

Appendix B - Ecology and Biodiversity

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Produced by URS Corporation on behalf of the Masterplan Team.



1.0 Executive Summary

The City Road Basin lies between Old Street and the Angel Underground Stations Islington, and is one of the last undiscovered waterspaces in central London. The London Borough of Islington, in consultation with key landowners, is aiming to regenerate the area through the creation of a mixed-use development. A Masterplan approach to the regeneration objectives for the whole Basin area is to be adopted.

The aim of this report is to provide ecological guidance to all future developers for incorporation into the City Road Basin Masterplan. The guidance report takes the form of a summary of the ecological requirements stemming from:

- Islington's Unitary Development Plan (UDP),
- Islington's (draft) Biodiversity Action Plan (BAP),
- London's Biodiversity Action Plan (BAP),
- London Habitat Action Plan (HAP): Canals,
- Supplementary Planning Guidance (sustainability),
- Local Agenda 21.

Local and site-specific ecological issues are discussed and recommendations made for ecological enhancement.

The main ecological concerns arising from the desk study of the area and site visit include the threat to the potential bat roost in the old London Electricity building (261a Graham Street) and the threat to the ecology of the Regent's Canal. However, these concerns will be diminished and ecological opportunities fulfilled if the recommendations provided in section 10 of this report are integrated into the regeneration scheme.

2.0 Introduction to the Area and the Masterplan

The Basin is an 11.5 acre site located along the Regent's Canal. During the 1970's and 1980's several phases of small-scale development were undertaken, including a social housing scheme in the northeastern corner and a local boat club. More recently a joint partnership between City Road Basin Ltd (a joint venture between British Waterways, London and Miller Developments) and Fidelity Investments is aiming to regenerate the area through the creation of a mixed-use development. The three key regeneration objectives are as follows:

1. Bring life back to both the land and the water.
2. Improve existing watersports facilities for the benefit of everyone.
3. Open up the Basin to the community, boat users, tourists and adjacent landowners.

A Masterplan approach to the regeneration objectives for the whole Basin area is to be adopted.

3.0 Ecological Guidance Report - Aims and Objectives

The aim of this report is to provide ecological guidance for incorporation into the City Road Basin Masterplan. The ecological strategy includes issues such as biodiversity and ecological land use, which will ultimately feed into the Sustainability strategy. The guidance report opens with a brief introduction in to the strategic position of the report and its relationship to the Masterplan. Following on from this, the ecological requirements following from Islington's Unitary Development Plan (UDP, 2002), Islington's (draft) Biodiversity Action Plan, London's Biodiversity Action Plan, London's Habitat Action Plan (HAP): Canals, Supplementary Planning Guidance (Sustainability) and Local Agenda 21 will be highlighted and discussed in turn. Lastly, the local and site-specific ecological issues gathered from a site walkover will be considered with recommendations made where necessary.

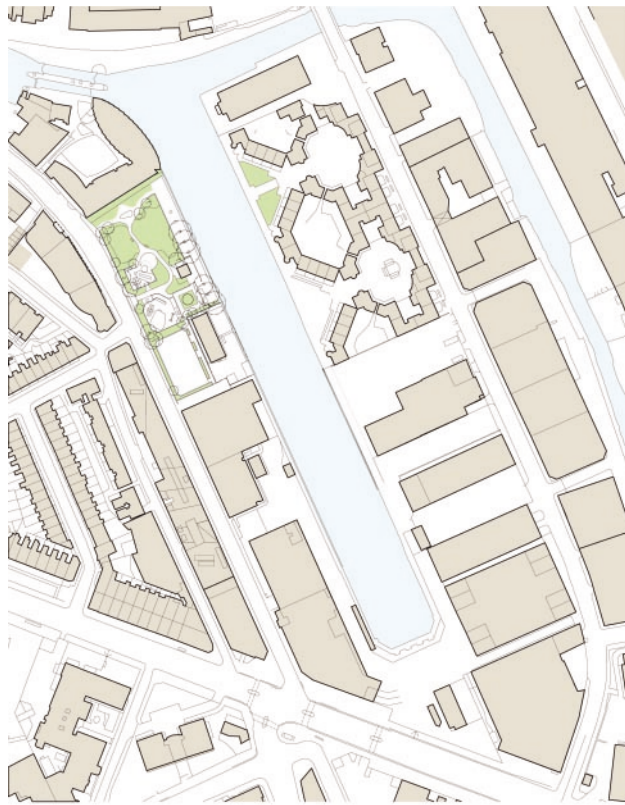


Figure B1: Existing Masterplan Site.



Figure B2: Proposed Masterplan Site.

4.0 Ecological Guidance Report - Strategic Position

The City Road Basin Masterplan is a joint venture between City Road Basin Ltd and Fidelity Investments Management Ltd with Bennetts Associates Architects as the Masterplanners. URS Corporation Ltd. are advising the Masterplan Team on the ecology and sustainability aspects of the redevelopment scheme. The summary ecological guidance report will feed into the ecological strategy, which in turn will feed into the overall Sustainability Strategy for the City Road Basin Site.

5.0 Existing Masterplan Drawings

Bennetts Associates Architects have produced annotated development drawings of before and after regeneration. The plans focus on creating "a vibrant location for business, residential and leisure users and to stimulate regeneration in the area".

The Masterplan drawing clearly illustrates the proposed mixed-use development, providing for both the social and economic sectors. Consideration is given to the environmental / ecological requirements (e.g. recreational space). However, integration of the ecological requirements of various sources (as detailed in this report) are essential to ensure compliance and thus maximisation of the ecological opportunities which exist within the City Road Basin site.

Ecological opportunities can be enhanced further by incorporation of the appropriate mix of indigenous species (flora) during the landscaping of recreational spaces, towpath and private gardens (see later guidance on flagship species and Islington's Sustainable Planting Policy).

6.0 Ecological Requirements

A review was undertaken of the existing ecological requirements following from Islington's Unitary Development Plan (UDP), Islington's (draft) Biodiversity Action Plan, London's Biodiversity Action Plan, London's Habitat Action Plan: Canals, Supplementary Planning Guidance (Sustainability) and Local Agenda 21 and a summary of policy requirements is provided below in table 10.1. The requirements outlined must be taken into consideration as early as possible in the planning process.

7.0 Supplementary Planning Guidance (SPG)

7.1 Sustainability Assessments

Ref: Sustainability assessments (August, 2002). Islington Council, Planning Service.

Development proposals that do not meet the EIA requirements but which are likely to have a significant adverse impact on the environment (due to size, location or effect on human health, valued species, the natural environment) or the economic and/or social environment, must meet the requirements of a sustainability assessment. The form a Sustainability Assessment should take is outlined below along with a description of the key environmental criteria relating to wildlife and ecology.

Sustainability Assessments must include:

1. Description of the proposal - information on the design, size, scale and materials.
2. Site Analysis - information on the site and surrounding area.
3. Assessment of the impact of the development on the listed criteria.
4. Description of any relevant mitigation measures (environmental, social and economic).

Environmental Criteria:

- Nature Conservation (protection, enhancement, access).
- Biodiversity (flora, fauna, habitats, populations, green corridors).
- Landscape (landscaping, trees).
- Land (open space, brownfield, mixed-use).

8.0 Local Agenda 21 - Islington (February 2001)

Ref: <http://www.islington.gov.uk/pdf/environment/LA21.pdf>

Local Agenda 21 sets out strategic objectives for sustainable development across the UK. One of the four key principles underpinning Islington's Local Agenda 21 is that of 'Protection of the Environment'.

Section 4.5 'Natural Environment' of Islington's LA 21 sets the main aims for the conservation, protection and development Islington's natural environment. These are to be achieved through:

- The development of a Biodiversity Action Plan,
- Awareness raising of the importance of the natural environment with links to local quality of life and health and,
- Management of Council parks and gardens in an environmentally friendly manner.

Increased awareness raising and education is to take place through the Islington Ecology Centre:

Islington Ecology Centre, Gillespie Park Nature Reserve, 191 Drayton Park, London N5 1PH

T: 020 7354 5162 F: 020 7288 1717 W: www.lsx.org.uk/resourcecentre/iec_page281.aspx

9.0 City Road Basin - Ecological Baseline

A site walkover was undertaken on Friday 21st November 2003 with a representative from British Waterways. The site walkover provided an appreciation of the local scale and setting of the City Road Basin and gave a snapshot insight into the existing ecology of the area. Below is a summary of the ecological baseline derived from existing ecological information from a desk-based study and supplemented by data gathered during the site walkover.

9.1 Existing Ecological Status and Concerns

Islington is an inner city borough where wildlife habitats are scarce; this lack of green space and public open space is of huge local concern. The Council encourages landowners to take nature conservation considerations into the management of their own land; and parallel to this, the Council seeks to raise local awareness regarding the ecology and nature issues surrounding the borough. For example, stimulating interest and encouraging involvement from local schools, the public and various community groups is a fundamental part of promoting nature conservation in the borough.

9.1.1 Ecology of the Regent's Canal

"Canadian pondweed, fennel-leaved pondweed, curled pondweed and spineless hornwort, which are very rare in London, have all been found previously in the channel of the Regent's Canal, particularly near the City Road Basin. Cracks in the concrete bank include gypsy-wort, buddleja, Canadian fleabane and several uncommon species, including common skullcap, lesser hairy willowherb, hemlock water dropwort and the introduced connate bur marigold. Hart's-tongue and male ferns and Wall Rue are found on the Colebrooke Row tunnel entrance. Eel, pike, roach, perch and dace have all been recorded. Coot, moorhen, mallard and tufted duck all breed in the area and mute swans, herons and sea birds are frequently seen" (The Islington (draft) Biodiversity Action Plan).

The Regent's Canal has been designated a Site of Metropolitan Importance for Nature Conservation in the Islington Unitary Development Plan. The proposal to redevelop the City Road Basin could potentially be a threat to some biodiversity on the Regent's Canal but it could also present a number of significant opportunities. The aims of the Islington BAP must therefore be taken into consideration at the earliest possible stage in any development proposal.

9.1.2 Ecological Observations of the City Road Basin (21.11.03)

The site visit allowed the following observations to be made (drizzly, overcast day):

- Little sign of bird life apart from some swans, Canada Geese, Indonesian ducks, and Coot present on the Regent's Canal and Wenlock Basin.
- Little open green space.
- Scarcity of potential wildlife habitats apart from some small well vegetated raised gardens.
- Few plant species of ecological value (e.g. Buddleja).
- Dominant presence of London Plane trees.
- Homogeneous nature of the water space: provides minimal habitat for the colonisation by new species.

10.0 Conclusions and Recommendations

10.1 Strategic Aims and Requirements from Existing Sources

The regeneration proposal for City Road Basin needs to incorporate ecological considerations. These have been laid down as strategic, policy and/or action plan requirements of the various bodies and sources identified in this report and are summarised in the table opposite. Although there is a certain degree of cross over between the requirements, the strategic policies and action plans aim to provide a comprehensive guide to wildlife and ecological requirements on a national, regional and local scale which must be taken into consideration prior, during and post development.

Table 10.1 Strategic, Policy and or Action Plan Requirements: Summary

Source	Requirement
Local Agenda 21 Policy, Strategic Guidance: UK wide	<ul style="list-style-type: none"> • Protection of the environment. • Development of a Biodiversity Action Plan. • Raising awareness of the importance of the natural environment. • Environmentally friendly management of council parks and gardens.
Islington's Unitary Development Plan (UDP) Policy, Strategic Guidance: Borough Level	<ul style="list-style-type: none"> • Green Corridors. • Tree protection. • Designation of planting sites. • Designation of sites for nature conservation. • Protect and enhance sites for nature conservation. • Encourage new wildlife habitats into design of new development • Promote awareness.
Supplementary Planning Guidance - Sustainability: Non-statutory Supplement to Islington UDP	<ul style="list-style-type: none"> • Undertaking of sustainability assessments including ecological, and environmental criteria.
London's Biodiversity Action Plan Action Plan: Regional Level	<ul style="list-style-type: none"> • Incorporation of biodiversity conservation objectives. • Responsive to the protection of wildlife habitats. • Responsive to the protection of wildlife species.
London's Habitat Action Plan - Canals Action Plan: Regional Level	<ul style="list-style-type: none"> • Ensure protection, enhancement and good management of canal habitats for biodiversity. • Realise potential for canal biodiversity as a public educational, recreational resource.
Islington's (draft) Biodiversity Action Plan Action Plan: Borough Level	<ul style="list-style-type: none"> • Improve biodiversity through good management. • Protect and enhance canals and waterways.

10.2 Suggested Measures for Implementation

Of course there needs to be a balance between the promotion of wildlife to the area, with the desires and requirements of the existing and future local residents (i.e. what is reasonably practical for the local setting). Below is an insight into some of the measures that could be implemented in order to conserve, promote and enhance the ecological potential of the area. The list is not exhaustive, and should be used as guidance for further development of ecological enhancement as part of this Masterplan.

Wildlife Enhancement:

- Further bat studies should be undertaken in particular due to the possible presence of a bat roost in the old London Electricity Building, 261a Graham Street. Other surveys should be undertaken to ascertain if any other protected species are present on the City Road Basin site.
- Aquatic surveys for plants, invertebrates and fish.
- Introduction of a buffer zone and towpath on the west side of the Basin adjacent to proposed residential area (where park is at present).
- Creation of a green open space linked to the proposed boathouse (east side).
- Potential for the promotion of varied ecological habitats and niches along the banks and towpaths of the Basin. This could be achieved by the introduction of floating reed beds and floating aquatic plants and through the introduction of heterogeneous bank material (potential use for dredgings), provided that it does not hinder the use of the Basin by the Islington Boat Club.
- Potential for the development of green and brown roof tops providing further attraction to local wildlife and enhancing the green perspective of the area to residents and visitors.
- Promote ecological awareness and nature conservation throughout the community: to be implemented during the development / construction phase of private gardens and through window boxes - especially important due to the development of the new residential areas.
- Enhancement of the Basin and surrounding area to Local Nature Reserve status.

Trees, Shrubs and Landscaping:

- Requirement to diversify in tree species replacing some of the London Plane trees - introduction of species with a higher ecological value (willow, birch, coniferous species, oak, sycamore).
- Requirement to maintain and promote the well established willow trees close to the City Road Lock.
- Promotion of new wildlife habitats through the introduction of small to medium perennials and shrubs (see plant database, Section 11.1 below).

Waterspace:

- The production of excessive leaf litter should be avoided on the banks of the Basin. Excessive leaf litter and tree debris entering the water space although beneficial to some limited degree to ecology in terms of the creation of new habitats, may produce navigational difficulties to boat users, increase the requirement for dredging (a process which itself is disruptive to aquatic communities), and on decomposition will reduce the oxygen content of the water and in the worst case scenario, stimulate eutrophication especially due to the minimal flow / flushing rate of the canal.



Noctule bat Hemlock Water-dropwort Flag Iris



Gudgeon fish Water Vole

11.0 Flagship Species

These special plants and animals are known to, and characteristic of the canals and waterways in London and so should be encouraged through habitat improvements at the City Road Basin site. The habitat requirements of these species should be identified and taken into account into the final ecological strategy for the City Road Basin.

Flora

- Spiked water-milfoil (*Myriophyllum spicatum*).
- Harts Tongue Fern.
- Spineless hornwort.
- Rigid hornwort.
- Coltsfoot.
- Horsetail.
- Hemlock water-dropwort.
- Flag Iris.
- Skullcap (*Scutellaria galericulata*).

Fauna

- Common blue, azure and blue-tailed damselflies (*Enallagma cyathigerum*, *Coenagrion puella*).
- Fish - gudgeon, roach, bream, tench.
- Kingfisher.
- Sand Martin.
- Moorhen (*Gallinula chloropus*).
- Grey Heron (*Ardea cinerea*).
- Mute Swan (*Cygnus olor*).
- Water Vole (*Arvicola terrestris*).
- Daubenton's Bat (*Myotis daubentonii*).
- Noctule bat.
- Dragonfly.



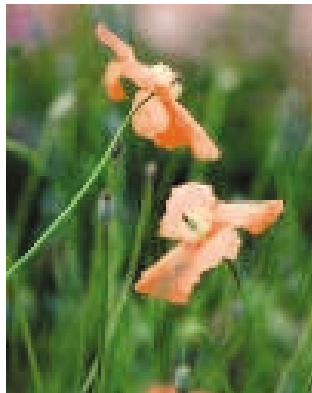
Cornus spp.



Lavendula



Lobelia



Papaver spp.



Papaver spp.



Papaver spp.

11.1 Islington Sustainable Planting Policy - Plant Database

Aims of the Sustainable Planting Policy:

- Improve the horticultural quality and visual attractiveness of planting in Parks and open spaces.
- To contribute to enhancing biodiversity.
- To improve the sustainability of the way Parks are managed.

Planting Requirements:

- Visually attractive.
- Of benefit to wildlife.
- Low Maintenance.
- Of high horticultural quality.
- Not dependent on artificial pesticides, herbicides or fertilisers.
- Drought tolerant.
- Of seasonal interest.

A plant database is available which supports the Islington Sustainable Planting Policy. Although not exhaustive, it is intended as an aid to design. Part of the plant database is included below:

Plant Database:

Herbaceous Perennials: The basic method will be to use mixed planting of herbaceous perennials. Annuals and shrubs could still be used with these but the aim would be to create a greater variety of planting. This would (if well designed) create a more visually interesting display, provide a longer season of interest and would be better for wildlife simply because of the greater variety of habitats and sources of food it would provide. Aims can then be more specifically achieved by the choice of particular species within the planting scheme.

Nectar Rich Plants: To be of benefit to wildlife, plants do not have to be native, large numbers of garden plants are beneficial because of the high levels of nectar they produce. Selecting such species would benefit butterflies, bees and other invertebrates and in turn encourage a larger number of birds. The following list is just a small sample of nectar rich plants and includes herbaceous perennials, annuals and shrubs:

Aubretia spp.	Alyssum saxatile	Myosotis spp.
Primula spp.	Hesperis matronalis	Buddleia alternifolia
Iberis	Daphne spp	Hebe spp.
Heliotrope spp.	Lonicera spp.	Lobelia spp.
Calendula officinalis	Valeriana officinalis	Scabiosa atropupuperea
Dianthusbarbatus	Thymus spp.	Mentha suaveolens
Buddleia davidii	Hyssopus officinalis	Lavendula spp.
Aster spp.	Origanum laevigatum	Sedum spectabile

Scented plants: The use of scented plants would improve the quality of the planting by providing a different experience for users of the Park. It would also be of great benefit to people who are visually or aurally impaired providing a sensory experience. This could be taken a step further by creating a sensory garden that considers not only smell, but sight (strong vibrant colours), taste (use of herbs), touch (using plants with different textures) and sound (long grasses in the wind, running water). Again there is a whole range of scented plants, but could include the following:

Daphne spp.	Viburnum spp.	Lavendula spp.
Lillium spp.	Dianthus spp.	Hermerocallis spp.
Thymus citrodorus	Pelargonium	Mahonia spp.
Philadelphus spp.	Jasminum spp.	Convallaria spp.

Ground Cover Plants: Greater use could be made of ground cover plants. This would reduce the amount of visible bare ground, provide habitats for wildlife and reduce the amount of weeding required. Weeds only become a problem where bare ground exists and they are able to quickly colonise. It would also reduce water loss from the soil. Plants that could be used include:

Hedera spp.	Vinca spp.	Geranium spp.
Bergenia cordifolia	Thymus spp.	Epimedium spp.
Alchemilla mollis	Ajuga reptans	Stachys byzantia

Hardy Annuals: Hardy annuals should be used where appropriate. They can be sown directly into the soil and can be used to cheaply fill gaps in planting. This will provide colourful groundcover that will help to reduce weeds and reduce maintenance requirements. They are ideal for use while other perennials mature. They can also be of great benefit to wildlife and as many are self-seeding they are very sustainable. Examples include:

Papaver spp.	Eschscholzia californica	Nigella damascena
Brachycome iberiadifolia	Limanthes douglasii	Callendula officinalis

All Year Interest: Consideration needs to be given to selecting plants that provide interest throughout the year and not just the summer months. Parks are used all year round and have a tendency to become rather drab and dull during the winter months. Some plants should be selected that provide autumn and winter colour. Examples would include:

- Cornus spp. - brightly coloured stems
- Hellebores spp. - winter flowering
- Rosa rugosa - hips
- Viburnum spp. - winter flower and scent
- Sedum spectabile - autumn flowering
- Cyclamen spp. - autumn colour

Drought Tolerance: Water is becoming a scarce resource, traditional bedding displays require a large input of water and will therefore become increasingly unsustainable. Water bills for Greenspace are also very high. It would clearly make both environmental and economic sense to reduce water usage. Moving to herbaceous perennials would reduce water requirements, as once plants were established they would require only minimal watering. A large number of plants are adapted to tolerate drought conditions and a greater use of these would further reduce our water requirements. There is a small drought tolerant bed at Gillespie Park; one could be done on a larger scale elsewhere, which could potentially be sponsored by Thames Water. Examples of such plants include:

Lavendula	Yucca spp.	Cordyline spp.
Grasses various	Agave spp.	Kniphofia spp.

Appropriate Planting: One of the key factors in establishing sustainable planting is to plant appropriately to the conditions. If plants are chosen that fit the light and soil conditions they will establish more quickly, be healthier, better looking, and require less maintenance. The principle of ecological communities should be adopted where plants of similar requirements are planted together.

Use of Organic Matter: The other major factor in sustainable planting is the condition of the soil. Healthy plants require a healthy soil and the best way to achieve that is through the addition of organic matter. This has the effect of increasing fertility, improving soil structure, increases the soils ability to retain water and increases soil fauna. Very little organic matter is being added to the soil and the effects of that are clear to see. The use of Casoron is also making this situation worse as it kills soil invertebrates and microorganisms. Organic matter should be incorporated into the soil during planting and should be applied as a mulch during early spring each year. The use of an organic mulch, if applied thickly enough, would help to reduce weeds and would hopefully eliminate the need for Casoron. Our ability to do this might depend on the success of establishing the Green Waste Recycling Centre that would then be able to provide the quantity of organic matter required.

For a full version of the Islington Sustainable Planting Policy and the Plant Database please contact Islington Greenspace at the Islington Council on telephone: 020 7527 4953/4971 or contact:

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