Big City Butterflies

Site advice: Clapham Common

21 January 2022 version 4

Introduction

Members of the Clapham Common Management Advisory Committee expressed an interest in working with Butterfly Conservation to improve meadow habitat on the common as part of the Big City Butterflies project. The project is working across 17 inner London boroughs over the next 4 years to engage land managers and community groups in discovering butterflies and moths in their local greenspaces and providing advice and training in habitat management and butterfly recording.

Habitat management recommendations to support butterflies, moths and other pollinators are provided below and are fully supported by CCMAC and the Friends of Clapham Common. The primary contact is Gareth James. The Friends group have confirmed they can fund the majority of the cost with Butterfly Conservation funding the remainder and supplying seed and plants as required. The methods used will be monitored and provide case study information for Butterfly Conservation and other land managers.

Butterflies in London

The UK supports over 2,500 species of moth and 60 species of butterfly. They are indicators of the health of the environment, play crucial roles in the food chain, and many are important pollinators of plants. Three-quarters are in decline and have been so for the past 40 years. However, butterfly numbers in London are slowly increasing with gardens and greenspaces providing important havens for over 25 species within inner London.

21 species have been recorded in the Clapham Common area including Small Copper and Large Skipper, London Biodiversity Action Plan Priority Species, see list below. Experience from other parks in London, shows that butterfly species can respond quickly to changes in habitat and management practices. Changes that favour butterflies will also benefit moths and other invertebrates - and of course birds, bats, and other species groups.

- Hibernators: Brimstone, Red Admiral, Small Tortoiseshell, Peacock and Comma
- Whites: Large White, Small White and Green-veined White
- Browns: Small, Essex and Large Skippers, Speckled Wood, Gatekeeper, Meadow Brown, Ringlet
- Blues: Common Blue, Holly Blue and Small Copper
- Migrants: Painted Lady
- Canopy/woodland: Purple Hairstreak and Silver-washed Fritillary

Habitat Requirements

To complete their life cycle, butterflies need:
Caterpillar foodplants: The caterpillars of many butterflies feed on only one or two species of plant.
Adult butterfly food resources: Usually flowers for nectar or honeydew produced by aphids.

Shelter: For adults to establish territories, to provide warm conditions for adults to bask and for egg and caterpillar development.
Over-wintering sites: For hibernating eggs, caterpillars, chrysalises or adults (e.g. dense vegetation, grass tussocks).

Nectar sources can be provided by maintaining a variety of native wildflowers that flower throughout the season. Establishing meadow habitat with native perennial flowers is best way to achieve this, it also provides many caterpillar foodplants and areas for butterflies and wildlife to shelter. Parts of the meadow should be left uncut each year as over-wintering sites.

Providing a variety of habitats supports the greatest number of species i.e. short (species rich) grassland, long grassland, scrub and trees/woodland. This variety also helps maximise biodiversity generally. Managing and planting scrub and trees will provide caterpillar foodplants for Brimstone butterfly (Buckthorn), Brown Hairstreak (Blackthorn), White-letter Hairstreak (Elm), Holly Blue (Holly and Ivy) and Purple Hairstreak (Oak). Wild areas with Common Nettle in sunny sheltered situations will provide caterpillar foodplants for Peacock, Small Tortoieshell, Red Admiral and Comma.

Habitat management proposals

Meadow Creation

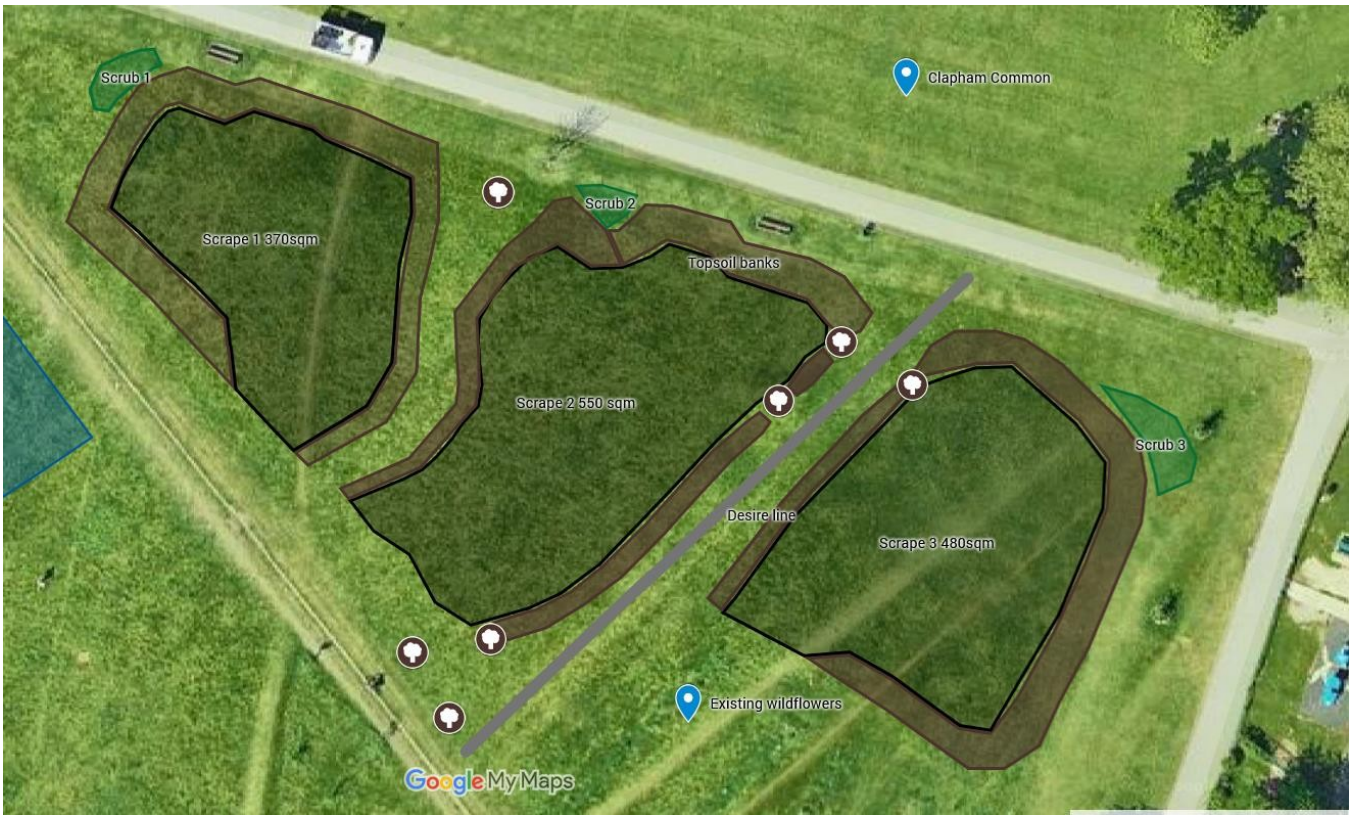
The best species rich meadow habitats occur on low nutrient soils and are maintained by annual cut and collect mowing or grazing that helps remove/control nutrients. This prevents coarse grasses taking over and encourages fine grasses and wildflowers which support many pollinating insects and butterflies. These principles are used when creating new meadow habitat and enhancing existing species poor grassland. A number of methods were discussed with CCMAC and the final proposals are provided below:

Meadow and scrub creation – scrape

- Create species rich meadow habitat by using an excavator to scrape away approx. 6" /150mm of turf and topsoil to expose low nutrient subsoil and seed with a suitable meadow mix, see species list Appendix 2. The edges of the scrape will be graded to allow access for mowing machinery and to blend with surrounding grassland. Wildflower plug planting can also be done to help speed up establishment which is likely to take 1-2 years. Cornfield annual wildflowers will provide some colour in the first year.
- Stripped topsoil can be used to create low south facing curved banks no more than 600mm in height to help provide sheltered conditions and a range of micro-climates for breeding butterflies. The banks would be mainly grass with clumps of shrub planting to include Hawthorn, Blackthorn and Buckthorn which support numerous butterflies, moths and other wildlife.
- See sketch plan for proposed dimensions and example photographs showing subsoil scrapes in Appendix 1.
    - *The plan shows the amended design which accommodates new tree planting and desire line and extends a third scrape to the east totalling 1,400sqm. The approximate volume of topsoil to be moved is 420 tonnes. Bank dimensions around the boundaries total 130m x 3m x 0.6m and would retain approx. 234 tonnes, bank dimensions between scrapes total 107m x 2m x 0.4m and would retain approx. 86 tonnes of topsoil. This would leave approx. 100 tonnes or 7 grab lorry loads to be moved elsewhere. Removal from site is circa £395 +VAT per lorry.*
- I would highly recommend contractor https://www.iandjbushell.co.uk/ who I have worked with on previous projects in Croydon and Bromley greenspaces. They have provided a quotation with a number of options to allow some flexibility in terms of spoil handling. The Friends group have confirmed the costs are affordable. A full method statement and risk assessment can be provided by the contractor following in principle approval.

- The work can be planned for March 2022 with exact timings dependent on ground conditions.
- We can supply seed and plants and contribute towards the cost of the contractor up to £500.
- Establishing on subsoil will help prevent coarse grasses and more vigorous plants taking over, maximise biodiversity and make maintenance easier with a lower volume of cuttings to deal with. It may not need any cutting for a few years but an annual cut and collect will be required in future.

Sketch Plan (newly planted trees indicated by tree icons)



Cut and collect restoration method

- Fertility can be reduced by doing 2-3 cut and collects in one year allowing grass to grow long between each cut. This will help reduce grass dominance and encourage wildflowers and can be repeated over more than one year if necessary. Scarification with machine or rake can then be completed before seed sowing to improve biodiversity. Cutting could be done as part of Lambeth's mowing regime using cut and collect machinery. An indicative trial area is shown on the plan below. This method can then be used on larger areas within the park once the results have been demonstrated.
- A low cut and collect, raking to expose bare patches and seeding Yellow Rattle in autumn can also be used to reduce grass dominance as it parasitises the grass. Seeding with a meadow mix can then be done the following year after the autumn cut and collect.

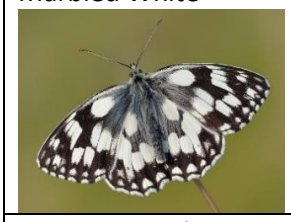
- *Iain confirmed that cut and collect machinery will be available for the recommended restoration cut and collect in approx. April, July and September. We also agreed to look at other areas on the common where this approach can be adopted to enhance biodiversity.*

<u>Monitoring</u>

- Volunteer training can be provided to monitor butterflies on a monthly basis in spring/summer and a simple method of grassland condition/biodiversity monitoring. This will help establish a baseline against which results can be measured.

The majority of the 21 butterfly species recorded in the area will benefit from improved meadow and scrub habitat. In particular, the following species will benefit from enhanced breeding habitat with the potential for new species to colonise the site such as Marbled White:

Butterfly	Larval food plants	Nectar source	Habitat
Meadow Brown 	Grasses: Bents, fescues, meadow grasses (Poa spp.) also cock's foot and false brome	Knapweeds and thistles preferred but also uses other species	Open grassland

Small Skipper* 	Grass: Yorkshire Fog	15 species used including knapweeds, thistles, wild marjoram, birds- foot trefoil	Tall grassland
Marbled White 	Fine grasses: Red fescue, Sheep's Fescue, also Yorkshire Fog	Clovers, knapweeds, thistles, wild marjoram, wild thyme, yarrow	Tall, unimproved grassland
Large Skipper* 	Grass: Yorkshire Fog	Brambles, thistles preferred	Tall, often damp grassland
Small Copper* 	Common Sorrel, Sheep's Sorrel, Dock	Common Fleabane preferred but also uses other species	Warm dry situations in variety of habitat
Common Blue 	Birds-foot Trefoil	10 species used including birds-foot Trefoil, knapweeds, thistles, wild marjoram	Sunny, sheltered grassland
Ringlet 	Grasses: Cock's Foot and False Brome also meadow grasses	Brambles preferred but also uses other species	Damp, tall grassland
Gatekeeper 	Fine grasses: bents, fescues, meadow grasses (Poa spp.)	Ragworts, bramble preferred	Tall grassland near hedges and scrub
Small Heath*	Fine grasses: Bents, fescues, meadow grasses (Poa spp.)	Ragworts, tormentil, bramble, yarrow	Dry, well-drained, short, sparse grassland (e.g. Acid grassland)

			
Brimstone 	Shrubs: Buckthorn and Alder Buckthorn	Thistles preferred	Scrubby grassland, woodland, hedges
Brown Hairstreak* 	Shrub: Blackthorn, particularly young growth	Honeydew preferred	Hedges, scrub and woodland edge where Blackthorn is prominent and not flailed every year

*London Biodiversity Action Plan Priority Species. Created as part of the London Environment Strategy 2018. https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/london-priority-species

For more information on butterfly species please refer to our website here.

For more information on habitat management advice visits, training and funding habitat enhancements please contact; Steve Bolton, Conservation Officer, sbolton@butterfly-conservation.org

Appendix 1

Example of a scrape

Coney Hall Rec, Bromley. Photo taken after work was completed by I&J Bushell Ltd in March 2021

Coney Hall Rec, Bromley. Photo taken in summer 2021 (not yet fully established - many more wildflowers than surrounding meadow grassland)

Appendix 2

The seed mix below will support many pollinating insects by providing nectar/pollen and caterpillar food plants such as Birds-foot Trefoil that supports Common Blue butterfly. Cornfield annuals will provide some initial colour in the first season as the perennials develop.

20% Native Wildflower Species (3x annual, 18x perennial)
Centaurea cyanus Cornflower
Glebionis segetum Corn Marigold
Papaver rhoeas Corn Poppy
Myosotis Arvensis Field forget-me-not
Lotus corniculatus Bird's-foot trefoil
Dipsacus fullonum Teasel
Echium vulgare Viper's Bugloss
Reseda lutea Wild mignonette
Centaurea nigra Common Knapweed
Galium verum Lady's Bedstraw
Knautia arvensis Field Scabious
Origanum vulgare Wild Marjoram
Trifolium pratense Wild red clover
Prunella vulgaris Selfheal
Silene dioica Red Campion
Silene flos-cuculi Ragged Robin
Silene latifolia White Campion
Stachys sylvatica Hedge Woundwort
Vicia cracca Tufted Vetch
Vicia sepium Bush Vetch
Rumex acetosa Common Sorrel

80% Native grasses
Agrostis capillaris Common Bent
Cynosurus cristatus Crested Dogstail
Festuca rubra Red Fescue
Poa pratensis Smooth-stalked Meadow-grass