposal. This should include mitigation measures and their likely effectiveness to minimise disbenefits. A woodland creation plan should demonstrate where appropriate, provision or enhancement of ecosystem benefits e.g. air and water quality, timber production. Annex 5 provides a non-exhaustive list of ecosystem benefits.	Plant trees on a less productive and isolated part of the farm to support the farm's biomass business, providing a wildlife habitat for flora and fauna, reducing the quantity and rate of water runoff entering the adjacent river, and contributing to the reduction of diffuse pollution in the wider catchment.	UKFS General Forest Practice UK Guidelines 4- 8 "Maintenance of the productive potential of forests includes both timber production, which serves the development of forest industries and economic well-being, and wider non-market benefits and values such as recreation and other ecosystem services" Forests and Climate change – guidelines 32 – "When siting and designing new woodland, consider the potential benefits in relation to flood alleviation, improvement

³ There is general agreement that the role of Area Statements is to identify opportunities for woodland creation, but that they are not suitable for informing the regulation of woodland creation and where there might be sensitivities, which is the role of the Woodland Opportunities Map.

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
focuses on benefits provided)			of water quality and other ecosystem services."
(g)take account of the short, medium and long term consequences of actions Woodland creation planning for the short, medium and long term is essential to demonstrate a sustainable and well-designed scheme.	Proposals should consider the future resilience of woodland to climate change and disease through location, layout, species choice and future management. Consider species mix and planting location relative to sensitivities, with potential for management of open spaces and opportunities to reduce impacts. This should be forward looking – making the ecosystem matrix (new woodlands and habitat hotspots) resilient for the future, not trying to restore the area to what it might have been. NRW should consider how present biodiversity, ecosystem resilience and ecosystem service provision of the area affected will evolve with or without the proposal, in the short, medium and longer term. Record likely outcomes in short, medium and long term with and without the proposal.	Currently – area is grazed with wetland habitat open. Proposed - Future grazing not possible owing to location and size of habitat within the proposed woodland. Wetland habitat is buffered from conifer plantings by native broadleaved tree and shrub species, avoiding conifer regeneration and contributing to habitat resilience. Ecosystem impacts:- Water regulation increased; Timber	UKFS Box 4.1 (p.15) Balanced objectives - "Sustainable forest management involves ensuring that the production of all forest and woodland benefits is maintained over the long term. This is achieved when the environmental, economic and social functions of forests and woodland are interacting in support of each other" General Forestry Practice – Requirement 14 - Forests and woodlands should be designed to achieve a diverse structure of habitat, species and ages of trees

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
		provisioning strong; Biodiversity interactions mitigated and maintained.	that is appropriate to the scale, context and ecological potential of the site."
			UKFS p.192 - Woodland plans should be regularly reviewed and updated.
(h) take action to prevent significant damage to ecosystems;	As listed at sections (c), (d) and (e) above, all evidence should have been considered and should have mitigated to avoid significant damage to ecosystems. List any further action that has been taken – if not already covered above. Advice from the relevant bodies and appropriate adjustment to proposal design should ensure that the potential for significant damage can be avoided at a local and strategic level.	Advice on sensitivities was obtained and acted on as per para (e) above.	Forests and Biodiversity Legal 1, Forests and Water Legal 12 "Appropriate protection and conservation must be afforded where sites, habitats and species are subject to the legal provisions of EU directives and UK and country legislation. Advice can be obtained from the relevant authorities on minimising potentially adverse effects for

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
			management activity likely to affect them." Forests and Biodiversity - Requirements 3 and 4; Guidelines 1-5
(i)take account of the resilience of ecosystems, in particular the following aspects— Diversity between and within ecosystems; –More diverse ecosystems are more resilient to external influences	As outlined at g) this should be forward looking — making the ecosystem matrix (new woodlands and habitats) resilient for the future, not trying to restore the area to what it might have been. Connections facilitate the movement of genes and species, allowing ecosystems to function effectively and to adapt to climate change. Small patches of habitat can be valuable but can be influenced by edge offects. Expanding good	Species mix of 40% Sitka spruce, 20% Douglas fir, 25% native broadleaves and shrubs, 10% open space. Small fragmented areas of good quality Section 7 rush pasture intermittently present across the site.	General Forest Practice – Requirement 16 – "Forests should be planned and managed to enhance their resilience and mitigate the risks posed to their sustainability by the effects of climate change or attack by pests or diseases."
and their impacts. the connections between and within ecosystems;	be influenced by edge effects. Expanding good quality woodland habitat is a positive step in securing ecosystem resilience. Proposals should not undermine the condition of the site and surrounding ecosystems, particularly if close to sensitive ecosystems/receptors.	As outlined at (g) native trees and shrubs to be planted adjacent to these areas to buffer against incursion from non-native species,	Forests and Climate Change – Guidance 18 – "Plan for forest resilience using a variety of ages, species and stand structure; consider the risks to the forest from

Principles of SMNR - How we work to deliver the objective of SMNR	What to consider	Evidence to demonstrate meeting SMNR principles Example:-	UKFS evidence to demonstrate SMNR compliance for woodland creation
the scale of ecosystems; the condition of ecosystems (including their	Record type, extent and current condition of habitats present. Record evidence within design proposals that will contribute to the aspects of resilience e.g. species mix, likely structural diversity, habitat matrices and location, use of open space, expansion or buffering	with links to other habitats where possible. Habitat areas cannot be grazed owing to scale and lack of access.	wind, fire, and pest and disease outbreaks" UKFS p.62 –Approaches to Adaptation – "In developing resilience, a balance is required to
structure and functioning); the adaptability of ecosystems	species have been used in the proposal design to enhance resilience of biodiversity to external changes e.g. climate change/ agricultural pollution. Species have been used in the proposal design to and and and appropriate the proposal design to safe and and appropriate the proposal design to and and appropriate the proposal design to an appropriate the proposal design to appropriate the p	The design has built in safeguards to protect and maintain existing habitats for the future. Species mix ensures woodland resilience to future pests/diseases and extremes of	ensure that, as far as possible, the integrity of existing ecosystems is maintained."
		climate change.	

SUMMARY	Summarise how the proposal maintains and enhances the resilience of ecosystems
	This should include a short summary of the existing site/ecosystem and how it will change as a result of the proposal, evaluating the evidence provided for the relevant principles above.

How the proposals maintains and enhances ecosystem benefits and links to well-being goals	
Where applicable - summarise unresolved areas of contention and whether these need to be escalated to Review Panel.	
Where applicable – summarise outcome of Review Panel decision	
In consideration of above summaries, conclude whether the proposal and assessment (including NRW inputs) meets the overall objective of SMNR and in doing so, meets the Section 6 duty of maintaining and enhancing biodiversity.	

Annex 4 – Potentially conflicting considerations – finding the right balance

The following tables list factors, mainly habitat types and non-statutory designations, that could be viewed favourably for woodland creation proposals PROVIDED they meet certain considerations. These are listed as "considerations" and "outcomes", with the underlying rationale also listed. The categories below are to provide a guide to NRW staff in discussion with applicants and do not indicate appropriateness in all cases.

Registered Planners/ applicants planning to include these habitat categories in planting proposals **must** discuss their proposals with NRW Woodland Programme team or NRW Permitting Services (forestry) team (EIA cases) in the first instance, **well before** submitting an application, in order to confirm appropriateness. This should **be accompanied by photographic evidence** of the site and wider land context, so that where necessary, NRW Woodland Programme team/ NRW Permitting Services (forestry) officers can discuss the site with the relevant NRW Specialist Advisors on habitats (or Lead Technical Advisors where relevant), who can advise whether a survey or site visit would be appropriate. Where an ecological survey is required, Registered Planners/ applicants should be advised to ensure that the commissioned ecologist is a member of CIEEM to ensure acceptable quality of work.

Habitat types

Habitat of limited quality (Semi-natural vegetation with a significant degree of agricultural improvement)

Considerations:

- Habitat of limited quality refers to the composition and abundance of plant species in the habitat. The term "poor condition" is not used due to confusion with badly managed unimproved habitat that would recover owing to the species composition of the vegetation.
- These are habitats that have deteriorated to the extent that they are no longer classed as Section 7 habitats but still retain some diversity. Registered Planners /applicants should recognise potential habitat that is not shown on the WOM and seek advice on its suitability for planting. This is in line with UKFS guidance.

Habitat of limited quality (Semi-natural vegetation with a significant degree of agricultural improvement)

- NRW Woodland Programme team and NRW Permitting Services (forestry) team MUST request photographic evidence and discuss with an NRW specialist on habitats. SSSIs will require consent from NRW (SSSi.notices@cyfoethnaturiolcymru.gov.uk).
- GN002 and GN009 set out further advice on priority habitats for registered planners/applicants.

Outcome -

- Where a habitat is judged to be of limited quality or of limited value for the resilience of other habitats, or where confirmed by a NRW Specialist on habitats, planting with either conifer or broadleaved species is appropriate in line with UKFS.
- Small areas of high value habitat that merit retention or make a positive contribution to the ecosystem functioning of the area should be retained. These should be designed as part of the wider planting proposal in line with UKFS and should be buffered from conifer planting with native broadleaves and shrubs. Management to retain these as open spaces should be encouraged but is not mandatory.
- Where SINC sites are being challenged, NRW Woodland Programme team/ Permitting Services (forestry) team (EIA cases) should consider the SINC in relation to the above and must forward their findings and Registered Planner/applicant evidence to a Specialist Advisor in habitats, for confirmation/advice.

Rationale:-

Habitat sites of limited quality (habitat with a significant degree of agricultural improvement) applies to areas that are lower value to biodiversity, where plant species composition and abundance is poor. As such there is little justification for retaining these areas as unplanted. However, some examples may have received only minor improvement and, although no longer considered to be Section 7 habitat, are of moderate quality and may be of value for ecological resilience, for example if forming part of existing habitat networks.

Upland Acid Grassland

Consideration -

- **Upland** Acid Grassland is not a Section 7 habitat and hence can be planted because of its lower species diversity and its abundance in Wales.
- Lowland Acid Grassland is a Section 7 habitat and should **not** be planted. It is defined as "being **below** the upper limit of enclosure" and is generally more species rich and less extensive.
- Consideration must be given to the presence and impact on Section 7 species dependent on the abundance of Upland Acid Grassland.

Outcome -

• Planting on **Upland** Acid Grassland with broadleaved and/or conifer species suitable to site conditions in line with UK Forestry Standard will be appropriate in many cases, **subject to other sensitivities** as shown on the woodland opportunities map e.g. Section 7 habitat/ species or deep peat which should remain unplanted, and may require amendment to planting proposals.

Rationale -

As above. Inclusion here mainly for clarification.

Purple Moor-grass Pasture (Marshy grassland) (Rhos pasture)

- The value of Marshy Grassland (Molinia and Juncus) largely depends on the location of the habitat. **Upland** Marshy Grassland can be planted because of its generally lower species diversity and its more extensive areas in Wales.
- Upland is defined as being above the upper limit of enclosure.

Purple Moor-grass Pasture (Marshy grassland) (Rhos pasture)

- Lowland Marshy Grassland is included in the Purple Moor-grass and Rush Pasture Section 7 habitat. It occurs **below** the upper limit of enclosure, and is considered to be valuable habitat owing to the generally higher diversity of species.
- Where large areas of Upland Marshy Grassland is proposed for planting, consideration should be given to the presence and impact on Section 7 species dependent on the abundance of this habitat type.

Outcome -

• Planting on **Upland** Marshy Grassland (Molinia and rushes) with broadleaved and/or conifer species suitable to site conditions in line with UK Forestry Standards will be appropriate, **subject to other sensitivities** as shown on the woodland opportunities map e.g. Section 7 habitat/ species or deep peat which should remain unplanted, and may require amendment to planting proposals.

Rationale -

Lowland Purple Moor-grass is often species-rich and associated with other habitats such as wet heath, bog or peatland, and has a higher biodiversity value. Such areas should not be planted.

Dense Bracken

- Where a proposal contains bracken highlighted as a potential fritillary butterfly site on the Woodland Opportunity Map, the Registered Planner should provide evidence of consultation with Butterfly Conservation (See GN002)
- Bracken within an identified wood pasture (S7 habitat) should not be planted
- The density of bracken and any ground flora should be considered. Where Section 7 habitat exists under a canopy of bracken the area should be treated as Section 7 habitat.

Dense Bracken

Outcome -

- Proposals must be adapted as necessary if Butterfly Conservation confirm the site has the potential to support fritillary butterflies.
- Non fritillary sites can be planted with either conifer or broadleaved species suitable to the site, in line with UKFS requirements.
- Section 7 habitat under a canopy of bracken should be excluded from planting proposals.

Rationale -

As per GN002 - Fritillary habitat will usually consist of bracken on south-facing slopes below 300m (although east and west facing areas can also be suitable) with the caterpillar food plant present.

Dense bracken often shades out most ground flora or creates a depauperate grassland community.

Occasionally, Section 7 habitat is present under a canopy of bracken (usually lowland acid or unimproved neutral grassland). This habitat provides similar biodiversity benefits to those without bracken and can persist if management is favourable. Wood pasture is a Section 7 habitat and bracken can form part of the habitat complex that is characteristic of it.

Ffridd

- Ffridd landscapes can be extremely high in biodiversity value but, unlike Woodland Pasture, is **not currently** a Section 7 habitat in its own right.
- Ffridd typically contains a mosaic of habitats, some of which may be Section 7 habitats but some components (upland acid grassland, dense bracken, scattered trees, rock outcrops for example), are not on the Section 7 list. The value of ffridd for biodiversity (and ecosystem services) varies considerably depending upon the habitat makeup.

Ffridd

- The quality of habitats present or their mosaic should be assessed during site verification in line with the guidance on "Habitat of limited quality" outlined elsewhere in this Annex.
- NRW Woodland Programme team and NRW Permitting Services (forestry) team MUST request photographic evidence
 and discuss with an NRW specialist on habitats to assess value and appropriateness for planting.

Outcome -

- Where the habitat or mosaic of habitats present are confirmed by an NRW Specialist to be of "limited quality" as outlined elsewhere in this Annex, planting with conifer or broadleaved tree species is acceptable, in line with UKFS.
- Landscape should also be considered within the decision making process.

Rationale -

Ffridd is an important historic, cultural and visual landscape, providing an ecological link between the lowlands and uplands, and facilitating the movement of numerous species. Although not a Section 7 habitat, it can provide a valuable mosaic of habitats which are important for a range of species. Where planting is permissible, landscape should be carefully considered in line with UKFS in these areas.

Non-Statutory Designations - SINCs, RIGs and SLAs

RIGS (Regionally Important Geodiversity Sites)

Consideration -

• RIGS are non-statutory local designations including the most important places for geology, geomorphology and soils outside the nationally recognised network of Sites of Special Scientific Interest (SSSIs).

RIGS (Regionally Important Geodiversity Sites)

• GN 002 already asks registered planners to consult NRW geologists to enable appropriate proposals. Doing so should enable sites awaiting SSSI designation to be identified and accommodated in planting proposals.

Outcome -

• Issues flagged by NRW geologists should be addressed within the proposed planting scheme and proposals amended to mitigate or avoid impact, balanced within the wider ecosystem functioning in line with SMNR.

Rationale –

Depending on the nature of the RIG, and the scale of the planting proposal, there should be scope for planting proposals to be adapted to minimise impact on the geological feature and the height and rooting depth of tree species should be considered in the species mixture.

SINCs (Sites of Importance for Nature Conservation)

- Wildlife Sites and Sites of Interest for Nature Conservation (SINC) are non-statutory designations recorded by local authorities for their importance for wildlife. They are a tool to identify and protect habitats against development under the planning system. Landowners may not know of their existence.
- SINCs are not featured on the Woodland Opportunity Maps owing to an incomplete data set in Wales. GN002 advises Registered Planners to check with Local Authorities on presence and detail of SINCS. This is to be updated, as Registered Planners/applicants can now contact NRW teams in the early stages of developing applications.

SINCs (Sites of Importance for Nature Conservation)

• NRW Woodland Programme team and NRW Permitting Services (forestry) team MUST check applications for SINCS, requesting photographic evidence where present and discuss with an NRW specialist on habitats.

Outcome -

- Where SINCs are present, applications should be compliant with the issues raised, or Registered Planners/applicants should provide clear justification and photographic evidence.
- Woodland Programme team/Permitting Services (forestry) team should check with the category "habitat of limited quality" in this Annex and MUST forward their findings and evidence to the Specialist Advisor on Habitats for confirmation/advice on whether tree planting is appropriate.
- Where tree planting is appropriate, broadleaved or conifer planting can be considered in accordance with UKFS.
- Wildlife Sites landowners should be aware of these and as such, tree planting on these should be avoided unless agreed with the relevant local authority/ wildlife trust.

Rationale -

Although SINCs have no statutory protection, they can still be important habitats, contributing to networks. Many are Section 7 habitats which will provide some protection under the Environment Act.

SINCS may vary in quality and importance due to the passage of time since designation or due to variation in criteria applied by local authorities. Where the importance of a SINC is challenged, confirmation is required from Specialist Advisor on habitats to ensure that a suitably qualified person has provided advice. As Statutory Advisor to WG on the environment and natural resources, advice from the NRW Specialist Advisor on habitat will take precedence over other external ecological advice.

SLAs (Special Landscape Areas)

Consideration -

- SLAs are non-statutory designations that define local areas of high landscape importance, which may be unique, exceptional or distinctive to the area. Planning authorities should apply these designations where there is good reason to believe that normal planning policies cannot provide the necessary protection. (PPW 10 p.133)
- Guidance is already provided in GN002 to Registered Planners, requiring them to check with NRW Glastir teams for SLA
 designations and to consult local authorities if these are present, where planting proposals are over 5 ha.
- Design of new planting in relation to landscape should be undertaken in line with UK Forestry Standard.

Outcome -

Woodland planting should be regarded favourably where possible, addressing issues flagged by local authorities within the
design of the planting scheme. Benefits of the proposal should be weighed against impact on the SLA and justified within
the SMNR template in line with landscape requirements under UKFS

Rationale -

Depending on the nature of the SLA, and the scale of the planting proposal, there should be scope for planting proposals to be adapted to minimise impact if any. This may require adjustment in species mix and woodland design.

Peatland and Organo-mineral soils

Consideration -

Soils store a large proportion of biocarbon (carbon stocks within land based plants, soil, animals and ecosystems as a whole). Peatland soils also provide valuable habitat which should be assessed in line with SMNR.

Peatland soils with an organic layer (O horizon) at the surface which is greater than 50 cm deep are classed as peat soils or deep peats and are protected from tree planting under the UKFS:-

Peatland and Organo-mineral soils

• Soil guidance 24 -Avoid establishing new forests on soils with peat exceeding 50 cm in depth and on sites that would compromise the hydrology of adjacent bog or wetland habitats.

Soils with a less than 50 cm thick organic surface horizon are classed as organo-mineral soils or shallow peats. While tree planting is permitted under the UKFS, there are protections on how these soils should be treated:-

- Soil guideline 13 Minimise the soil disturbance necessary to secure management objectives, particularly on organic soils.
- Soil guideline 14 Consider the potential impacts of soil disturbance when planning operations involving cultivation, harvesting, drainage and road construction

New guidance on ground preparation/cultivation advice is being developed to support the UKFS (draft at Annex 6). This should be referenced when it becomes available. This approach supports the Woodland Carbon Code (WCC) - a voluntary scheme that promotes carbon trading.

Note: The definition of deep peat as >50cm depth as per UKFS is used across the UK. It is the same as the Soil Survey of Scotland classification. England and Wales peat soils are defined as >40 cm peat depth; organo-mineral soils <40 cm deep. Further research will inform the review of the UKFS which is currently underway. Until then, **Wales remains in line with the UKFS as it currently stands.**

Outcome -

- Deep Peat these should not be planted, but retained as open space or open habitat in accordance with UKFS.
- Organo-mineral soils can be planted with broadleaved and/or conifer species suitable to site conditions in line with UK
 Forestry Standards, subject to other sensitivities e.g. presence and quality of habitat, landscape etc. These should be
 assessed within the principles of SMNR and proposals amended accordingly.
- Applicants should use the least disruptive site preparation method possible to ensure good tree establishment is selected-

Rationale -

Peatland and Organo-mineral soils

An assessment by Forest Research of new evidence on afforestation and restocking on peaty soils4 indicated that :-

- It remains 'very probable' that moderate and high productivity forests planted on shallower peat soils with limited disturbance provide a substantial net carbon uptake over the forest cycle. This is because uptake of carbon dioxide by the forest, and its subsequent transfer into the soil, is greater than losses from soil decomposition.
- Overall, **site** carbon stocks are positive on shallow peat soils over multiple rotations of forestry.
- Recent reports confirm that ground preparation techniques for tree planting, such as drainage and ploughing increase the
 overall net release of greenhouse gases when compared with undrained, undisturbed peaty soils. If practices changed
 from historical deep ploughing to shallow ploughing the soil disturbance would be reduced.
- For organic (deep peat) soils little new evidence is available, and the majority of studies still show that afforested drained peats dependent on the forest growth and yield class are likely to act as net carbon sinks despite large peat losses. More studies and data on forestry on deep peat are needed. Therefore **deep peat should remain unplanted** as a carbon store in line with UKFS.

However further research is likely to be needed and the UKFS is currently under review. Both may result in amendments to the above guidance in future.

⁴ Afforestation and restocking on peaty soils – new evidence assessment – Forest Research and James Hutton Institute, 2018, Climate xChange

Annex 5 – Ecosystem services and woodland creation

Ecosystem services can be thought of as the link between ecosystems and human well-being. They describe the processes by which natural ecosystems provide resources (used actively or passively) that sustain and benefit people. Conserving and enhancing natural capital and the ecosystem services that flow from it underpins the approach to sustainable forest management as set out in the UKFS.

These services or benefits can be split into 4 categories:-

Ecosystem categories	Ecosystem service
Supporting services	Soil formation Nutrient cycling Water cycling Biodiversity fits in here as it drives many of the supporting services Pollination
Provisioning services	Timber- sustainable building material Fuel wood/renewable energy Genetic resources Habitat provision Wild foraging
Regulating services	Flood regulation Water quality Air quality/pollution interception Noise regulation Carbon storage Climate regulation – mitigation and adaption - incl. shade/shelter Soil protection Biosecurity
Cultural services	Recreational Eco-tourism Spiritual/well-being Cultural heritage Landscape Amenity Educational Accessible green space Appreciation of nature/wildlife Community cohesion

Annex 6 – Soil Disturbance and Carbon

The Soil Disturbance of site preparation treatments and assumed % topsoil carbon loss – (now in Woodland Carbon Code Carbon Calculator)

(The text of the table has be retained as it appears in the original).

Method of Site Preparation	Volume disturbed m3/ha	% of Topsoil (0-30cm) disturbed	Organominer al: % Topsoil carbon (0-30cm) to subtract	Mineral: % Topsoil carbon (0-30cm) to subtract
Manual screefing	Negligible		0%	0%
Hand turfing or Subsoiling (ripping and tining)	60	2%	5%	0%
Patch Scarification using excavator or Bracke	90	3%	5%	0%
Drains at 250m/ha (360° excavator with a draining bucket)	134	4%	5%	0%
Inverted & Hinge Mounding using excavator	160	5%	5%	0%
Patch Scarification using shallow scarifier - discontinuous mounding	215	7%	5%	0%
Drain mounding using excavator	246	8%	5%	0%
Trench mounding using excavator (with drains @250m/ha)	380	13%	5%	0%
Shallow/ rotary plough using double throw rotary mouldboard	560	19%	10%	2%
Line scarification using disc scarifier (Shallow continuous strip)	630	21%	10%	2%
Shallow plough using double throw mouldboard	710	24%	10%	2%
Line scarification with disc scarifier (Deep continuous strip)	840	28%	10%	2%
Deep plough with single or double throw mouldboard	1,030	34%	20%	5%
Deep plough with tine using double throw mouldboard	1,430	48%	20%	5%
Deep plough with tine using single throw mouldboard	1,575	53%	20%	5%
Agricultural ploughing	2,500	83%	40%	10%