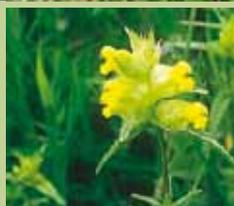




# Hay Time – North Pennines

## The Fifth Year of Action: 2010/2011

**Hay Time – North Pennines began in May 2006. Led by the North Pennines AONB Partnership, the project aims to restore and enhance upland hay meadows at carefully selected sites within the North Pennines Area of Outstanding Natural Beauty and to increase people’s awareness, enjoyment and understanding of this important habitat.**



## A bumper year

In May 2010 the prospects for our seed harvesting and spreading work looked grim. The previous hard winter meant that farmers with species-rich donor farms were reluctant to see any reduction in their hay yields and the new Government's emergency spending review resulted in the loss of the mechanism which funded the cost of our contractors and the seed-rich hay. All was not lost, however. Following a strong case from AONB staff, Natural England created a one-off emergency fund to enable us to continue work and our project officers worked flat-out surveying meadows, matching sites and liaising with farmers. This great team effort resulted in our best year yet as we managed to spread species-rich green hay on 45.26ha of meadows.



Spreading hay meadow seed in green hay, Upper Teesdale. August 2010 (NPAP)

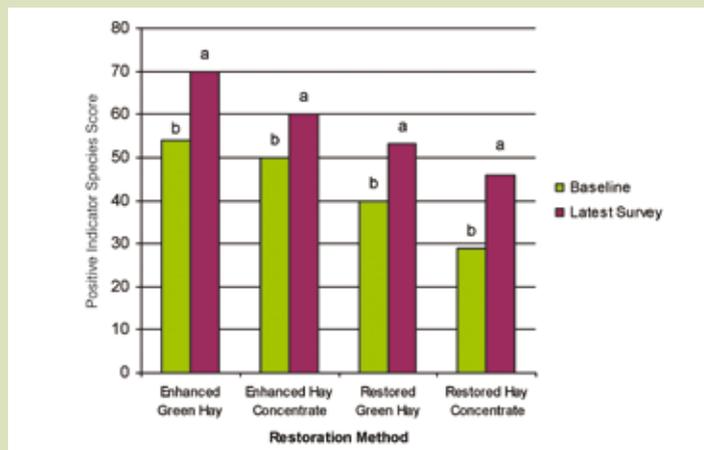
## Seed spreading – some results!

Between 2006 and 2009 we spread seed-rich green hay on 34 meadows in the North Pennines as part of the Hay Time project. The plant communities in 30 of these meadows have been monitored either by AONB staff or experienced volunteer botanists since seed addition. There are a number of species which are particularly characteristic of upland hay meadows which we hope to see becoming established. We refer to these as positive indicator species. During meadow surveys, these species are given a score between 1 & 4, the more special the species, the higher the score.

Over the winter months Ruth has pulled together and analysed all the botanical monitoring data collected so far. The results show that in 24 of the 30 meadows monitored (80%) there has been an increase in positive indicator species and in 9 of these meadows (30%) the positive indicator species score has increased by more than 25. Positive indicator species scores remained the same in 2 meadows (7%) and declined in 4 meadows (13%).

Cover main image – Pupils from Nenthead primary leading hay

Cover small images – top to bottom: Common carder bee feeding on water avens, yellow rattle, betony, eyebright



Plants that we have found to be very successful at establishing following seed addition include yellow rattle, common bent, eyebright, wood crane's-bill, ragged robin and lesser trefoil.

Monitoring all the sites where we have spread seed will remain a high priority during the final two summers of the project after which we will produce detailed results of our findings. These interim results serve to give us confidence that the approach we are taking works and that over the coming years we can expect to see more and more plants establishing in meadows where seed has been spread.



Volunteer botanists survey at least 15 quadrats in each meadow monitored (NPAP)

## Teesdale's buzzing

Fieldworkers from the Bumblebee Conservation Trust carried out four bumblebee surveys in Teesdale between May and August 2010. A total of nine true bumblebee species were recorded. Six of the species found are common and relatively widespread throughout the UK and three are locally scarce and/or rare.

We were delighted to learn that the rare moss carder-bee, which is listed in the UK Biodiversity Action Plan, was recorded on a number of occasions and was found to be closely associated with species-rich hay

Globeflower  
(S. Ingwersen)





Moss carder-bee (Bumblebee Conservation Trust)

meadows. This is a good indication of the quality of the habitat that is available to our bees and further emphasises the importance of maintaining and restoring our wonderful hay meadows.

A further important finding was that uncut banks and edges wider than 1m in hay meadows provide an important foraging source for bumblebees after the hay crop has been cut. By leaving wide uncut margins in their meadows wherever possible, farmers can significantly help to encourage and support our bumblebees.

## Hay – what’s all the fuss?

Our Marvellous Meadows Exhibition ran for a week in June 2010. Groups from 7 local primary schools participated in a carousel of activities including 'leading the hay & pike building', hay rope making, a bumblebee workshop and dressing up in period clothing for a group photograph.

*"The children were swept back to a simpler, harder time. And they loved it!"*

(K. Jones, Nenthead)



Pupils from Nenthead Primary School raking hay (NPAP)

*"A brilliant, well organised series of events which captivated the children and introduced them to many new ideas"*

(J. Cooper, Shaftoe Trust)



Pupils from Whitfield First School making meadow memory cards (NPAP)

*"It was wonderful to see the children so engaged in their learning and having fun at the same time"*

(L. Baker, Whitfield)



The winner of the Hay Time children's art competition (NPAP)

## Year 5 achievements

- 186 meadows surveyed
- 11 meadows monitored in detail by 11 volunteer botanists
- Advice offered to 34 farmers
- Seed spread on 45.26ha of meadows being restored or enhanced
- More than 130 individual hay meadow plants, grown by volunteer seed collectors, planted out in 5 meadows
- 90% establishment of 'plug' plants transplanted to meadows in 2009
- 'Three Steps to Hay Time' education programme run for 7 primary schools
- Hay Time History Roadshows run for 19 local community groups



Species-rich bank, Upper Teesdale (NPAP)

## Rich soil, poor soil

The botanical richness of the field margins and banks within meadows is often higher than that of the main body of a hay meadow. It is generally assumed that the reason for this is that the margins and banks do not receive the same levels of fertiliser (organic or artificial) and therefore have lower soil fertility with higher species diversity as a result. However, there is little data available to corroborate this theory. A small-scale study was therefore developed to investigate the differences in soil fertility between the main body of meadows, edges and uncut banks. Botanical assessments were undertaken and soil samples taken for analysis at 12 sites. Once analysed, the data clearly showed that the edges of meadows which receive only farmyard manure were the least nutrient-rich but supported the greatest diversity of upland hay meadow plants. By contrast, soils from the centre of meadows that receive both farmyard manure and artificial fertiliser contained the highest levels of nutrients but supported the lowest diversity of hay meadow plants. This study therefore confirmed the view that traditional hay meadow plants flourish best under low soil nutrient conditions.

## Plugging the gap

Despite the harsh winter, more than 90% of the globeflowers and great burnets planted out with the help of volunteers in the autumn of 2009 survived, thus starting the establishment of new populations of these species in these meadows.



Young great burnet plants established in a meadow in Weardale (NPAP)

<b>Rebecca Barrett</b>	AONB Project Development Officer & Hay Time Manager
<b>Ruth Starr-Kedde</b>	Hay Time Project Officer
<b>Neil Diment</b>	Hay Time Community Officer

For more information about our Hay Time project please visit the  
North Pennines AONB Partnership website:  
[www.northpennines.org.uk](http://www.northpennines.org.uk)

### NORTH PENNINES AONB PARTNERSHIP

Working together for the North Pennines

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