

PRINCIPLES FOR USE OF FOREST RESIDUE FOR PEATLAND RESTORATION

Summary of issue

Clear felling conifer forest for development (such as wind farms) and/or nature conservation purposes (such as restoration of blanket bog) is a common occurrence across Scotland. The Scottish Government has produced a policy on the [Control of Woodland Removal](#) in an effort to provide policy direction for decisions on woodland removal.

In most cases the timber is commercially viable and so is transported off-site. However, on many sites (particularly wet blanket bog sites where the trees are stunted or where the crop has yet to reach maturity), a percentage of the timber is not considered to be suitable for sale, or for other off-site use (e.g. biomass) and so options for using the material on site are proposed. Leaving this material on site is commonly termed 'felling to waste.' Where material is classed as waste then appropriate waste management options require consideration and adoption. The Waste (Scotland) Regulations 2011 emphasise the relevance and importance of the waste hierarchy and it being applied in a way which delivers the best overall environmental outcome.

Proposals for using forest residue on site include chipping and mulching (terms are defined at end of document). This material is left spread across the clear felled area. It is argued that leaving the material on the site results in an ecological improvement and so it is often considered as an exemption under waste management licensing.

However, this approach is now being questioned. The results of early research show there is a lack of clarity and evidence to support the claim that this practice delivers ecological improvement for the main target vegetation types (blanket bog or wet heath). Research has shown that peatland restoration on previously forested sites is highly dependent on site conditions (hydrology, topography, tree species and remaining vegetation following felling). Management is also important to assist restoration. This may include blocking ditches to restore hydrology or using heather brash as a seed source. It is not clear whether leaving forest residue on the site provides any increased benefit for restoration over existing proven peatland restoration techniques. There is also increasing concern that leaving forest residue on some site may hinder restoration efforts and may pose a risk to the water environment and other sensitive receptors.

Currently, this restoration practice is being tested and researched at a number of sites across Scotland. This research will provide greater clarity on the benefits and risks associated with the practice. Until more detailed guidance is available SEPA, SNH and FCS have agreed the following key principles for the use of forest residues for wet peatland restoration. This is a precautionary approach until we have a better understanding of the potential impacts and can confirm there are benefits from the results of ongoing research. SEPA must be contacted at the earliest opportunity to ensure any proposed use of forest residue complies with waste management licensing.

Key Principles

If it is proposed to use the material on-site the following principles apply:

- Full justification for using the material on-site must be provided. Evidence must be provided to show that all options for use of the material off-site have been considered.
- The proposed use of the material must be beneficial in reaching the objectives of the Habitat Management Plan (HMP) as agreed by the local authority in consultation with statutory agencies (SNH and SEPA). Detailed monitoring proposals should be included in the HMP.
- Material used on site should not have any negative impact on the water environment or other sensitive receptors (e.g. protected species).
- Details of the size, volume, and depth of material to be used on site must be provided. A detailed map showing areas where the material will be used and extent of cover should also be provided.
- A clear specification for contractors is required to ensure the correct machinery is used, and that any material left on site is done in line with the HMP. The quality of the material is an important factor; maximum chip size (or other criteria) should be defined and agreed with the contractor. A maximum depth of material should be agreed with the contractor.

Proposals for use of forest residues will be considered on a case by case basis. However, it is unlikely that use of forest residues will be considered acceptable in the following situations:

- Sites that are considered to be capable of restoration in line with the objectives of the HMP **without** the use of forest residues. It may also be considered that the use of forest material on such sites is likely to hinder restoration (e.g. existing vegetation cover and suitable hydrology for restoration).
- There are significant risks to the water environment or other sensitive receptors from the proposals.
- In locations where alternative uses for the material exist.

Glossary

Peatland	Ecosystems with a peat deposit that may support vegetation that is peat-forming, may not, or may lack vegetation entirely (JNCC modified from Ramsar Convention 1971). Blanket bog and wet heath are types of peatland.
Blanket bog	Bog habitat with thick deposits of peat that blankets the landscape. Bog vegetation includes cottongrass, Sphagnum mosses and heather.
Wet heath	Heather dominated vegetation on shallow peat (<50cm). Wet heath can be distinguished from blanket bog by the limited occurrence of cottongrass and Sphagnum mosses (SNIFFER 2009).
Forest residues	Portions of trees left on site after clear-felling of the forest, usually because their removal is not economically viable. Forest residues may include brash (i.e. branches and tops) or whole trees (excluding the stump and roots), either intact, cut up, chipped or mulched.
Chipping	In-situ machine chipping of felled trees or brash producing wood chip of various sizes.
Mulching	Operation using a rotary flail on an excavator base (or tractor or a purpose built scrub mulcher) to shred up whole trees in situ, felled trees, or brash, leaving a loose covering of shredded material on the ground.
Felling to waste	Forest felling where neither the timber nor brash are extracted from the site.