FACTSHEET

Heather Bale Dams

Heather bale dams (which can also be made of coir logs) are semi-permeable gully and grip blocks that are used both to slow the flow of water downstream, and to trap sediment that would otherwise be lost from the moor. The sediment accumulates, raising the bed of the gully, which can then be recolonised by vegetation such as cotton grass or *Sphagnum* moss (possibly artificially aided, eg through plug planting or seeding). This process is aided by the heather bales' slowing of the water flow. The bales themselves are a natural material that will become vegetated, such that they will blend into the landscape after a few years.

Dams should be keyed into the grip/gully sides to prevent side-cutting, and into the ground by a third to a half of the height of the bale* (*see Figure 1, below*), ideally so that the heather stalks lie parallel to the gully and the baling twine lies across the gully. It is important that the bale abuts tightly to the surrounding peat in order to prevent scouring around the sides of the dam. Peat removed during excavation should be used to re-fill the hole around each bale, compacted to further ensure a good fit, and any spare peat should be compacted on the upstream side of the dam to aid water retention. Tufts of grasses or cotton grass can also be used to seal the joints between bales.

Heather is sourced from moorland sites within the South Pennine Moors Special Area of Conservation and undergoes Moors for the Future's 'Passport' system to maintain biosecurity (*see the Heather Cutting Factsheet*). As a result of these strict checks the supply of heather may be limited in any particular year, which may necessitate consideration of other dam materials.

PURPOSE

- Good for slowing the flow of water
- Good for trapping sediment
- Good for creating shallow habitat pools

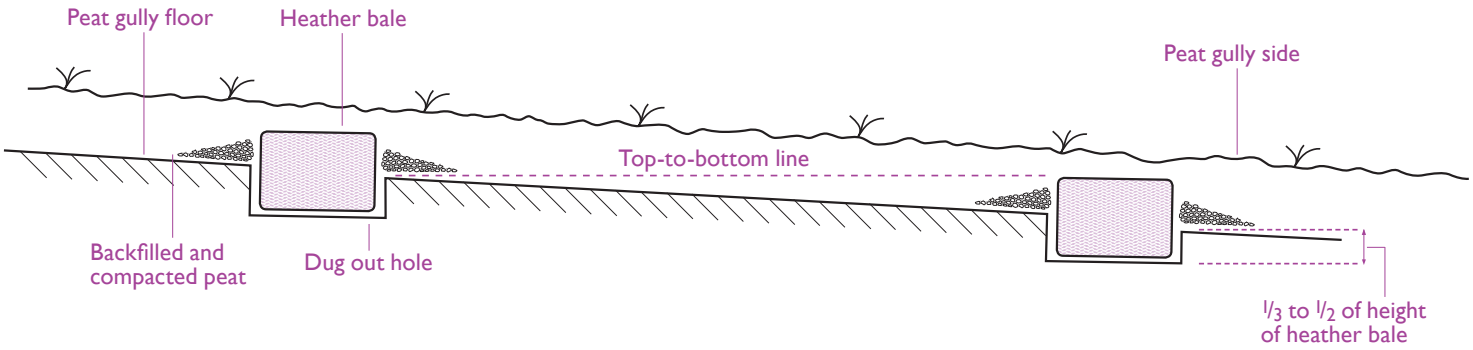
ADVANTAGES

- No ground vehicle access required – materials can be airlifted to any location and dams constructed using hand tools
- Uses a natural moorland material, upon which vegetation will grow

DISADVANTAGES

- Require enough substrate in which to key in the bales
- Only suited to low-energy gully systems
- Supply of heather may be limited

Figure 1: Heather bale dam construction



**Where bales are installed in peat pans with shallow soil they may be seated less than 1/3 deep, but should then be secured in place with any loose material dug out, and turfs used to line the upstream side of the dam to aid water retention.*

CASE STUDY: WESSENDEN MOOR

Figure 2, below, illustrates the use of heather bale dams in a slow-flowing peat pan/gully head system. *Figure 3*, below, highlights the build up of sediment and recovery of vegetation behind heather bale dams constructed four years ago on Wessenden Moor. The bales are indicated by the dashed yellow lines; note how they are blending into the landscape as vegetation grows on them.

Figure 2: Shallow gully system, shortly after heather bale dam installation

Figure 3: Shallow peat pan/gully head system on Wessenden Moor, four years after heather bale dam installation

MoorLIFE2020

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