

Waxcap Translocation Methodology

Pengarnddu Service Reservoir

Project: Construction of a temporary haul road to facilitate construction of a new service reservoir at Pengarnddu Service Reservoir, Pengarnddu, Dowlais, Merthyr Tydfil

Prepared by: Elliott Hughes

Date: 25 June 2021

Waxcap Translocation

1. All translocation activities will be carried out under the direct supervision of the retained ecologist (Dr Peter Sturgess) to include a toolbox talk to all contractors prior to the commencement of works.
2. Translocation will be undertaken in summer during dry weather.
3. A Receiver Area (RA) will be prepared and turves from a Donor Area (DA) will be translocated in a series of single operations. There will be no storage of turves during the process. As the RA is on the western side of the existing onsite ditch, a limited number of trips will need to be taken by the digger through the reservoir compound in order to facilitate the single operation translocations. If access to the reservoir compound is not possible, a solution will need to be found for transport of the turves from the DA to the RA before the new culvert/crossing is in place.
4. The exact RA and DA will be chosen on site by Dr Sturgess. A suitable RA will be within a well-drained, sloping *Agrostis/Festuca* dominated sward (NB wet areas will be avoided). In addition the RA will be in an area of likely low or negligible value for waxcaps. The DA will be of the highest value for waxcaps within the area to be impacted.
5. A route from the DA to the RA will be carefully chosen (again, onsite by Dr Sturgess) to avoid unnecessary damage to sensitive areas due to heavy compaction during the translocation process. Temporary ground mats will be used to protect the habitat.
6. In suitable RAs the ground will be prepared using a digger ready to receive turves from the DA. This will allow the digger operator an opportunity to practise this unusual (non-standard) operation. A turf slicer will be used initially to cut plant roots and facilitate cleaner removal of the turf.
7. Turves from the DA will be as large as possible. Most of the active mycelium will be in the top 15cm, however taking deeper D turves will buffer against hydrological changes and reduce the risk of turf break-up during translocation. To facilitate this, the largest digger bucket possible will be used (the exact size will be decided upon in liaison with Dr Sturgess).
8. An option for wetter ground would be - no ground preparation with turves from the DA simply laid on top of existing vegetation to create 'mounds'. These 'mounds' will produce a drier environment, well-suited to waxcaps.

To determine the success of the translocation process, eDNA samples will be taken prior to translocation and after 3-5 years.

Sampling for eDNA

1. Sample cores from the translocated turves themselves and pooled cores from the RA immediately around the translocated turves (in an undisturbed area) will be taken. Each translocated turf will require x2 eDNA samples for the baseline study. Both sets of sample cores will be collected post-translocation. Exact

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

requirements for the eDNA will be provided by Gareth Wyn Griffith (Chair in Mycology, Aberystwyth University).

2. Further sampling (after 3-5yrs) will be required to determine whether the waxcap species have survived the process.

Reinstatement following removal of the temporary haul road

1. The land will be reinstated to its former condition following the removal of the temporary haul road.
2. The disrupted areas will be reseeded at the end of the works. A standard grass mix, tolerant of the relatively harsh conditions will be used (advice to be provided by Dr Sturgess). The reseeded ground will be fenced for a few months to exclude grazing and allow the habitat to establish.
3. Grazing will continue once the habitat has fully established. This will likely allow the land to establish a flora and fauna similar to the surrounding area in a few years, and possibly a fungi flora too in the long term.

Other considerations for waxcap translocation

1. The working width through the areas of high value for waxcaps will be minimised as far as possible.
2. Temporary ground mats will be used to protect the grassland adjacent to the haul route in any areas that will only be affected by tracking over it during construction and dismantling of the haul road.
3. Heras fencing will be erected along the planning application boundary to prevent grazing of any retained grassland in this area in the short term. This will not result in long term damage to fungi provided that the grazing is reinstated after the works are completed.
4. Silt fencing will be used through much of the low-value fungi area. To minimise the extent of the disturbance to fungi in the soil this will be positioned as close as possible to the edge of the earthworks. If it is proposed to position it within the adjacent grassland, the bottom edge of the silt fencing will be secured by sandbags or loose soil, rather than digging it into the ground.