Helmsley Walled Garden

Gardening for Wildlife

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The seven layers explained

Within any wood or copse you can find seven layers of vegetation, each layer supporting the others to create a unique wildlife environment.

Each wood or copse will be dominated by plant species that grow in that particular area. So you may have different plants in different woods not only around the country but also within a county or even within a farm or town. The National Park will see different woods in their lower valleys to those in the higher valleys. Woods along river edges will also be different. The similarity is that you will find in all of them the seven layers.

Here in the walled garden we have created our own garden woodland area but the seven layers still apply.

Layer One: Canopy or tall tree layer

Here we have used the sycamores growing outside the walled garden, but their shade and proximity affect our area. In fact, it was these trees that helped suggest this as the best area to develop into a wildlife area. We are unlikely to plant any further tall forest trees

Species used:

Sycamore - *Acer pseudoplatanus*

Layer Two: Sub canopy or lower tree layer

Here we are using Hawthorn, Rowan, Field maple and Crab apple. These can be the pure native varieties or you can enhance the area as we have with the occasional garden variety. Hawthorn 'Rosea' has a pink colouring with a single flower making access to pollen and nectar easy for insects. Hawthorn 'Paul's Scarlet' adds additional colour but the double flower makes it difficult for pollinating insects to access nectar and pollen. A debatable addition is the Cockspur thorn widely used in horticulture and parklands but a native of North America, with a gardener's assistance it can naturalise.

Side Notes

Single flowered – flowers with a single set of petals

Double flowered – flowers with extra petals, they often have no reproductive organs so do not produce pollen. The extra petals also make access to the nectaries difficult making them of no real use for insect life.

Native species – a plant that has grown in England since the ice age

Naturalised species – a plant that has been introduced into England and found to be able to reproduce without assistance

Garden Origin – a plant widely used in gardens, either imported from another part of the world, or the result of selection by plant breeders

Species used:

Hawthorn (native) - *Crataegus monogyna*

Hawthorn (garden origin) – *Crataegus oxycantha 'Pauls Scarlet'*

Hawthorn (garden origin) – *Crataegus oxycantha 'Rosea'*

Rowan or Mountain ash (native) – *Sorbus aucuparia*

Crab apple (native) – *Malus sylvestris*

Cockspur thorn (garden origin) – *Crataegus crus-galli*

Field maple (native) – *Acer campestre*

Layer Three: Shrub layer

Here we have used Guelder rose, Wayfaring Tree, Wild Privet, Hazel and Dogwood. The difference in our garden construct is that we have placed large groups of these together to increase the dramatic effect when they are in flower, fruit or autumn leaf colour. This would not necessarily happen in nature. You are more likely to see mixtures of shrubs growing together. You can apply the same maintenance to each shrub in the same place at the same time which is helpful when maintain the area. For example, in seven years' time we may wish to coppice the hazel. If it was planted within the other shrubs which are not coppiced then any regrowth would be weak as the hazel would have to compete with the other shrubs. Coppicing generally allows strong regrowth. In a natural setting, as fully grown shrubs decline and die, they are replaced by younger plants not necessarily of the same species. Change is constant but not - in the short term - discernible.

Species used:

Guelder Rose (native) - *Viburnum opulus*

Wayfaring Tree (native) - *Viburnum lantana*

Wild Privet (native) - *Ligustrum vulgare*

Hazel (native) - *Corylus avellana*

Butterfly Bush (naturalised) - *Buddleja alternifolia*

Dogwood (native) - *Cornus sanguinea*

Red Barked Dogwood (garden origin) - *Cornus alba*

Side Notes

Herbaceous is a description given to a plant that has no permanent woody structure. Top growth dies back each year to roots or often to new young growth that will grow out next year.

Layer Four: Herbaceous

Here we have used plants that fall into two groups. The first are woodland edge and hedgerow plants which will see sunlight for part of the day. The second group are woodland spring plants that need to grow and flower before the leaves of the shrubs and trees emerge and reduce light levels. The latter grow within the copse or wood.

Woodland edge plants include:

Foxglove - *Digitalis purpurea*

Bladder Campion - *Silene vulgaris*

Cowslip – *Primula veris*

Wood Avens - *Geum urbanum*

Woodland Cranesbill – *Geranium sylvaticum*

Selfheal -*Prunella vulgaris*

Betony - *Stachys betonica*

Comfrey -*Symphytum officinale*

Spring woodland plants include:

Wood anemone - *Anemone nemorosa*

Meadowsweet - *Filipendula ulmaria*

Red Campion - *Silene dioica*

Wood Sage - *Teucrium scorodonia*

Solomon's Seal - *Polygonatum multiflorum*

Lungwort - *Pulmonaria officinalis*

Greater Stitchwort - *Stellaria holostea*

Layer Five: Ground cover

This includes those plants that travel along the ground or just below the surface. The most obvious and useful to wildlife is ivy, but others include wild strawberry, bugle and lemon balm. This layer can often be the source of herbs for cooking and hedgerow teas.

Ground Cover Plants

Ivy – *Hedera helix*

Wild Strawberry – *Fragaria vesca*

Bugle – *Ajuga reptans*

Lemon Balm – *Melissa officinalis*

Sweet woodruff - *Galium odoratum*

Sweet Violet – *Viola odorata*

Layer Six: The underground layer

This includes old favourites like wild garlic, bluebells, daffodils, cyclamens and snowdrops. This category of plant produces bulbs, corms and tubers known as organs of perennation. These allow the plants to store energy during their dormant season in readiness to remerge the following year.

Species used:

Wild Garlic - *Allium ursinum*

Bluebells – *Hyacinthoides non-scripta*

Daffodils - *Narcissus pseudonarcissus*

Cyclamens – *Cyclamen coum*

Snowdrops – *Galanthus nivalis*

Layer seven: The climbing layer

Here we have used honeysuckle, dog rose and old man's beard. These plants have formed adaptations that allow them to scramble through trees and shrubs in search of sunlight. Honeysuckle uses twisting stems, dog rose has thorns and old man's beard uses clinging leaf stalks. Ivy can also be a climbing plant using adventitious roots to fix to trunks of trees or walls.

Benefits to Wildlife

Through the course of their natural life cycle, every plant in every layer of the wood produces nectar, pollen, fruit and seed together with soft leaved growth. All provide food for insects, birds and mammals, with the insects and birds themselves providing food for higher level animal species.

You know when you have a balanced wildlife area when the sparrow hawk visits.

Vegetation also provides valuable space and material for breeding and protection from prey.

Maintenance

Unlike in mechanically cut hedgerows, we will allow the trees and shrubs to develop their natural form which will allow for increased fruit and seed production. When any shrub grows too large for our area, we will coppice it. Because we are planting large blocks of the same plant, when we do coppice this will allow light into the area allowing the herbaceous plants to regrow for a period.

We have planted densely in order to achieve canopy closure as quickly as possible. Canopy closure is when trees or shrubs grow up and touch adjoining trees and shrubs creating shading under the plants. This shading alters the flora beneath, grasses, nettles, thistles and docks that need a full summer season to grow are unable to survive. They are replaced by the woodland spring plants that grow and complete their annual cycle before canopy closure. Their dormant period is summer and autumn, returning to growth in late winter and spring. The snowdrop leaves emerge usually late November early December, flower in February and die back during March.

The initial challenge for us is in finding a technique to manage the area up to canopy closure. This may involve regular weeding. But we can reduce the need for too much weeding by densely planting our herbaceous plants and mulching.

We have been collecting last year's sycamore leaves and these are currently decaying to produce leaf mould which we will apply as a mulch when it has rotted down. The leaf mould will carry all the bacteria and fungi that form within a wood and will in effect 'seed' the area.

Mike I'Anson - Garden Manager
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