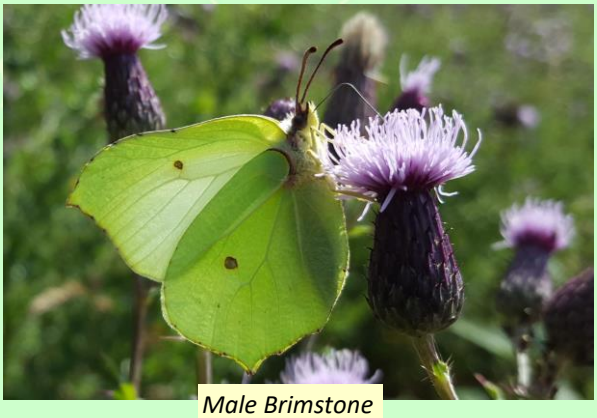
Butterflies, Bees and Buckthorn

There has been a dramatic decline in insects in Europe over the last few decades. Recent research at more than 60 protected areas in Germany suggests flying insects have declined by more than 75% over almost 30 years. While this has been common knowledge in conservation circles, it is now reaching a wider audience and the decline of bees and butterflies in particular has captured the attention of the public at large.



Male Brimstone

Schemes to improve the situation such as green corridors and wildflower plantings exist and while these are effective and necessary they often require significant funding inputs and long-term funding for continued management. Butterflies, Bees and Buckthorn is intended as a compliment to any and all of these schemes while being flexible, low cost and requiring little or no maintenance and having a simple, clear message and easily identifiable results. It can be undertaken on an individual, community or corporate level and provides a manageable and hands-on teaching resource for schools.

The plant and the insects it supports

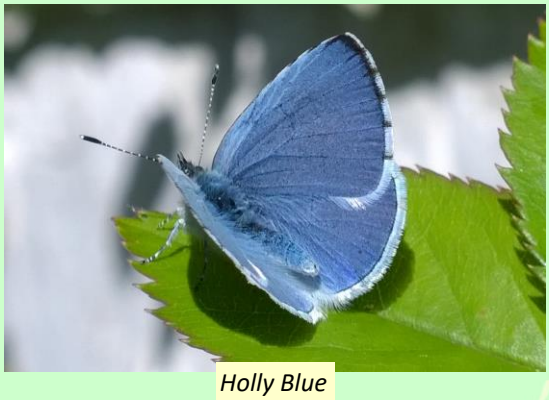
Buckthorn in parkland

The Alder Buckthorn *Rhamnus frangula* is a native deciduous shrub/small tree which produces a profusion of tiny, green flowers all through spring and summer. These flowers are highly attractive to bees, and the plant will hum with their activity on a sunny day. It is also the foodplant for the caterpillars of two British butterflies: the Brimstone *Gonopteryx rhamni*, and the Holly Blue, *Celastrina argiolus*. Both these species are highly mobile butterflies, with the Brimstone in particular having been shown to be able to locate a solitary plant more than two miles from the next. This means that no extra habitat is required to create breeding conditions for these butterflies – often a challenge for other species where the host plant needs not only to be present but to be growing in quite particular situations. Although the large, sulphur yellow male Brimstones and the azure gems of the Holly Blue will be the most immediately noticeable consequence of increased Buckthorn plantings, a number of moth species also use Buckthorn, including Tissue *Triphosa dubitata*, Pale Brindled Beauty *Phigalia pilosaria* and Willow Beauty *Peribatodes rhomboidaria,* which have all been recorded in the Hull area.

Versatile and hardy

Buckthorn is hardy, fast growing and versatile. It will grow in woodland, along woodland edge, alone, as part of a hedge or in a corner of a garden or park. It will cope with annual cutting or pruning as necessary, as part of a hedgerow or to manage its size as part of municipal planting or ornamental garden. It is easily planted as a whip in the winter months and will grow successfully on the clay soils of the Holderness Plain. After two or three years it will be producing enough foliage to support Brimstone caterpillars through to adult butterflies.

Buckthorn hedge

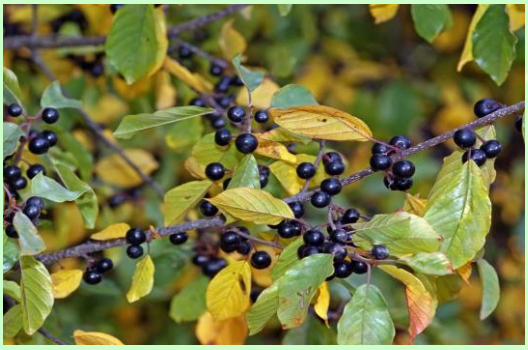


Holly Blue

The Holly Blue caterpillar doesn't feed on the leaves but on the flowers, and as it grows larger, the developing berries. Cutting is best undertaken during winter to protect caterpillars and allow berries to be eaten.

For the birds

Crucially most of the caterpillars will not become butterflies or moths. Instead they form a vital part of the diet of the chicks of a wide range of birds in spring and early summer. The young of several once abundant species like the sparrow require live food and the drop in insect numbers has been directly linked to their decline.



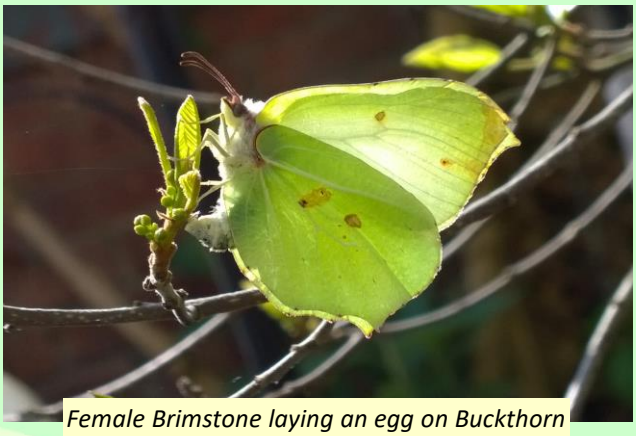
The copious small flowers produce a wealth of berries by the autumn that are a further source of food for birds as winter approaches.

In school

The timing of the Brimstone's life cycle makes it ideal for use in schools and so in connecting children directly to the natural world on their doorstep. The presence of a Buckthorn shrub will attract a female to lay eggs usually in early May. The eggs hatch after a week or so and the caterpillar feeds on the leaves for around four weeks before pupating. The adult will emerge typically in late June / early July. The whole life cycle therefore fits neatly within the summer term. The caterpillars are easy to raise in containers provided with fresh leaves gathered by the children. Buckthorn will grow happily in containers if the school lacks any areas for planting.

Brimstone caterpillar

Eggs and caterpillars are relatively easy to find with a little training, and a package of training and resources is being prepared by the Butterfly Conservation East Riding Recorder, an ex-teacher who successfully ran a Brimstone recording and breeding scheme at one of his schools for five years.



Female Brimstone laying an egg on Buckthorn in a Hull backyard

Why this?

People value what they understand and feel a connection to. The purpose of this project is to bring to the attention of Hull and East Riding citizens the existence of the Brimstone and its relationship to Buckthorn, and how they can in a very straightforward way, increase the numbers of a beautiful butterfly. There is no city which identifies itself through the conservation of a particular species. The means of achieving a 'Brimstone City' require not so much a large investment of money as an investment of will. Introducing Buckthorn and Brimstone into schools alongside wider community and corporate involvement will help successive generations of citizens to develop their awareness of the living world that surrounds them, and the inter-dependence of the organisms that comprise it. Creating a 'Brimstone City' could serve as a source of civic pride, a means of altering connections to the natural world and as an inspiration to others.