

# Restoring heathland vegetation by turf-stripping wavy hair-grass *Deschampsia flexuosa* dominated grassland at The Lodge RSPB Reserve, Bedfordshire, England

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## SUMMARY

To restore an area of former heathland, soil nutrient levels were reduced by turf removal. Turf-stripping reduced dominance of wavy hair-grass *Deschampsia flexuosa* and promoted an increase in heather *Calluna vulgaris*.

## BACKGROUND

Lowland heathland, dominated by dwarf shrubs such as heather *Calluna vulgaris* and *Erica* spp., is a rare habitat in the UK and supports a distinctive fauna and flora. High rates of anthropogenic nitrogen deposition are thought to have contributed to a replacement of heather-dominated heathlands by grasses, especially wavy hair-grass *Deschampsia flexuosa* (e.g. Berendse *et al.* 1994; Van Breeman & Van Dijk 1988; Pitcairn *et al.* 1995). Turf-stripping has been used to reduce soil nutrients and encourage regeneration of heather, and has been tested on a small-scale on an area of wavy hair-grass dominated heathland at The Lodge RSPB reserve (National Grid ref: TL 190479) in central England.

## ACTION

**Turf removal:** In October/November 1995 an area of about 600 m<sup>2</sup> of wavy hair-grass *Deschampsia flexuosa*-dominated acid grassland on a Brown Sands substrate (light, free-draining acidic sands) had its turf removed to a depth of approximately 10 cm. This was done mechanically using a mini-digger with a 'dozer' attachment. Since there were natterjack toads *Bufo calamita* on the site (an endangered and fully protected species in the UK) this operation needed to be carried out with caution. At this time of the year the natterjacks retreat to burrows in the sand in which they hibernate over the cold winter months. In

general natterjacks will bury to a depth of some 20 cm, well beneath that which will be affected by a 'dozer' blade. The area known to harbour hibernating natterjacks and also adjacent grassland, did not have turf removed from it and has not received any management since.

## CONSEQUENCES

Photo 1 shows the vegetation in the area from which turf was stripped (right) and adjacent area which did not have turf removed from it (left). The photograph was taken in April 2005. Visual estimates of vegetation cover in the turf-stripped and adjacent area in April 2005 are shown in Table 1. Overall, turf stripping has undoubtedly reduced the wavy hair-grass

**Table 1.** Estimated vegetation cover (%) on stripped and adjacent unstripped areas, April 2005. Only species with > 1% cover in one or both areas are shown.

Species	Percentage cover	
	Stripped	Unstripped
Heather <i>Calluna vulgaris</i>	65	1
Wavy hair-grass <i>Deschampsia flexuosa</i>	5	80
Bracken <i>Pteridium aquilinum</i>	5	5
<i>Dicranum scoparium</i>	4	2
<i>Hypnum jutlandicum</i>	4	<1
<i>Polytrichum juniperinum</i>	3	3
Bare ground	<1	<1



**Photo 1.** Vegetation cover in the area from which turf was stripped (right) and the adjacent area which did not have turf removed (left), April 2005. In the turf stripped section, heather *C.vulgaris* (purplish-brown shrubs), can clearly be seen regenerating, whilst on the left, there is a fresh green growth of wavy hair-grass *D.flexuosa*.

cover and increased that of heather, creating a mixture of mature heather clumps interspersed with moss-dominated areas. This result is desirable in terms of retaining a characteristic heathland flora and associated fauna, including natterjacks which persist at this site in good numbers.

#### REFERENCES

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