

Ecology and Biodiversity

8.144 Living with nature is possible within urban places, and there are a variety of reasons why natural habitats should form part of higher density urban developments:

- Wildlife can contribute substantially to the health and wellbeing of an urban community and be an educational resource for local schools.
- Vegetation can reduce the risk of flooding, contribute to pollution control, provide shade and reduce the effects of wind created by streets.
- Natural habitats can significantly increase the quality of residential and mixed-use urban areas and, from a developer's perspective, have the potential to contribute to the market value of new development.

8.145 Effective protection of the environment is one of central government's key sustainability objectives, to be achieved simultaneously with economic growth and employment, social progress and prudent use of natural resources. It requires protection of existing species and habitats, as well as management and aftercare of areas that are to be retained, enhanced or created.

- 8.146 Essex has a rich variety of urban wildlife. As well as ancient woodlands, grassland and wetlands, urban sites can provide a refuge for once widespread plants and animals. Industrial land, urban commons, gardens and buildings can offer unique habitats which often support uncommon species and unique assemblages of plants. Parks, cemeteries, allotments, railway sidings and derelict land all make a significant contribution to biodiversity in urban areas.



Ecology Park, Millenium Village, London

Planning for Biodiversity

- 8.147 In general, new developments in Essex will be expected to enhance existing biodiversity and to create new habitats, together with providing resources for the management of those habitats into the future.
- 8.148 Good design can provide many opportunities for biodiversity and these should be maximised. Furthermore, all developments should ensure that networks of habitats are maintained to prevent fragmentation and isolation.
- 8.149 Biodiversity should be considered at an early stage, within the framework of the Context Appraisal and any required ecological surveys. An Ecological Strategy should be produced for each development by a professional ecologist as part of the overall design package. The Ecological Strategy should be guided by what is appropriate for biodiversity for the particular site and should include consideration of the ecological surveys.
- 8.150 The Ecological Strategy should inform a Scheme of Management, which should be provided to demonstrate how any habitat or vegetation is to be established and managed in the future. This should be based on information from ecological surveys and the Ecological Strategy.
- 8.151 The Essex Biodiversity Project (EBP) has produced guidance for planners and developers entitled 'Integrating Biodiversity into Development'. The most up-to-date version can be found on the EBP website. Another valuable reference is the Town and Country Planning Association (TCPA) report 'Planning for a Healthy Environment – Good practice guidance for green infrastructure and biodiversity' (2012).

Protection of Existing Habitats and Species

- 8.152 Some areas of habitat are statutorily protected and have international or national designations for the particular animals and plants that they support; these reflect the relative importance of the sites or the species. There is a general presumption against development that may harm any site of international or national importance. In addition, non-statutory areas exist which are often referred to as Local Wildlife Sites (LoWS). <http://www.essexwtrecords.org.uk/lowsfinder>
- 8.153 Statutorily protected plants and species need special consideration but can co-exist with development if adequate site management arrangements are in place. In addition, the Ecological Strategy should consider habitats and species listed in the UK and Essex Biodiversity Action Plans.
- 8.154 While brownfield sites may be contaminated and have poor soils, they can have a high ecological value and the design of new development in these locations needs to be considered with special care. A comprehensive site de-contamination proposal, for example, is likely to destroy the special conditions that produced a habitat that supports any flora or fauna on the site.

New Opportunities

- 8.155 In general, new development should include measures to encourage biodiversity by creating varied habitats and a rich diversity of trees and planting throughout the built environment. Preferred habitats for enhancement and creation will be those listed as of principal importance in Government Circular 06/2005 and highlighted within the UK and Essex Biodiversity Action Plans.
- 8.156 Within high-density urban developments, green public space provides one of the main opportunities to incorporate biodiversity. Water management strategies should consider opportunities for wetland habitat where possible. The Context Appraisal should assess how green spaces and habitats within the locality can be linked to provide corridors for the movement of wildlife.



a. Site

b. Potential green corridors

Buildings and Biodiversity

- 8.157 Various opportunities exist for buildings to support biodiversity and it is desirable that habitats be integrated into the design of buildings. Consideration should be given to the use of living roofs and planting on facades, roof terraces and balconies through the provision of climbing wires and planters. The popularity of the conservatory suggests a desire to merge internal and external spaces, enabling planting to be brought inside and the garden or balcony used as an outdoor living area.
- 8.158 Living roofs can support large and elaborate vegetation, including trees, using deep soil bases and food-growing opportunities. These are referred to as ‘intensive’ green roofs. Alternatively, they can support mainly mosses and sedums using shallow soil layers; these are referred to as ‘extensive’ green roofs.



Examples of living roofs

- 8.159 Intensive green roofs are flat and usually require additional irrigation, ideally from harvested rainwater stored in on-site tanks. The deeper soil layer has structural implications for the building, which needs to be designed to cope with the extra imposed weight. When mature, these roofs often have the appearance of a typical planted garden or park. Places such as the deck above communal parking in higher density development can be designed as an intensive green roof.
- 8.160 Extensive green roofs can be laid on a roof pitch of up to 30 degrees and are lightweight but still provide additional thermal insulation and encourage biodiversity.
- 8.161 Brown roofs are flat roofs that can be used to recreate brownfield habitat. They can support rare plants and animals that can tolerate the conditions of brownfield sites, using a mix of aggregates as the substrate for natural colonisation by plants. This option would be particularly suitable where the designer wished to recreate habitat lost through redevelopment or where Biodiversity Action Plan species within a particular area would benefit from additional habitat.
- 8.162 Nesting boxes and other spaces for birds and bats should be provided on buildings or in communal green spaces as part of a development’s Ecological Strategy. Specially designed bricks are available to provide roosting sites for bats.



Greening of buildings – important in creating sustainable developments Vauban, Freiburg, German