



Nidderdale
National
Landscape



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A GUIDE TO

grassland management for invertebrates

Before using this resource, you may want to use our '**types of grassland found in Nidderdale National Landscape**' guide to better understand what type of grassland you currently own/manage. With this knowledge you will be better equipped to create a species-rich grassland suited to your field.

WHY ARE INVERTEBRATES IMPORTANT?

Invertebrates, such as bees, butterflies, flies and spiders, are important organisms that help ecosystems function properly. They pollinate plants, eat pest species and are also food for many other animals like birds.

However, there have been large declines in the number and distribution of invertebrate species across the UK since the 1970's. This is partly the result of habitat loss and degradation. Therefore, it is important to support an invertebrate's full life cycle, from when it is a little grub to an adult. How a grassland is managed will determine the species of invertebrates it can support; wet rush pasture supports butterflies and flies; dry acid grassland supports solitary bees and wasps. However, just generally increasing the species diversity of plants on a grassland and managing it more effectively will support a whole host of different invertebrate species.

GENERAL MANAGEMENT TECHNIQUES

While there are specific management techniques you can employ to support a particular species, there are several general techniques that support a wide range of species.

Supporting the whole life cycle

Invertebrates start life as an egg and develop through different stages into an adult. At each stage they may require different resources. For example, when a butterfly is a caterpillar it will feed on vegetation, but as an adult it will feed on nectar from flowers. Supporting invertebrates through all these stages is important and below are several ways you can achieve this.

Having a mixture of grasses, sedges, rushes and wildflowers in your grassland will provide invertebrates with lots of different food sources. Lots of invertebrates feed on grasses as a larva, so they are an important component. Focusing only on wildflowers will provide a nectar source for adults but will not support the earlier stages of life.

Supporting early and late emerging invertebrates

Different invertebrate species emerge at different times of the year. For example, early bumblebee

queens emerge between March – May and need a food source early in the year. In contrast, the meadow brown butterfly doesn't emerge till between June – September and requires a food source later in the year.



Cinnabar moth caterpillars mostly feed on ragwort, while adults feed on nectar from a variety of flowering plants.

Having a mixture of early and later flowering species within a grassland will help provide a nectar source for emerging adults of different invertebrate species.

If possible, mowing some parts of a meadow later in the year (mid-August) will allow later-flowering species to persist to provide a nectar source. If the mown vegetation is not going to be used for livestock feed, then mowing in late-September is an option.

Supporting overwintering individuals

The vast majority of UK invertebrates hibernate over the colder winter months, but they do it in different forms; some overwinter as eggs laid in the soil or under leaf litter, others stay as adults and cosy up together under rock piles and bark. Whatever the form, these overwintering invertebrates need to be protected.

If a grassland is being managed as a meadow and cut, leave some uncut areas so that standing dead vegetation persists into the coming year. These uncut areas can be at the edges of a field, or one portion of the field. It is advised to rotate these uncut areas on a 3-year cycle to prevent tree and scrub species from colonising.

Mown vegetation can be piled up in the corners of a field to create 'habitat piles' that invertebrates can live and

feed within.

If a grassland is being managed as a pasture, make sure to not overgraze and create uniformed short vegetation. Light grazing will create a different vegetation structure, providing invertebrates with refuge areas.



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Harebell (top) is a later flowering species from July - September whereas ground ivy (below) flowers earlier in the year from March - June.

Habitat specific management techniques

The type of grassland managed will determine the habitat-specific management techniques available to use. Below, grasslands have been split up by type to determine which techniques are needed for a specific site.

Lowland dry acidic grassland

Dry acidic grasslands have sandy soils which are porous and well-drained, therefore, they offer plenty of nesting opportunities for ground-dwelling and burrowing invertebrates, such as solitary bees, wasps and ground beetles.

Having an appropriate **grazing regime** is important here as acidic grasslands are usually used as pasture and not meadow, meaning grazing by livestock is the main driver of change. This usually means **grazing lightly** on a **rotational system** (where livestock are moved from area-to-area every few days) using a **variety** of different **animals** such as cows and sheep. Graze during the **main growing period** (July-December) to keep vegetation from getting too high.

Create **interspersed bare ground** across the grassland for invertebrates to burrow in. Grazing will help stop vegetation dominating. **Movement by animals** will create bare ground, however, **human intervention** may be required in the use of rakes or a chain harrow.

Ensure some **tussocky vegetation** is still present – **don't overgraze!** This will create areas where invertebrates can overwinter.

If unable to graze, cut and remove vegetation to keep nutrient levels low. Mow in a **weaving fashion** to create a mosaic of cut and uncut areas.

Purple moor grass and rush pasture

This habitat type occurs on poorly drained clay or peaty soils with high rainfall. The combination of waterlogging and a general medium to high vegetation structure favours species of hoverfly and butterfly.

Establishing a **medium – low level grazing regime** is the most appropriate method of management for this habitat type. **Cows** are by far the best animal to use, however a mixture of sheep and hardy ponies is acceptable.



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Belted galloway cows are a good breed for conservation grazing and creating habitats for invertebrates.

Encourage a **diverse vegetation structure** through mowing and grazing regimes. Do not cut large areas all at once, **stagger** the **mowing** to create a **patchwork**

of vegetation heights. **Remove** cut vegetation as soon as possible to allow smaller plants to grow where mown. Cut slightly **above ground level** to **minimise disturbance** to mosses, sedges and small plants.

Maintaining a **high-water table** is important for this habitat type to function properly. Damming any drains present will increase the water table and create pools, which are beneficial for invertebrates such as dragonflies.

Controlling scrub encroachment will help maintain a varied vegetation structure, however, fully removing all scrub from an area can be detrimental to invertebrate diversity. Creating a **patchwork of scrubby areas is optimal**.

Hay meadows

Usually located on neutral pH loamy soils, hay meadows, as their name suggests are usually mown to produce hay, which is taken from site and fed to animals during winter months. However, mown vegetation can be disposed of if livestock are not part of a management system. They are an important habitat type that provide large nectar resources for pollinators, however, once cut, they provide far fewer benefits to invertebrates, so managing the timing and mode of mowing is important. Also, incorporating meadows within a larger mosaic of other habitat types such as pasture, woodland and scrubland allows invertebrate species to move into these once meadows are cut. Simply having large expanses of hay meadows will not support the largest diversity of invertebrates. The time of year mowing is conducted is a crucial part of meadow management. Mow too early and plant species will not be left to flower and set seed. Not mowing at all will mean a meadow can become rank, where tall coarse grasses dominate, and wildflowers are pushed out. **A general rule of thumb is to mow late-July/early-August** - most species have set seed by then. However, leaving some areas till late-September before mowing is beneficial as it allows later flowering species to set seed and provides a nectar source for invertebrates later into the year. Mowing the same areas at different times of the year each year will help create distinct plant communities which support different invertebrate species.



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Unmown areas either side of the blue tractor provide invertebrates with refuge areas during mowing.

Cows are the **preferred** grazing animal during the majority of a meadows yearly cycle. Their **dung** is more **beneficial** to invertebrates, and they create a more **diverse sward structure**. However, sheep grazing in late-Winter/early-Spring helps create a short, uniformed sward going into the next growing season which benefits less competitive plant species and can increase diversity.

OTHER RESOURCES

Below is a list of other resources available on the internet to gather information from.

- [Greater Lincolnshire Nature Partnership: dry acid grassland, a guide to management.](#)
- [Climate change adaption manual \(pages 149 – 154\)](#)
- [Climate change adaption manual \(pages 122 - 127\)](#)
- [Butterfly Conservation Trust: Managing rush pasture with wildlife interest](#)
- [Grassland management for invertebrates | Suffolk Wildlife Trust](#)

FUNDING

To help fund grassland management, try and take advantage of agri-environment schemes. These can help fund restoration works and ongoing management. Below are two funding schemes which you may be eligible for.

Sustainable Farming Incentive (SFI): [Sustainable Farming Incentive: guidance for applicants and agreement holders](#) - this is currently unavailable and will become available in April 2026.

Countryside Stewardship Higher Tier (CSHT): [Countryside Stewardship Higher Tier](#)

Contact us

If you have any questions about managing your grasslands, please get in touch with our team:

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