

MAXIMISING THE BIODIVERSITY POTENTIAL OF ARABLE RESTORATIONS

Introduction

The presence of best and most versatile soils (BMV) may influence the decision to restore a mineral site to an agricultural use following extraction. However, this need not preclude the creation of a site that maximises the potential for biodiversity. Nature After Minerals is keen to show that sites restored to agriculture can integrate the needs of priority habitats and species found on farmland, and [Laleham Farm](#) is a case in point. This advisory sheet will look at a number of enhancements that can be incorporated into an agricultural restoration plan, that will provide important reptiles alike.



Andy Hay (rsps-images.com)



Game Conservancy, Allington (c) Roger Key

Beetle Banks

Beetle banks are 2m wide grass banks that run through the middle of a large arable field, and are generally appropriate for fields larger than 16ha and more than 400m wide. This tussocky grass strip will provide essential over-wintering habitats for many insects and spiders which will then move into the crop in spring to feed on crop pests. Invertebrates species that favour this type of habitat features can only travel up to 250m from a grass margin, so would not effectively reach the centre of a field if such a feature was not incorporated. These grassy strips will also provide habitats for small mammals such as harvest mice. When creating the beetle bank, the grass mix

used should include a high proportion of tussock forming species, such as cock's-foot or Timothy grass. The beetle banks should be protected from spray drift, and managed through cutting no more than once every three years.

Field Margins

Floristically enhanced margins around an arable fields can provide an important pollen and nectar source for pollinating insects, as well as grassland for over-wintering insects. Field margins can be created either through natural regeneration or sowing with a native seed mix. The former more suited to chalky or sandy soils with fewer noxious weed problems. Wildflower margins are best established along margins that receive plenty of sunlight but are sheltered from winds, thereby boosting insect activity. The most wildlife benefits will be accrued from using a range of



Andy Hay, rsps-images.com

margin types, widths and management regimes, although all should be protected from pesticides or fertilisers.

Skylark Plots

Skylark plots are undrilled patches in winter cereal fields, a feature that has been proven to boost nesting opportunities for skylarks in areas of predominately autumn-sown crops. They are easy to create by switching off the drill or spraying out to create bare patches of 4x4m or 3x6m. The optimum number of plots which has been shown to have significant benefits is two skylark plots per hectare. No specific management will be required, and skylark plots can receive the same sprays and fertilisers as the rest of the field.



Skylark plot at RSPB's Grange (Hope) Farm



Hedgerows

Hedgerows are a very important feature in an arable landscape, creating a network of corridors for a number of species to utilise for movement, foraging and breeding. The base of the hedgerow, when kept dense, can provide important protection for nesting birds, and creates additional habitat for small animals and insects. Hedgerow management should be aimed at maintaining a variety of types and sizes of hedgerow to maximise the variety of wildlife they can support, but as a general rule trimming on a two- or three- year rotation outside of the nesting season (March-August) is advised.

Ponds

Wetland features incorporated within an agricultural restoration can provide benefits for a wide range of aquatic plants and invertebrates and subsequently boosting the availability of insect food for birds and other wildlife. Ponds should be designed with gentle shelving margins, reaching a maximum dept of 2m or less. This will create an important draw-down zone, allowing a muddy edge to be exposed progressively through the spring and summer, benefiting a large range of species. Ponds are quickly colonised, so it should not be necessary to introduce any plants (or animals) upon creation. The pond ideally should be located in an open situation, especially around the southern edge to allow for exposure to sunlight. To protect a new pond from fertilisers and pesticides, ideally incorporate a 10-15m buffer zone of either species-rich grassland and /or scrub, and potentially incorporate a log or stone pile which can act as hibernaculum for amphibians, reptiles and insects.



Andy Hay, rspb-images.com