

Peat Dams

Peat dams are impermeable grip or gully blocks that are constructed from the soil itself, usually using a low ground pressure 360° excavator to dig and manipulate the peat. Unoxidised peat (which is impermeable, stable and not prone to erosion if kept in this state) is lifted from the bottom of the channel, inverted and placed within the gully once more (slightly downstream of its original location) to create a plug upon which more scoops of unoxidised peat are used to build the dam. These can be taken either from within the gully, or from a borrow pit if a suitable site is available.

Peat dams should be a minimum of twice as deep (front to back) as the original gully width. The excavation should cut into the sides of the gully by at least 50cm on either side and at the base by 20cm (see *Figure 1a*, below). This ensures that the dam will be fully keyed into the surroundings and is vitally important. The whole dam is firmed down using the excavator bucket to make a watertight seal, but leaving the dam top higher than the sides of the gully so that water is dispersed onto the moor rather than allowing it to flow over the top of the dam.

The sides of the gully are then re-profiled to create shallower-sloped sides, which not only makes them more resistant to erosion, but also allows animals to enter and exit the pool created by the dam. Finally, turves taken from the gully sides during re-profiling are re-laid on top of the dam to reduce oxidation, knit the surface together and promote vegetation growth, as illustrated in *Figure 1b*, below.

PURPOSE

- Good for creating pools
- Good for dispersing water in an overland flow

ADVANTAGES

- Uses the soil itself as the dam material – no artificial materials used
- Vegetation will grow on the peat turves
- Can usually use the peat dams to walk across the gullies

DISADVANTAGES

- Requires a low ground pressure tracked excavator, and access onto and across the site for it
- Only suitable if the peat is deeper than 50cm

Figure 1a: Peat dam construction (front view)

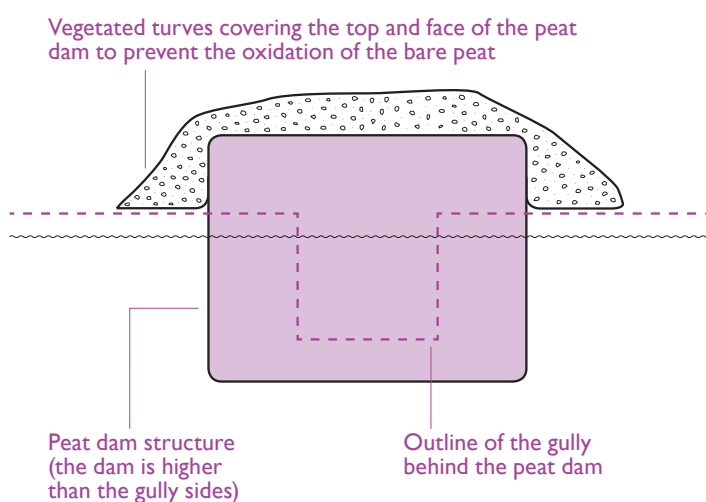
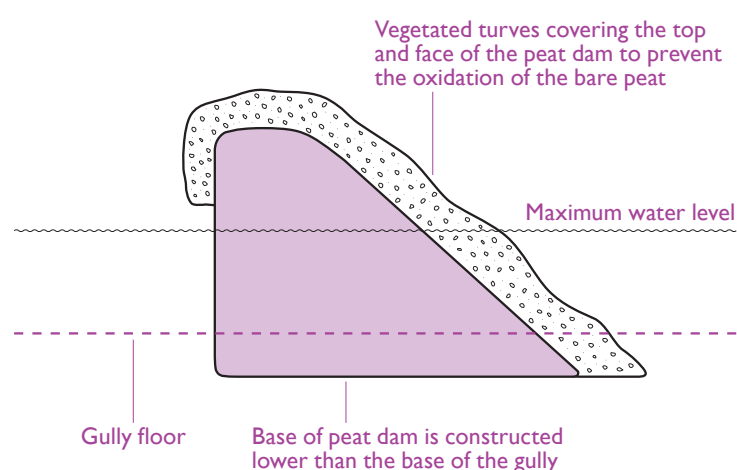


Figure 1b: Peat dam construction (side view)



CASE STUDY: HUMBERSTONE BANK FARM (POCKSTONES MOOR)

Pockstones Moor is an area of relatively level moorland that was previously drained by grips. As such, much of it is accessible by machine. In 2010, nearly four hundred machine-constructed peat dams were installed along 2740 metres of grips with good results, as indicated in *Figures 2a and 2b* (below):



Figure 2a: October 2009



Figure 2b: December 2013

Note the grit tray placed on the drier ground provided by the peat dam itself (centre of *Figure 2b*), and the healthy vegetation growing on the peat dam.

Not only have these dams created pools and prevented further erosion of the grips, but they have also been constructed so that the water has spilled over and wetted out the surrounding land. This has promoted the growth of *Sphagnum* moss within and adjacent to many of these pools, as illustrated in *Figures 3 and 4* (below). Over time, the *Sphagnum* moss should restore active peat-building functionality to the moor. This is a condition for achieving favourable SSSI status.



Figure 3: Sphagnum regeneration around peat dams



Figure 4: Sphagnum moss in a peat dam pool

Figure 3 in particular demonstrates how peat dams will blend into the landscape as they and their associated pools become vegetated. This makes them an ideal choice for any site with deep peat, low-energy watercourses and relatively easy machine access.

MoorLIFE2020

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www.moorsforthefuture.org.uk

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