Butterfly Conservation

MANAGEMENT FACTSHEET

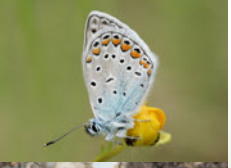
Seeding and plug-planting for butterflies

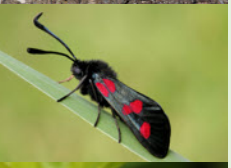
Even the best sites for butterflies and moths may lack important larval foodplants or nectar resources. This factsheet suggests some ways of increasing the variety of native herbs and grasses.

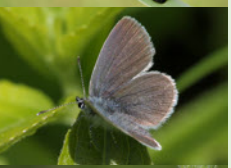
BUTTERFLIES & MOTHS THAT CAN BENEFIT

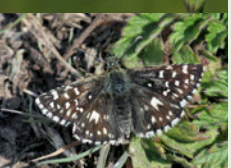
(*top to bottom*)

Common Blue
Dingy Skipper
Five-spot Burnet Moth
Small Blue
Wood White
Grizzled Skipper
Adonis Blue









WHY USE SEEDING OR PLUG-PLANTING?

It is often not possible to rely on plants natural ability to persist from year to year or to colonise new sites. Introducing selected larval foodplants or nectar resources can help key butterflies and moths to maintain viable populations and even to expand into new areas. This can be particularly appropriate for the conservation of the Small Blue, which is reliant on a continuous supply of flowering Kidney Vetch, but many other species can also benefit.

BEFORE YOU START

When to use these techniques: The techniques described in this factsheet are intended for use on small sites and will produce new habitat or enhance existing habitat for butterflies and moths. Two methods of increasing the variety of native herbs and grasses are described here - seeding and plug-planting. These can be used separately or together. These techniques are not suitable for creating large-scale wildflower meadows or for returning arable land to flower-rich grassland.

Planning: Carefully survey the existing habitat. You do not want to destroy an existing flower-rich verge or the location of a rare orchid. Check for any archaeological interest (even if not a listed site) and be aware of possible restrictions on soil disturbance, seeding or planting on designated sites such as a nature reserve or SSSI. Assess your resources (both money and labour) and the size of the project area so that you can select the most suitable method/s.

Sourcing seed and plug plants: Use appropriate local provenance wild species, do not use garden varieties. Contact *Flora Locale* (www.floralocale.org) for lists of suitable suppliers.

SOWING WILD FLOWER AND GRASS SEED

Preparing the ground: Seed will need to be sown into bare ground or else the seedlings will fail due to competition from any established vegetation. The following four methods of creating bare ground are suggested. These can either be used to produce bare ground over the whole project area or to produce patches/strips within existing vegetation (for example to enhance an established wild flower area). Additional variation in habitat can be produced by using more than one method within a single site.

Method 1 **Remove the top soil** This is a good method for creating a large area of bare ground. Use earth moving machinery to scrape off and remove about 30 cm of the top soil. The underlying soil will be less fertile and so more suitable to establishing and maintaining a varied vegetation. The soil that is removed could be used to make a butterfly bank (see factsheet available as a download from the Butterfly Conservation web site).

Method 2 **Rotavate strips** Use a heavy duty garden rotavator to produce strips of bare soil as wide as the rotavator blades and approximately 5 metres apart.

Method 3 **Use herbicide** This is usually less successful than rotavation and the area cannot be seeded until the herbicide is no longer active (7 or more days). Spray herbicide such as a 15% Glyphosate treatment in strips of at least 0.5 metre wide. Knapsack or hand-held spraying equipment can be used. The length of time before sowing can occur will depend on weather conditions, the herbicide instructions will give guidance.

Method 4 **Create small pits** Chunks of grass are dug up using equipment such as a mattock (heavy work but very effective), a small garden spade or heavy duty trowel. The pit should be sufficiently deep so that most roots have been removed and bare earth is exposed. Repeat the process approximately every 1 to 2 metres across the site. Sowing is not carried out as described in "General sowing method" below, but is best done using 10 to 20 seeds of only a single plant species in each pit. The process can be repeated for the same or for different plant species whenever needed. This is only suitable for small scale seeding projects within established vegetation. It is resource intensive but can be ideal when there is a good volunteer base and limited finance.

General sowing method: Sow the seed mix onto the exposed soil by hand-casting large pinches of seed (50 to 100 seeds) with a flick of the wrist. On banks or slopes a useful technique is to only seed along the top of the bank. The growing plants will later drop seeds down the slope so the area will develop a good cover in a highly cost-effective manner.

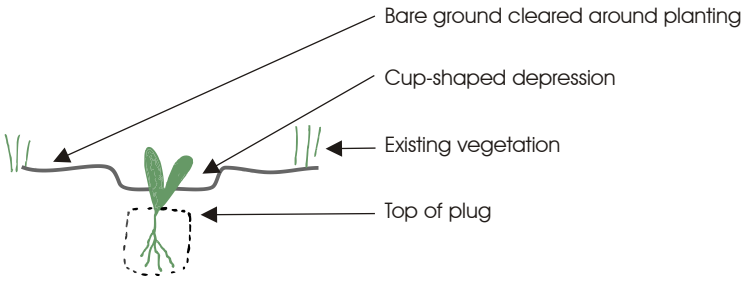
PLUG-PLANTING

Plug plants are container-grown young plants that can be planted directly into the existing vegetation. This can be a rapid means of adding species diversity and is useful if the established vegetation is too thick and vigorous to allow new seeds to flourish. However, there can be a high failure rate when planting plug plants in the wild, usually due to lack of water and/or animal activity. Plug plants tend to be small and they will need to be kept well watered both before and after planting. Once planted, it is common for animals to be attracted to the young plants and the disturbed ground. Rabbits, badgers and pheasants are common culprits for digging or scraping newly planted areas and young plants will also be susceptible to being eaten.

The probability of success can be improved by using the following planting techniques: -

1. Plant within a shallow cup-shaped depression in order to retain water.
2. Plant slightly deeper than normal gardening practices so that the shoot is slightly buried. Match the shape of the hole to the size of the plug. If planting within an established sward then clear a small patch of bare ground around the plug.
3. Place stones or aggregate over the planting to reduce the chances of the plugs being disturbed by animals such as rabbits. If the plugs are well watered before the stones are placed then this will limit desiccation and reduce the need for frequent watering. In extreme cases, the young plants can be temporarily protected by wire cages.
4. On slopes or butterfly banks it is a good idea to locate all the planting along the top of the slope. The growing plants will later drop seeds down slope so the area will develop a good cover in a highly cost-effective manner. However, problems with desiccation can increase when planting at the top of slopes so make sure they are well watered.

Newly-planted plug plant showing planting techniques 1 and 2



Kidney Vetch plant protected by stones

SEEDING AND PLUG-PLANTING KIDNEY VETCH FOR THE SMALL BLUE

The sole larval food-plant of the Small Blue butterfly is Kidney Vetch and it needs flowering plants. However, Kidney Vetch is a short-lived and shallow-rooted perennial. This plant requires nutrient poor soils, often using slopes with a high percentage of bare ground and stone. It is very susceptible to drought and also to grazing so can quickly disappear from a site.

For these reasons, conservation projects at Small Blue sites, such as the example shown on the right, often incorporate seeding or planting. Such projects need careful long-term planning as it is essential that the Kidney Vetch will flower, seed and that there will be successful germination of the young seedlings each and every year.

On this Warwickshire roadside, Kidney Vetch was planted along the top of the slope so that the growing plants will drop their seed down slope producing a slow colonisation over a number of years. If the Kidney Vetch later starts to decline at the top of the slope then seed can be collected lower down and re-sown along the top.

Kidney Vetch plug plants can be used as detailed in the section above, but if seeding is to be used then the timing and technique is critical. Sow in spring rather than in autumn because there will be fewer small mammals around to eat the seed. Seeding must be into bare ground, but that is likely to dry out rapidly killing the young seedlings so try and coordinate sowing with wet weather.

Sowing Kidney Vetch into large patches of bare ground is usually much less successful than sowing into small scattered pits. Make each pit about 5 centimetres deep with 10 to 12 seeds in each. The pits will not only retain water but will also reduce any grazing damage.

Butterfly Conservation

Saving butterflies, moths and our environment

Butterfly Conservation

Telephone: 01929 400209 Email: info@butterfly-conservation.org

www.butterfly-conservation.org

Company limited by guarantee, registered in England (2206468)
Registered Office: Manor Yard, East Lulworth, Wareham, Dorset, BH20 5QP
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Text: Mike Slater (Warwickshire Branch Butterfly Conservation)
Photographs: Steve Batt, Keith Warmington and Wessex Environmental Associates
Design: Wessex Environmental Associates