



Managing water levels to benefit birds



Above: Waders such as the snipe need land with a high water table in the spring and early summer.

Land that remains damp into the early summer is a particularly good source of earthworms, insects and other invertebrates, providing rich feeding habitat for a number of farmland birds. Several birds of conservation concern, notably wading birds such as lapwings, breed in damp grassland. Where re-wetting is considered, the aim is to combine water control and appropriate land management, particularly grazing, to produce the desired wetland habitat.

BENEFITS FOR WILDLIFE

Maintaining higher water levels on grassland from late winter into the spring and early summer provides important breeding and feeding habitat for a variety of birds

By re-creating grasslands that remain damp into the summer, ideal feeding and nesting conditions may be created for wading birds such as lapwings, redshanks, snipe and curlews.

Suitable breeding habitat may also be created for other birds, such as reed buntings, sedge warblers and grasshopper warblers. Different species have preferences for certain sward structure and levels of soil dampness, so appropriate management is essential to benefit any particular species.

Wet grassland also provides valuable feeding habitat for other farmland birds such as tree sparrows, song thrushes and starlings. Soft damp soil and the

edges of standing water are important as they provide a reliable source of food, particularly for chicks that feed on invertebrates.

HOW CAN I MANAGE WATER LEVELS TO BENEFIT BIRDS?

Selecting suitable sites for re-wetting

- Many farms will have areas that, in the past, remained wet into the summer, but have since been drained. Areas targeted for wet grassland management should generally have been wetter in the past.
- Knowledge of the past management history, notably drainage, will be valuable and, in some cases, simply reversing or controlling the outflow of water from a drainage ditch will bring the desired result.
- Knowledge of habitats and species present in the locality, both past and present, should be used to inform decisions on the desired end-result.

Understanding soils

- Water moves faster through soils composed of large particles (sand or peat) and well-structured soils. Water flows more slowly through soils composed of small particles (clay or silt), particularly where the soil structure is poor. Some clays may be virtually impermeable.
- Soil type will determine whether manipulating water tables alone will create soft ground, ideal for feeding birds. If not, water will need to be directed into features such as 'scrapes' or foot drains, providing shallow water and muddy margins in which birds can probe and search for food.

Managing water levels

- Re-wetting may be undertaken in a range of soil and hydrological conditions and the simplest schemes are often no more complicated than reversing or reducing the drainage function in a particular area.
- In areas with a wetter climate, such as upland areas, rainfall may be sufficient to keep sites wet into June, and reducing the rate of run-off is sufficient.
- In drier locations, it will be necessary to direct water to a chosen location and/or install water control structures to reduce losses. The availability of water is a crucial factor. Water input will depend on rainfall, surface water (river/stream flows) and groundwater levels. Water loss will depend on evapo-transpiration (from vegetation and open water) and seepage from groundwater, drainage or run-off.
- Water control structures, such as sluices, enable the ability to control the inflow or outflow of water and thus the water level in the field. Without control, the grassland may dry out too soon in early dry weather, while a wet spring may result in levels remaining too high.
- A cost effective sluice can be constructed with a length of plastic piping, either rigid pipe with a swivel end or flexipipe, laid through an earth dam in the outflow ditch (figure 1). Adjusting the upstream end will set the

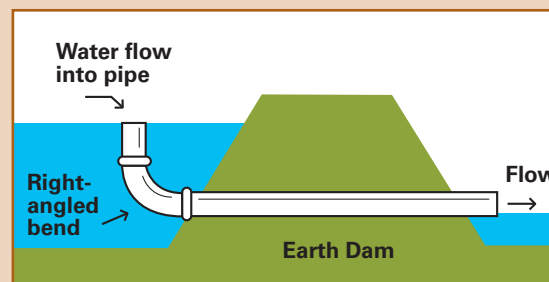
desired water levels.

- Consider any likely impacts on surrounding land from blocking or diverting drainage and consult with the necessary statutory agency (eg SEPA) for further advice.

The water regime

- Retain a high water table from March to May over 30% of the area and/or shallow water on 5–10% of the area. The majority of the land should be able to support grazing livestock without causing serious poaching.
- From May to July, allow natural draw down of water levels, creating shrinking shallow pools with muddy edges.
- From July, the water table should be reduced sufficiently to enable any machinery operations to be undertaken without damaging soil structure. If possible, maintain some water in ditches to benefit other wildlife.

Figure 1
Diagram of pipe sluice



KEY POINTS

- Assess hydrology and soils prior to attempting re-wetting.
- Aim to maintain a high water table from March to June.
- Ensure grassland management provides desired sward structure through the breeding season.
- The Higher Level Scheme can fund re-wetting projects.

See also the RSPB Scotland advisory sheets on:

- Lapwing
- Snipe
- Curlew
- Redshank
- Wet grassland for waders
- Rush management

For answers to all of your farm wildlife enquiries, visit www.farmwildlife.info

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You can get further information on this and other ways of managing your farm for wildlife from:



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