

Biodiversity Opportunities

Langmore & Lister Gardens, Lyme Regis

January 2025

This report is the responsibility of Abbas Ecology,
It should be noted, that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment,
or prediction of the natural environment

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Introduction

A visit to the gardens was carried out in May 2024 in order to ascertain how Langmore & Lister Gardens in Lyme Regis could be enhanced in terms of biodiversity.

This report sets out steps that could be undertaken in order to ascertain what could be done to improve Langmore and Lister Gardens for both species and habitats.

The author of this report is Debbie Blake, BSc (hons) who is a qualifying member of the Institute of Ecology and Environmental Management. She is experienced in vegetation surveys in particular heathland environments.

The report was commissioned by Pete Williams of Lyme Regis Town Council

Site

The gardens are located within Lyme Regis, accessed via Pound Road. The gardens are open to the public with pathways providing access to all areas of the site as well as Lyme Bay, a crazy golf course and seating shelters are also present. Ornamental planting and areas of modified grassland make up the majority of the site with a section of woodland within the northern section of the gardens, tree planting and vegetable plots also present. The gardens are crossed with pathways which provide access to all areas of the site

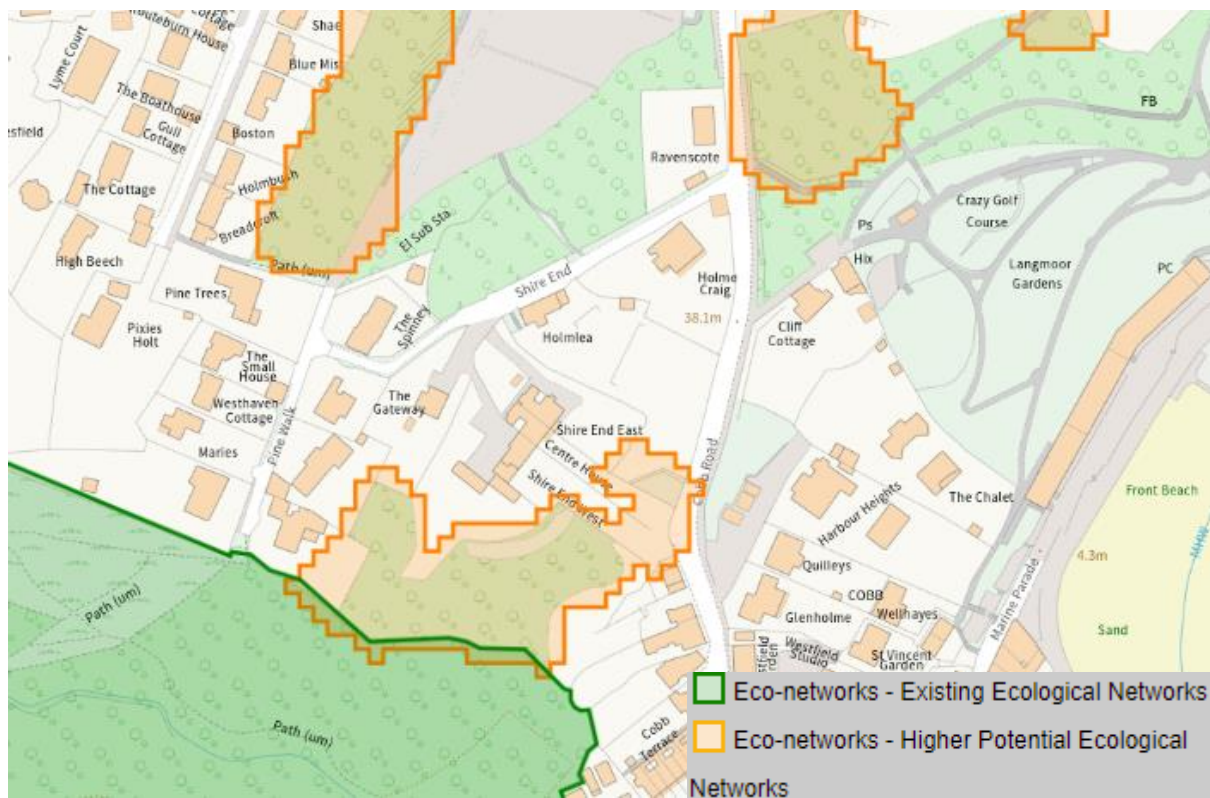


Figure 1: Existing and Higher Potential Ecological Networks

Part of the woodland within the gardens is a Higher Potential Ecological Network with a larger area of Existing Ecological Networks to the southwest as shown below. These corridors and stepping stones are important both as buffers and links allowing the natural dispersal of species.

Opportunities

Habitats

Mixed Scrub

The introduction of mixed scrub would provide a beneficial habitat for many species of birds as well as cover for small mammals.

This can be achieved by planting native species which will be managed by a rotational cut to 1/5th of the area each year allowing different ages of scrub to develop as well as create a varied structure. No more than 50% of the scrub should be managed within the same year. Scrub should be maintained between September and February to avoid nesting bird season.

New plants should be planted between November and March for higher success rate when establishing. Planting in rows should be avoided and the edges of the scrub area scalloped. An ideal species mix would include willow, hazel and hawthorn with fruiting species such as wild cherry, crab apple and plum incorporated such as [Hedge mixes - Woodland Trust | Woodland Trust Shop](#). A mix of species will extend the period of time blossom is present within the area benefiting pollinators. Honeysuckle should be included within the mix. An ideal area for this would be adjacent to the woodland.

Trees and Woodland

By planting additional species of fruiting trees among the fruit trees already present the period of time blossom is present within the area will be extended providing a more staggered length of time blossom is present, benefiting pollinators. Pruning the fruit trees at different times throughout the season will also extend the time pollen and nectar will be available.

Woodland- sky lighting to promote a mixed habitat mosaic by allowing more sunlight to reach the floor in certain areas of the woodland to allow neighbouring tree seeds and bramble to grow and a low shrubby undercover to form, this is beneficial to many nesting birds as well as invertebrates. Dead wood should be retained on site and piled within dappled shade to create habitat for small mammals, amphibians, reptiles and invertebrates to shelter and forage. The woodland should be kept clear of invasive species such as rhododendron and laurel.

Grassland and Planting

An area of night scented plants will provide an important feeding area for moths which are declining by approximately 10% per decade (RSPB 2021 Night scented plants for moths). Night scented plants include evening primrose (*Oenothera biennis*), bladder and white campion (*Silene Vulgaris/latifolia*) and night-scented stock (*Matthiola longipetala*). Honeysuckle also provides an excellent food source for moths in particular hawkmoths. These should be planted in close proximity to allow moths to find the plants easily. The moths and caterpillars will provide an important food source for many other species such as bats, birds, small mammals and spiders.

The areas of grassland which are used as lawn areas for the public would benefit from being oversewn with wildflowers that can withstand regular close mowing such as British Wildflowers for Lawns | 100% Wildflower Seed Mix which includes species such as self heel, buttercup and yarrow, other species which could be oversewn and withstand regular maintenance include clovers. Examples are shown in the photos below



Tussocky grassland can support a higher abundance of invertebrates therefore providing a good food source for birds, bats, reptiles and small animals such as shrew and vole. Tussock forming grasses such as slender creeping red fescue and cock's foot should be used with a good example of a seed mix to create this habitat being EG10 Tussock Grass Mixture which contains both previously mentioned species as well as meadow foxtail, crested dog's tail, tall fescue and smooth stalked meadow grass.

Ongoing management to reduce the amount of horsetail present onsite will be beneficial to creating more usable planting space. This can be achieved by regularly mowing the horsetail and pulling and cutting new plants as they appear or by covering the area affected with turf to smother the plants.

Water

Introduction of freshwater to the site by creating small shallow ponds which will be safe for the public such as the one shown below will benefit multiple species providing drinking water as well as habitat for invertebrates and amphibians. Sited close to the vegetable a suitable water source will also encourage amphibians to the area which will aid in the control of slugs and other unwanted visitors the vegetable plots.



Ponds should be sited within an area that receives between 4-6 hours of direct sunlight with placement underneath trees avoided. A range of depths within the pond creates niches which will benefit invertebrate and amphibian species. An escape route should be included in order to allow small mammals to escape the water.

Larger ponds will be able to support a larger range of species although these may pose more of a danger to the public and therefore would need precautions in place. If open water poses too much of a risk a safe alternative of providing water could be fountainscapes as shown below, which will provide fresh drinking water for birds, invertebrates and small animals however these do not provide suitable habitat to support invertebrates and amphibians.



Compost piles

Composting spent flowers, grass clippings and other garden waste is a good way to improve biodiversity with many kinds of fungi and soil micro-organisms contributing to the process, while worms, woodlice, slugs and other invertebrates also feed on the decaying material. These provide food for birds, hedgehogs, reptiles and other wildlife. Avoid use of chemicals and pesticides where possible when maintaining the gardens.

Signage

Educational Signage is already onsite which could be increased to cover more aspects of the ecology onsite such as the importance of tussocky grassland habitats if implemented or the role of certain species present within the ecosystem such as bats for insect control or frogs as benefiting gardens due to slug predation, if pond habitat introduced.

Species

Bats

A mixture of different bat boxes will provide a variety of roosts for bats at different times of the year and for different purposes. Woodcrete bat boxes are recommended as they have a longer lifespan compared to wooden ones as well as providing a more stable temperature within the roost which is beneficial to bats particularly during hibernation. Boxes should be positioned at least 3m from the ground with a clear flightpath to the entrance of the boxes, free of branches and vegetation and away from artificial lighting. A group of 3 to 5 boxes facing in different directions will provide a variety of micro-habitats. Below are good examples of bat boxes which are available from <https://www.nhbs.com/> as well as other online stores.

The Schwegler 2F bat box and the Large Multi Chamber WoodStone Bat Box are general purpose bat boxes providing summer roosting habitat for many species of bat including common, soprano and Nathusius's pipistrelle, noctule, Brown long-eared bat, and Natterer's bat. This multi chambered bat box has a large internal space that can accommodate a colony of bats and can be used as a summer roost, maternity roost or hibernation box however only during mild winters. The Schwegler 2F has a removable front panel and can be converted to a bird nest box using a [replacement 1B front panel](#) if there is no evidence of bat activity after a couple of years.



Schwegler 2F bat box



Large Multi Chamber WoodStone Bat Box

Specialised boxes are available for maternity and hibernation roosts which have slightly different requirements.

The Schwegler 1FS Large Colony Box provides bats with a large internal space suitable for both summer and winter use. This allows high numbers of bats to congregate together and makes it popular for accommodating large colonies of bats during the summer, particularly noctule, Nathusius' pipistrelle and brown long-eared and nurseries containing 70-100 bats have been observed using this box. The large internal space and variety of hanging places makes it ideal for bats to use as a nursing area.

The 1FW Schwegler Bat Hibernation Box is made using high quality light-weight concrete which provides insulation against temperature fluctuations, allows air to pass through the walls, and prevents the formation of condensation. A Multi-layered cavity wall provides insulation while also allowing the air to permeate. This makes it ideal both for hibernation in winter and for encouraging large colonies in summer. 180 hibernating individuals have been recorded within a 1FW box. There are three internal, grooved, wooden panels which can be easily lifted out for inspection and cleaning, and the same roof panel as the 1FS.



1FS Schwegler Large Colony Bat Box



1FW Schwegler Bat Hibernation Box

Woodland and open fields with hedgerows are present to the west of the gardens which provide ideal foraging habitat for bats, a commuting corridor to these areas from the woodland within the site to the west would allow bats to commute between the sites more easily.

This could be achieved by creating denser vegetation along the boundary with Cobbs Road (shown in yellow) such as a line of trees or thickening of the hedge which foraging bats will use as a commuting feature to the wider landscape as well as improving the ecological network (shown in orange).



The Bat Conservation Trust lighting guidelines (Guidance Note 08/23: Bats and Artificial Lighting At Night) provides guidance on suitable sympathetic exterior lighting which minimises lighting effects on foraging and commuting bats which includes:

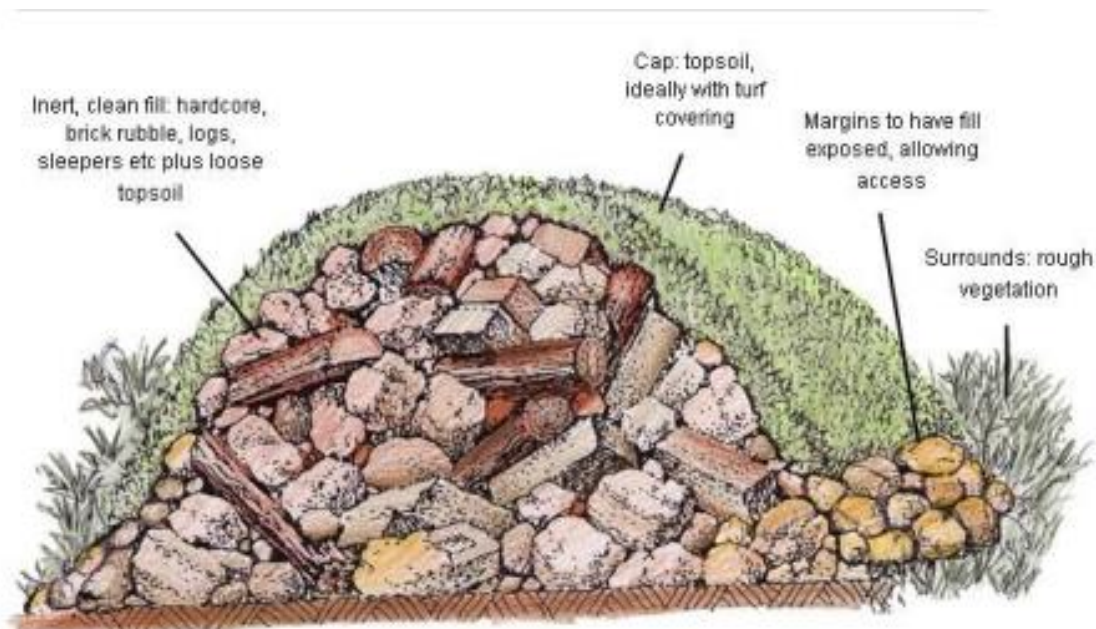
- LEDs should be used where possible sharp cut-off, lower intensity, and dimming capability.
- All luminaires should lack UV elements. Metal halide, compact fluorescent sources should not be used.
- Warm white spectrum < 2700 Kelvin to reduce blue light components.
- Light sources should feature peak wavelengths higher than 550nm.
- Lux levels to be between 0-1 lux.
- 0% upward light ratio
- Security lighting should be on a short timer (1-2 minutes)

- No lighting positioned above 2m.
- No lighting directed at any hedgerows, trees, rivers, scrub or bat boxes.

The uplighting present on some of the trees would benefit from being put on timers as well as red bulbs used to encourage light sensitive bats to use the area more freely.

Reptiles

Areas of rough grassland provide a very important habitat for reptiles as they provide cover, shelter and foraging. Allowing an area to grow longer with minimal maintenance to allow the grasses to mature and form tussocks is an easy way to create this environment. An ideal place for this would be the south facing bank at the northeast section of the gardens as this area will receive plenty of sunlight for basking as well as allow movement of species such as slow worm between the gardens and suitable neighbouring garden habitat. This area is close to the allotment which provides suitable foraging habitat and will naturally reduce the amount of slugs around the vegetable plots. Grassland within this area would also blends into the woodland area towards the west creating microclimates which are important for reptiles as well as providing potential hibernacula for overwintering within the tree roots, leaf litter, and log piles. Artificial hibernacula can be created easily using wood and/or rubble as shown below and can be planted with wildflowers for aesthetic purposes.



Hedgehogs

Hedgehogs will reduce the number of slugs and snails helping protect vulnerable plants from predation.

The provision of suitable hedgehog houses will allow this species to shelter and hibernate onsite. In order to survive hibernation the temperature inside the hibernaculum must not drop below 5 degrees as survival below this point is unlikely for a hedgehog in hibernation. Ventilation is required which allows moisture out without letting a draught in, this is important to prevent the bedding becoming wet from condensation which would eventually become mouldy. Lock the lids to prevent disturbance of hedgehogs from members of the public as they are unlikely to use the box again if disturbed.

Hedgehog Highways which are gaps created within fencing to allow hedgehogs to move freely in and out of the site, a 15cm by 15cm gap is required at the base of or underneath the fencing to facilitate this.

Birds

Kestrels will be found using more urban sites as they are adaptive birds feeding on small mammals, invertebrates, amphibians and birds. The box should be installed 15-20 feet above ground on a suitable tree on the edge of the woodland, a sheet of aluminium or similar secured around the tree where the box is positioned will prevent squirrels from climbing and using the box.



Treecreepers will nest within crevices on trees such as behind cracks in bark on mature trees which are lacking in many areas. A nest box designed specifically for this species is available which fits tightly against a suitable tree with the entrance hole against the bark as shown below. These should be placed on trees with coarse bark at a height of at least 2m and should be in a location that is sheltered from the elements.



House sparrow terraces provide suitable nesting habitat for a variety of small birds however the terraces are particularly important for this species as they provide a communal nesting area for sparrows which prefer to nest in colonies. These can be positioned on the walls of buildings at a minimum height of 2m.



The 3SV Schwegler Nest Box provides protection from predators such as cats and woodpecker and the 32 x 45mm oval entrance hole is suitable for a range of species such as redstarts, tits and sparrows.



A range of bird feeders providing a variety of feeds for different birds should be incorporated within the gardens. Feeders should be positioned in a shaded area close to vegetation and away from areas accessible to predators such as cats. It is important to choose feeders which are safe and do not allow for trapping or entanglement, the RSPB range of feeders have been designed with this in mind.

Salmonella is present in low levels among wild birds which is transmitted via the faeces of infected birds. The spread of this can be exacerbated around feeders especially during the summer months. Therefore, maintaining proper hygiene is important and bird feeders and baths should be cleaned regularly using separate cleaning utensils.

Conclusion

The provision of fresh water onsite would benefit a wide variety of species by providing a source of drinking water for birds and mammals as well as providing habitat for amphibians and invertebrates. Incorporating a water source would be recommended in terms of increasing faunal biodiversity overall.

By offering a range of bird and bat boxes it is possible to attract a more diverse range of species within the gardens. If certain boxes never see uptake these could be replaced with a different type or with more of a box which is seeing regular activity.

Oversewing parts of the lawn area with a seed mix containing hardy plants which can tolerate a low and regular mowing regime would be an excellent way to increase biodiversity within the gardens as this will support a wide range of invertebrates, especially when incorporated with sewing an area of night scented flowers.

The addition of more signage to the gardens providing information on what habitats or species are present and their importance is a great way to engage the public with the environment.