



Above: The use of solid dams can help restore natural drainage patterns and encourage the colonisation of characteristic vegetation.

Moorland gripping is the practice of digging ditches to drain wet areas of heath and blanket bog. Gripping was a practice particularly widespread in the uplands in the 1960s to the mid 1980s, often encouraged by grant aid. Changes to the hydrological management of upland habitats can be detrimental to the characteristic vegetation and species of the uplands, as well as increasing the risk of soil erosion and flash flooding. Grip blocking can help to restore natural drainage patterns, encourage re-vegetation, reduce erosion, and minimise the knock-on effect of hydrological change downstream.

## BENEFITS FOR WILDLIFE

### Grip blocking helps restore a characteristic community of plants

Blocking grips will raise the water level to at, or near, the soil surface, encouraging the colonisation of *Sphagnum* and other specialist plant species, for example bog asphodel, cloudberry and sundew. Blanket bogs and other mire vegetation communities are of significant conservation value.

### Grip blocking can provide important feeding habitat for birds

The wet flushes created by blocking grips can increase invertebrate numbers, which provide a valuable food source for grouse chicks as well as wading birds, such as curlews, snipe, lapwings and golden plovers. Crane fly (leatherjackets) and chironomid larvae are particularly important for foraging chicks.

## HOW CAN I BENEFIT WILDLIFE WITH GRIP BLOCKING?

### DETRIMENTAL EFFECTS OF DRAINAGE USING GRIPS INCLUDE

- Loss of young birds, including grouse and waders, which fall into and cannot get out of steep-sided grips.
- Loss of lambs and sheep, which fall into deep, eroded grips and can't escape.
- Damage to the delicate mosaic of characteristic plant species associated with a diversity of wet soil conditions.
- A reduced number of invertebrates, which are used as a food source for a variety of birds.
- An increased incidence of flooding and flash flooding caused by greatly increased speed of run-off.
- An increase in erosion and silting up of streams.

### OBJECTIVES OF GRIP BLOCKING

- Restoring natural drainage patterns.
- Encouraging re-vegetation of the bog surface.
- Reducing erosion.
- Minimising the knock-on effect of hydrological change downstream.

### These objectives are achieved by:

- Blocking eroding grips.
- Blocking active grips that are maintaining themselves.
- Blocking grips across level and basin/raised mire areas.
- Allowing grips to infill naturally where possible.
- Designing works to avoid danger to stock and wildlife.

### METHODS OF GRIP BLOCKING

#### Peat dams

- Using a 'plug' of peat to hold back the water in the grip encourages the silting up process, which can become rapidly recolonised by *Sphagnum* and other plant species.
- For small drains, dams can be quickly constructed by removing spadefuls of peat and placing the peat on the site of the dam. On larger drains it may be easier to use a machine.
- The peat dams should be formed using peat extracted from the grip itself up slope from the proposed dam, and then compacted into the grip. Peat should never be taken from undisturbed areas of moorland.
- The height of the dam should just exceed the height of the grip to prevent water over spilling the dam – water should be encouraged to seep out at the sides.
- On shallow gradients, grips may need to be blocked at regular intervals.
- It is important that the depth of water behind the dam does not exceed 60 cm as this can cause a hazard to livestock.

#### Solid dams

- Dams can also be constructed using solid materials such as corrugated plastic sheeting, plastic piling, and wooden structures.
- Solid dams should last for many years and are not prone to drying and cracking in dry periods like peat dams. Solid dams can be particularly useful when blocking wide or deep dams.
- Dams constructed from corrugated plastic sheeting are relatively easy to install and they cause minimal disturbance to the site where the dam is being constructed. Create narrow

'starter notches' with a spade, and then position the sheeting vertically into the notches. Push the sheet into the ground as far as possible, place a sturdy piece of wood across the top of the sheet and lightly hammer the plastic to the required depth. The top of the dam should just exceed the height of the grip.

- Interlocking plastic piling is available, and can be used to construct dams that are strong and watertight. Plastic piling is particularly useful for blocking wide grips.
- Piles should be driven into the peat at least 40 cm beneath the bottom of the drain.
- Plastic piling can be expensive, and the heavy nature of the material can make it difficult to transport.

### Blocking

- Bales of plant material such as heather and rush can be used to block grips and slow down the rate of water flow, thus encouraging silting and recolonisation of natural vegetation.

### OTHER MANAGEMENT CONSIDERATIONS

- Blocking grips adjacent to in-bye pasture can provide damp pasture beneficial for breeding wading birds. Water run-off from gripped moors can lead to flash flooding on the in-bye, which can be detrimental to ground-nesting birds and also lead to a temporary loss of grazing.
- The use of machinery can seriously damage some vegetation in the uplands, and where appropriate other methods should be considered.
- Care must always be taken to minimise hazards and disturbance to livestock and wildlife.

## KEY POINTS

- Ensure work undertaken as part of a programme of grip blocking does not damage existing vegetation.
- Seek expert advice prior to undertaking a programme of grip blocking.

See also the RSPB Scotland advisory sheets on:

- Curlew
- Snipe
- Lapwing

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