

Rush cutting to create nesting patches for lapwings *Vanellus vanellus* and other waders, Lower Lough Erne RSPB reserve, County Fermanagh, Northern Ireland

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SUMMARY

Patches of rushes *Juncus* spp. were cut in mid-winter with the objective of creating open nesting areas the following spring for wading bird on islands in Lower Lough Erne. Lapwing *Vanellus vanellus* nested almost exclusively in the cut areas. Redshank *Tringa totanus* nested in uncut areas, but their chicks benefit from the presence of the adjacent short, open areas for feeding. The breeding populations of both species increased considerably in response to this management intervention.

BACKGROUND

Both lapwing *Vanellus vanellus* and redshank *Tringa totanus* are ground-nesting wading birds that frequent a variety of wetland habitats. Lapwings require short vegetation or bare ground in the spring for nesting and feeding. Redshanks, which are relatively site faithful, typically prefer a mosaic of habitats, including tussocky areas within shorter vegetation for concealing nests. Both require a high water table providing damp or muddy areas where adults feed communally, and wet areas with some taller vegetation that provide a source of invertebrates and cover for chicks.

A Northern Ireland wide survey of breeding waders in 1986/7 estimated that the lapwing population was between 4,000-6,000 pairs and 550 pairs of redshank (Partridge & Smith 1992) with key concentrations on the Lough Erne and Lough Neagh wet grassland complexes. A partial re-survey in 1992 found that numbers of both species had declined at most key sites, whilst a 1999 survey recorded a decline of 66% in both lapwing and redshank in the wider countryside, with estimated populations for lapwing being just over 1,770 pairs whilst redshank were likely to be under 180 pairs (Henderson *et al.* 2002). Both species are Amber Listed (Birds of Conservation Concern in the UK, Channel Islands and Isle of Man (Gregory *et al.* 2002) and Birds of Conservation Concern in Ireland (Newton *et al.* 1999).

Lower Lough Erne, Co. Fermanagh, is still a key regional site for lapwing and redshank although both species, which nest on islands in the lough (lake), were declining. The lapwing population was down to three pairs on 10 islands and had abandoned some historically important islands, including Hare, Cruninish and Horse. This was presumed to be due to poor sward structure due to under grazing. Initial changes in grazing regimes did not rectify the matter. Following an inspection of the vegetation at a 'bird's-eye' level, the presence of the very fine, dead stems of jointed rush *Juncus articulatus* and sharp-flowered rush *J.acutiflorus* was noted. Despite being very sparsely distributed across the sward, this was effectively creating a curtain from the eye-level of a sitting lapwing, greatly reducing visibility and consequently putting them off from nesting in the vicinity.

Three islands in the Lough, Hare (28 ha) and Cruninish (14.5 ha) at the north end of the lough, and Horse (22 ha), an ASSI in the south east, were chosen for vegetation manipulation. These islands had, in the recent past, held breeding lapwing. Topographically the islands are very interesting with innumerable small, foot-sized pools interspersed with a myriad of hummocks and tussocks (suitable breeding habitat for redshank). The effect of this is to create a very complex structure that provides natural hiding places and camouflage for chicks.

ACTION

Juncus management: The plan was to remove the rush *Juncus* stems from small areas on the islands and see what affect this would have. The work is very quick and easy as it simply involved the strimming of the dead stems of the previous season's growth of *J. acutiflorus* and *J. articulatus* in order to maximise the 'view' of a sitting or incubating lapwing. This did not involve cutting tussocks or stands of soft rush *J. effusus*. The basic management was:

Cutting was undertaken in January and February, aiming to complete this before the birds returned to territories in early March. Cutting was once attempted in December but due to the mild Irish climate in which vegetation continues to grow during the winter, the sward was slightly too long for breeding birds the following season.

A brush-cutter, with a nylon line, was used to obliterate standing dead stems of the sharp-flowered and jointed rush. A metal blade or 'Poly-cut' will not create the desired effect. No attempt is made to gather the cut material as it is too tiny and intensively resource demanding.

Cut patches vary in size and shape. The first ever was 30 m wide by 150 m long running down to the lough shore. More often, they are now mosaics of short mown 'lawns' with stands of longer vegetation around wet flushes where present. They are judged by eye and an attempt to see things from the bird's perspective. Longer patches are left for cover and as havens for invertebrates. Slopes maximise the view of the sitting birds so these are targeted, achieving more 'view' for the time spent strimming.

Scrub removal: Ongoing management for breeding wading birds at this site also includes scrub removal, mostly alder *Alnus glutinosa* and gorse *Ulex europaeus*, to create new open areas or re-create areas suitable for colonisation by early successional vegetation.

Predator removal: Predator control has been undertaken since 2000 with any foxes *Vulpes vulpes* present on the islands in January or February being removed before birds begin to nest.

CONSEQUENCES

Wader response to management: The outcome of this unique management initiative is very encouraging. Both lapwing and redshank numbers have increased dramatically (Fig. 1) following patch cutting, with lapwings nesting almost exclusively in the cut areas. Redshank nest in the denser, uncut areas but the chicks benefit from the presence of the adjacent short, open areas for feeding. It is now possible to see large numbers of alarm-calling adult lapwing, redshank and curlew *Numenius arquata* in June and many chicks of all species, including common snipe *Gallinago gallinago*, are visible foraging in the open areas. Lower Lough Erne Islands now support nearly a third of Northern Ireland's breeding redshank.

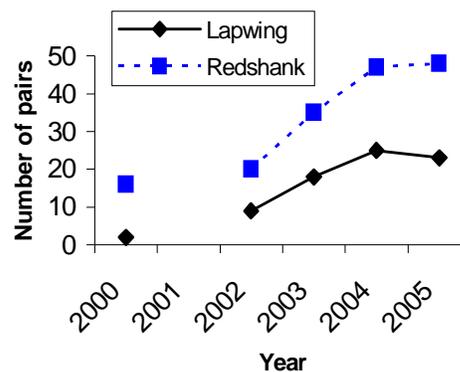


Figure 1. Numbers of breeding lapwing and redshank on the three islands at Lower Lough Erne where rush management has been undertaken.

There are now very high densities of breeding lapwing and redshank concentrated in relatively small areas of each island. This raises concerns about trampling as the key to managing a suitably high livestock grazing density over the course of the season is early grazing. Weather in the region is difficult to predict and can remain very bad (wet and windy) for long periods. Consequently farmers are not willing to push stock to eat all that management prefers and stock may be taken off before the job is done. Electric fencing can be used to exclude cattle from the nesting areas whilst the birds are sitting, then allowing the cattle to roam freely following hatching.

Following the cut, the cattle preferentially graze these managed areas, presumably due to the fresh growth and so in subsequent years there has been less to trim. It is now easy to see by eye where the previous years cut was.

Horse grazing, by Connemara ponies and other horses, has been trialled on some sites when there has been a year of low cattle grazing density or parts of an island have become overgrown/rank. Horses create an excellent lapwing sward and, when used in winter, do not pose a threat to plant species diversity.

Patch distribution: Patch distribution may be important. A patch created on the south of Cruninish in an area where lapwing formerly nested was 500 m away from the other areas on the north and west slopes. Birds spread out onto the different patches and although more pairs nested, they were less successful in rearing young to fledging. Observations suggest that this might have been due to increased predation. The more widely spread adults did not co-operate to defend their nests from avian predators e.g. hooded crows *Corvus corone cornix* and large gulls *Larus* spp. In areas where they nest on closely adjacent plots, they are very successful at deterring avian predators, as here several pairs will simultaneously mob a potential predator and thus be more effect at driving it away.

The removal of foxes from the islands is considered imperative to allow birds to successfully fledge young.

Conclusions: The rush clearance and grazing regime on the three islands in Lower Lough Erne appears to have had successful outcomes, with breeding numbers of both lapwing and redshank increasing in response to the management interventions.

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