Hermitage of Braid & Blackford Hill Local Nature Reserve

Management Plan (2nd Draft) 04/2000 – 04/2010

Contents

A: Introduction and Statement of Intent

The Hermitage of Braid & Blackford Hill Local Nature Reserve (hereafter referred to as the LNR) is a key area for wildlife and people too, situated on the South side of the city of Edinburgh. The variety of natural habitats, flora and fauna, close to such a large urban area, make the need for careful management of the LNR a fundamental element in the drafting of this management plan. Without consideration of the many and varied ways in which people have formerly shaped and currently enjoy the use of the LNR however, the plan would be of limited value. As such it is the intention of the plan to marry these two themes throughout, summed up in the following statement of intent:

“To secure the long term future of the Hermitage of Braid and Blackford Hill Local Nature Reserve, by conserving and enhancing both the natural and the designed landscape, and its continued enjoyment by the public.”

B: How To Use This Plan

1. The plan is divided into two main sections. Firstly there is the description and evaluation section, which presents information on a feature (e.g. recreation), summarises the current management of that feature, and then evaluates the condition of that feature. After this, proposed Management Objectives are then indicated.

2. Section two explores the proposed Management Objectives in detail, commencing with a summary of all the objectives, prior to a series of tables that break down each objective into a series of actions to be undertaken in order for the objective to be achieved.

3. The Management Plan can only be fully appreciated if read in full, as many objectives and actions cover more than one feature, and cannot be viewed independently.

4. The appendices contain information relevant to the plan, either for reference (e.g. path survey report), or for policy implementation (e.g. woodland action plan).

C: Description and Evaluation

1 General Information

1.1 Scope of the Management Plan

1.1.1 The plan is intended to cover the period April 2000 to April 2010. The plan is a site-specific document produced by the City of Edinburgh Council Ranger Service, intended to offer guidance to all aspects of management of the LNR. Where actions are specified, they will be prioritised to focus work programmes accordingly.

1.1.2 Despite the range and number of suggested actions that could be undertaken on the LNR, the plan is meant to be implemented in the real world of financial restrictions and limited staff availability. As such, the actions are focused down to those which are both reasonable and achievable.

1.2 Site Details

1.2.1 The LNR is located on the 1: 50,000 Ordnance Survey Map no. 66 centered on Grid Reference NT 255 704.

1.2.2 The LNR covers an area of 98 hectares and is divided into two distinct areas; – Blackford Hill, an upstanding area of grass and scrub vegetation; and the Hermitage of Braid, a narrow woodland dell, with accompanying watercourse, the Braid Burn. Outwith these two sectors there are further smaller areas specific in habitat and name (e.g. Blackford Pond). These commonly recognised, and distinctively named subdivisions of the LNR are presented on Map 1.

1.3 Conservation Status

1.3.1 The LNR is located entirely within the Green Belt of Edinburgh. In the Local Plan for southeast Edinburgh (1992), it was identified as an Area of Great Landscape value, and of specific nature conservation interest. These designations were then effectively superseded by the site's identification as an Urban Wildlife Site, in the City of Edinburgh Council's Urban Conservation Strategy For Edinburgh, (1992). This was recognised formerly when the area was awarded Local Nature Reserve Status in 1993, under the terms of the National Parks and Access to the Countryside Act 1949. As such the site now enjoys statutory protection as a nature reserve.

1.3.2 Within the LNR there are two additional specific designations. The first is the geological Site of Specific Scientific Interest (hereafter referred to as an S.S.S.I.) of Agassiz Rock. Secondly, the summit area of Blackford Hill is a Scheduled Ancient Monument, being the site of a former hill fort and external settlement.

1.4 Ownership and Tenure

1.4.1 Blackford Hill was bought by the Edinburgh Corporation in 1884, and the adjacent Hermitage of Braid estate was gifted to the city of Edinburgh in 1938, by its final owner, John McDougal. The gift allowed the Hermitage to be used as *"a Public Park or Recreation Ground for the benefit of the citizens".*

1.4.2 The City of Edinburgh Council retains ownership of the site and is primarily responsible for its maintenance. The departments with a current managerial responsibility, together with external management agencies involved with the site, are presented in the table opposite.

1.5 Adjacent landowners

1.5.1 To the south the LNR is bounded by privately owned fields, currently ungrazed, but the subject of a planning application to develop into a golf course.

1.5.2 The north and west sides of Blackford Hill lie adjacent to City of Edinburgh Council allotments (Midmar), together with a privately owned field, Midmar Field (see Map 1).

1.5.3 East of the LNR a privately owned golf course is located.

1.5.4 The lands identified in sections 1.5.1-1.5.3 fall within the Green Belt, and are additionally recognised as Areas of Great Landscape Value.

1.5.5 The remaining boundary area of the, the LNR is fringed by substantial private properties, with sizeable gardens with a variety of ornamental and indigenous flora.

1.5.6 The importance of so much 'green' land around the LNR, providing both a buffer zone to urban spread, and an additional foraging area for wildlife, cannot be underestimated. Consequently, maintaining good relations with adjacent landowners is critical. Green Belt policy designation of the surrounding fields will likewise assist in safeguarding the adjacent landscape.

2 Natural Environment

2.1 Climate

2.1.1. Climatic data for the LNR is reproduced with kind permission from the Met. Office. The nearest weather station, at the Royal Botanic Gardens, Edinburgh, indicates that the climate is typical of eastern Scotland, with comparatively low rainfall, high sunshine, and modest temperature variations, see Table 1. Within this overall picture, the microclimate of the LNR is most variable however; the dark woody dell typically being more humid, cooler and sheltered than elsewhere. Blackford Hill, being an upstanding landform, also differs from the general picture, by recording higher wind speeds and a greater variation in temperature.

Table 1: Climatic Data
(Royal Botanic Gardens, Edinburgh, 1951-80)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temp.	Average Monthly Maximum (Celsius)	11.6	11.4	13.7	17.6	20.6	23.4	23.3	23.1	21.1	18.3	14.3	12.4
	Average Monthly Minumum	-6.6	-6.4	-4	-2.2	0.8	4.5	6.3	5.5	2.8	-0.3	-4	-5.3
Rainfall	Monthly Average (mm)	47	39	39	38	49	45	69	73	57	56	58	56
Sunshine	Average duration of bright sunshine hours each day by month	1.5	2.4	3.2	4.9	5.7	6.1	5.5	4.8	4	3	2	1.3

2.2 Hydrology

2.2.1 River Systems

2.2.1.1. The Braid Burn is the principle watercourse, flowing for some 3 kilometres through the LNR. It is a small river, typically some 5 metres wide by 20cm deep. At this location it is approximately half way along its 32km course from a spring in the Pentland Hills, to its mouth at Portobello.

2.2.1.2 Along several sections of the Braid Burn, the river flows through parkland and other managed areas. Immediately upstream of the LNR, the river flows through Braidburn Valley Park. Downstream it flows into the Scottish Wildlife Reserve at Duddingston Loch, before becoming the Figgate Burn, passing through Figgate Park (another park area managed by the City Council), before joining the Firth of Forth at Portobello. As such, the river forms a vital and diverse corridor for wildlife.

2.2.1.3 Throughout much of its course within the LNR, it has been contained by artificial banks, and at one point it flows through a subsurface tunnel for a distance of about 120 metres. These features date from the late C18, in conjunction with the rebuilding of Hermitage House.

2.2.1.4 Despite appearing, and actually being, choked with litter at times, the water quality of the Braid Burn is very good, reflected by the diversity of invertebrate life – e.g. River Limpet, *Ancylus fluviatilis* and Stonefly, *Plecoptera*, larvae; together with fish, e.g. Brown Trout, *Salmo trutta*. Past occasions when water quality has been adversely affected are connected to heavy periods of rainfall and associated overflowing of storm drains and sewage systems upstream; previous usage of weedkillers in Braidburn Valley Park; and pollution from poisons being poured into surface drains.

2.2.1.5 Some leaching occurs downstream of the Howe Dean confluence. This leachate is currently being monitored by the Scottish Environmental Protection Agency (hereafter referred to as S.E.P.A), due to high levels of Ammonia that have been recorded.

2.2.1.6 In addition, there are several seasonal burns within the LNR, e.g. the Howe Dean Burn, which reflect variations in rainfall.

2.2.1.7 Seasonal streams, notably the Howe Dean Burn, feed into the Braid Burn at several locations south of the Braid Burn.

2.2.2 Standing Water

2.2.2.1 Blackford Pond, measures some 225 x 60 metres at it widest points, and was artificially created at an unspecified date in the past, taking advantage of an ice scoured hollow. The pond is eutrophic (over –rich in nutrient content), due to runoff entering from the allotments to the west, from bird faeces and remnants of food thrown to feed waterfowl. In addition a moderate amount of litter detracts from the feature.

2.2.2.2 Due to the high nutrient levels in the pond, the amount of oxygen in the water is restricted. In addition, algal blooms deplete oxygen content further, as well as being a potential health hazard.

2.2.2.3 Adjacent to Blackford Pond is a small pond that serves as a feeder pond to its larger neighbour.

2.2.2.4 An island is situated in the centre of Blackford pond, this being an artificial feature created primarily for the benefit of wildfowl. Upon creation its dimensions were 40 x 8 metres at its widest points. Wind and wave action has dramatically reduced the size of the island, to the extent that it now is only about one quarter of its original size.

2.2.2.5 Within the Hermitage woods there is a small marshy area containing a small open pond, measuring 5 x 2 metres.

2.2.2.6 All ponds are to some extent supplied with fresh water by underground springs.

2.2.3 Runoff

Given the relief of the LNR, rainfall runoff is rapid. The level of the Braid Burn increases quickly following rain, all the more as the steep slopes of the woods, together with the south side of Blackford Hill drain freely into it. To the north and west sides of Blackford Hill, rainfall runoff eventually filters into Blackford Pond, whilst the more gentle slope to the east of the hill distributes runoff in an unrecorded manner.

2.2.4 Hydrology; Evaluation

2.2.4.1 The water features form an important habitat within the LNR, due to the wide array of flora and fauna they support both directly and indirectly. Moreover they are a focus for public interest. In consequence it is strongly desirable to undertake measures to remove negative elements associated with these habitats and to introduce steps that will enhance these areas.

2.2.4.2 Alongside public interest in these water features comes the issue of public safety. It is strongly recommended current safety measures and practices are examined and improved as necessary.

2.2.4.3 Management recommendations for the Braid Burn, ideally, should be co-ordinated with other sections of the course of the river outwith the LNR. Recommendations could be made for the management of these areas, to the overall benefit of the section of the river contained within the LNR.

2.2.5 Hydrology; Objectives

- **To conserve and enhance the wetland habitats**
- **To improve public safety awareness at water features**

2.3 Geology and Geomorphology

2.3.1 Mr. David Land and Mr. David McAdam of the British Geological Survey have provided much of the geological information for the LNR, whose work is gratefully acknowledged.

2.3.2 The bedrock of the LNR is composed of two lava flows, the product of volcanic activity some 400milion years ago. The upper layer, andesite, comprises Blackford Hill. The lower lava, trachyte, is exposed along the gorge of the Hermitage and the Howe Dean glen.

2.3.3 Following the volcanic episode, desert flash floods deposited sandy material on top of the lavas, which cemented to become part of the Upper Old Red Sandstone group. None survive as visible outcrops in the LNR, though sections have been utilised in the walls bounding the site.

2.3.4 Earth movements have tilted all the rocks to give a northeast dip slope at an angle of 10-15 degrees.

2.3.5 Glacial modification

2.3.5.1 The series of ice ages, and the movement of ice in a west to east direction have produced several important features. Erosion and deposition produced the crag-and-tail of Blackford Hill, which also contains smaller examples of this feature; e.g. Corbie's Craig.

2.3.5.2 Further evidence of glacial activity is provided by the dolerite erratics located to the North of Blackford Pond and displayed in a surround of granite setts.

2.3.5.3 Meltwater from ice sheets was responsible for altering the course of the Braid Burn. Large amounts of water exploited a weakness in the bedrock and cut the gorge through the Hermitage, which has now been adopted by the Braid Burn. Prior to this action, the course lay to the south of the LNR, on the valley side now overlain with glacial till.

2.3.6 Agassiz Rock S.S.S.I

In 1840, Swiss geologist Louis Agassiz visited Edinburgh and ultimately proved to fellow geologists that Scotland had at one time been covered by ice. The polished and striated rock that now bears his name was one location where he gathered his evidence. Today

little of the striae remain, as the rock is badly eroded, but it remains a S.S.S.I, because of its historical role in the development of geological theory.

2.3.7 The quarries within the LNR date from the early C19, when andesite was extracted and used for road construction. Operations ended in 1953. Since this time one quarry adjacent to the LNR has been used as a landfill site, whilst within the LNR the quarries have been allowed to become colonised by flora. The quarry has become a popular locality for climbing and abseiling. Sadly the same area has also been the target for negative activities – bonfires, parties and graffiti, and the area appears unkempt as a consequence.

2.3.8 **Geology and Geomorphology; Evaluation**

2.3.8.1 The geology and geomorphology of the LNR is both varied and readily accessible, providing an excellent site for interpreting a notoriously difficult subject to members of the public. The historical importance of the area amongst geologists is recognised by the S.S.S.I. designation, and for this reason alone the whole site is of regional importance.

2.3.8.2 The former quarry continues to be a focus for climbing groups, whose continued use of the area is to be encouraged. The negative elements of this area, especially the eyesores of graffiti and litter, detract from the LNR's status as a whole.

2.3.9 **Geology and Geomorphology; Objectives**

- To preserve the geological and geomorphological landforms
- To enhance public understanding about geology and geomorphology

2.4 Soils

2.4.1 Much of the soil of the LNR is from the Sourhope association, comprised of glacial till from Andesite lavas. These soils drain freely and are both acidic and basic in nature. In addition areas of Rowanhill soils, of the Macmerry series exist on the LNR, these draining imperfectly.

2.4.2 There are small alluvial deposits associated with the Braid Burn.

2.4.3 Within the Hermitage, the Brown Earth soils, containing a deep layer of humus, reflect that there has been woodland cover for several hundred years. The soils drain imperfectly with clay deposits inhibiting water movement.

2.4.4 Soils; Evaluation

Little work on soils has been conducted to date, and should form a focus for future research projects.

2.4.5 Soils; Objectives

- To increase knowledge of soil profiles across the LNR.

2.5 Habitats

The LNR contains six distinct habitat communities;

- Woodland,
- Scrubland,
- Grassland,
- Ruderal (Weed) Communities,
- Wetland,
- Rock Outcrops.

2.5.1 Woodland

2.5.1.1 General Description

2.5.1.1.1. Some 90% of woodland cover for the LNR is located within the Hermitage of Braid, (identified as compartments 3 and 4 on Map 2). Elsewhere, woodland fringes can be found around Blackford Hill and Pond, and along Howe Dean Glen. The total woodland cover comprises 30.2 hectares, a little over half the total area of the LNR.

2.5.1.1.2 A full description of the woodlands is presented in appendix b.

2.5.1.2 Woodland Classification

2.5.1.2.1 The woodlands can be classified as ancient semi-natural woodland, having been in existence for at least 250 years, and depicted on several ancient maps for the region, e.g. Adair's map of Midlothian, 1735. The native woodland composition of Ash, Elm and Oak equates best with W8 woodland, (National Vegetation Classification, 1991, Rodwell).

2.5.1.2.2. The 'semi-natural classification' for the woodlands reflects that the native woodland has been greatly modified by the introduction of species that subsequently have become naturalised, e.g. Sycamore and Beech. In addition, deliberate planting of non-native trees, for landscape design, e.g. Small-leaved Lime, or for commercial timber production, e.g. Lodgepole Pine, has increased the tree mix, to the end that some 35 woody species have been recorded across the LNR.

2.5.1.3 Veteran Trees

2.5.1.3.1 The woodlands contain 26 veteran trees, i.e. trees of 90cm diameter or more. Veteran trees are of particular interest as a

microhabitat, having the potential to contain species of flora and fauna (e.g. lichens) that only grow on long established trees.

2.5.1.3.2 A partial survey of the woodlands has been conducted to map and age veteran trees, the details being listed in appendix d.

2.5.1.4 Naturalised Trees

Sycamore and Beech are two naturalised trees, i.e. trees that are not native to the area, but which were introduced a long time ago and now grow in the wild. Both species account for the majority of trees found across the woods, to the detriment of the native stock. In addition, both Sycamore and Beech produce copious amounts of seed, again adding further barriers to the establishment of young native trees, which are out-competed. In addition there is little native woodland regeneration due to the prevalence of mature trees shading out smaller specimens. This is particularly evident with Sycamore and Beech, their prolific leaf cover preventing nearly all sunlight from penetrating to the wood floor.

2.5.1.5 Non-Native Trees

The woodlands contain trees that are non-native, i.e. deliberately planted as a landscape feature or as a commercial crop, and which do not produce viable seed. Being non-native, such trees tend to be of limited wildlife value, and would therefore be suitable for thinning and cropping. Trees associated with the landscaping of the site, e.g. along the main paths, will however, be retained for their aesthetic value.

2.5.1.6 Control of Disease

2.5.1.6.1 The woodlands contain a number of Wych Elms. With the arrival of Dutch Elm Disease into Edinburgh in the early 1970s, several of the Elms in the woods have been affected. Trees are inspected annually, and removed during September – March. To limit the spread of the disease, the stumps of affected trees are then de-barked, and all felled timber burnt. Despite these actions, however, the disease affects an average of 30 trees annually.

2.5.1.6.2 No other treatment occurs to trees on site. Specimens affected by parasitic fungi are left to decay, as part of the natural process.

2.5.1.7 Deadwood Strategy

Trees that blow down safely and away from paths are left to break down naturally, forming an important microhabitat in their own right. When (fallen) trees block access tracks, the timber is cut to clear the path, and the material retained as a habitat pile for wildlife. Similarly any stumps that remain upstanding after a tree has fallen over, are also left in situ, as a habitat for wildlife.

2.5.1.8 Commercial Tree Management

Commercial plantations exist in compartments 4b, 4d and 4e. Species include Lodgepole Pine, *Pinus contorta*, Scots Pine, *Pinus stlvestris*, Norway Spruce, *Picea abies*, and Cherries*, Prunus SPP*. These were planted approximately 25 years ago, and have since been left unmanaged, resulting in the development of dense stands, with little understorey, and consequently restricted wildlife value.

2.5.1.9 Current Management

2.5.1.9.1 Apart from annual felling of Dutch Elm diseased trees, the removal of dangerous branches, and of trees overhanging paths; little woodland management has been undertaken. This has resulted in a degree of overcrowding within the woods and the shading out of ground flora.

2.5.1.9.2 The absence of a formal woodland management strategy has facilitated the colonisation of the woods by introduced species, e.g. Sycamore, to the detriment of native species for this area, such as Ash, Elm and Oak.

2.5.1.9.3 Many plantings associated with landscape design have grown out of control (e.g. Cherry Laurel, *Prunus laurocerasus*,) giving a neglected appearance along estate rides.

2.5.1. 10 Woodlands; Evaluation

2.5.1.10.1 The woods of the Hermitage are of very high local importance, and the age of woodland cover has resulted in the high variety of woodland flora and flora recorded to date. Locally rare plants include Bluebell (*Hyacinthus non-scriptus*), and Wood Speedwell (*Veronica montana*) along with other species associated with the habitat. The fauna of the woods are equally varied, with locally rare species, e.g. *Great Spotted woodpecker (Dendropcopos major), Green Woodpecker (Picus viridis*), Spotted flycatcher (*Muscicapa striata*), all breeding on site.

2.5.1.10.2 The woodlands require active management if the habitat is to be maintained and improved. Aggressive introduced specimens need to be reduced, block plantations thinned, and young native specimens need to be introduced across the woods to generate a more balanced woodland composition.

2.5.1.12 Woodlands; Objectives

- **To ensure that the woods have a diversity of age structure and species composition, with a shift towards enhancing native stock over naturalised / introduced species.**
- **To retain the landscape design features of the woodlands.**
- **To ensure the woodland is kept in a safe condition.**
- **To maintain the current woodland area cover.**
- **To conserve the woods as a habitat for native flora and fauna.**

2.5.2 **Scrubland**

2.5.2.1 Blackford Hill contains a scrub habitat, covering some 40% of its total area. Species include Elder (*Sambucus nigra*), Blackthorn (*Prunus spinosa*) and Hawthorn (Crataegus monogyna), but by far the most dominant is Gorse (*Ulex europaeus*). It is rapidly increasing its range, to the detrimental effect of the grassland communities and associated flora, discussed in the section 2.5.3.

2.5.2.2 Gorse is particularly susceptible to damage from fire, and fires, both malicious and accidental, have broken out almost annually on Blackford Hill. Gorse regeneration after fire is rapid, however, and can add to the problem of the aggressive spread of the species.

2.5.2.3 Current Management

Gorse is cut back annually, to produce firebreaks in the densest stands, the cutting regime creating 10 metre wide gaps between stands.

2.5.2.3 **Scrubland; Evaluation**

2.5.2.3.1 Gorse has both positive and negative management implications, on the one side providing a valuable habitat for scrub nesting birds, whilst on the other shading out many of the more local plant and grass specimens. Current practice to guard against the risk of fire should be continued, but in addition, gorse should be prevented from spreading onto the more plant rich areas, typically the neutral grasslands and rocky exposures.

2.5.2.3.2 Stands of gorse should be maintained, however, as a habitat for birds, though the current area coverage is seen to be too high.

2.5.2.4 **Scrubland; Objectives**

- **To contain the spread of gorse on Blackford Hill, but also maintain a diverse scrub habitat for nesting birds**

2.5.3 **Grassland**

2.5.3.1 Unimproved grassland comprises approximately half the ground cover within the LNR, mostly located upon Blackford Hill. The grasslands are both acidic and neutral. Several plant species associated with the neutral grasslands and / or rocky exposures are of importance locally and some regionally as well, summarised in the table below;

Table 2: Plants and ferns of note, Blackford Hill

Species		Importance		
		Regional	Scotland	Britain
Spring Sandwort	Minuartia verna	~~	Rare	Local
Purple Milk-Vetch	Astralagus danicus	Rare	~~	Local
Spring Cinquefoil	Potentilla neumanniana	~~	Rare	~~
Rue-Leaved Saxifrage	Saxifraga tridactylites	Rare	Rare	~~
Shining Cranesbill	Geranium lucidum	Rare	Scarce	Local
Prickly Sedge	Carex muricata ssp. Lamprocarpa	~~	Scarce	~~
Common Rock-rose	Helianthemum nummularium	Rare	~~	~~
Sticky catchfly	Lychnis viscaria	Rare	Rare	Local
Forked Spleenwort	Asplenium septentrionale	~~	~~	Rare

2.5.3.2 Additional areas of grass can be found across the LNR. These include ‘amenity lawns’, currently under a cutting regime to provide areas for recreation. One section of former amenity grassland has for several years been left uncut during the summer months to create a wildflower meadow habitat (contained within Compartment 3f).

2.5.3.3 Current Management

2.5.3.3.1 Beyond the cutting regime of certain grass areas, there is little formal management of the grassy areas. Members of the public are requested to stay to paths and dog walkers to clean up after their dogs, but in both instances these are the issues putting the greatest strain upon the grass habitats.

2.5.3.3.2 Erosion of grass cover reveals bare soil, which quickly increases in size, this being evident at several locations. In May 1999, 4 areas of Blackford Hill were fenced off and reseeded with grass seed in an attempt to resurface eroded patches.

2.5.3.4 Grasslands; Evaluation

2.5.3.4.1 There remain sizeable areas of neutral and acidic grasslands in the LNR, which are of high conservation value. The pressure upon these areas comes from gorse encroachment, erosion, and dog fouling.

2.5.3.4.2 Dog fouling is both unpleasant and a potential health hazard. Moreover at high levels, excessive fouling can alter the balance of plant life towards rank vegetation. All these elements are to be found across Blackford Hill, increasing as one approaches the main car park by the observatory.

2.5.3.4.3 Blackford Hill offers an excellent view of the city of Edinburgh, this due in part to the grassy vegetation allowing an unbroken view. Future management, whilst addressing conservation issues, must incorporate the popularity of the viewpoint element within overall planning strategies. Fortunately, the elements that detract from the public's appreciation of the hill as a viewpoint, are the same as those identified as being of detriment to the grassland habitats.

2.5.3.4.4 Areas currently cut to provide grass lawns for informal recreation are well used by the public, and they ought to be maintained in this manner.

2.5.3.5 Grasslands; Objectives

- **To conserve and enhance existing grassland habitats**

2.5.4 Ruderal (Weed) Communities

2.5.4.1 Several areas within the LNR exhibit features associated with ruderal communities (Group A 1-4 inclusive, Plant Communities of Scotland, J.S.Robertson, 1984). Currently there are no management policies for such areas, beyond cutting back as part of other actions, e.g. path clearing.

2.5.4.2 All wet / damp areas have to some extent been affected by the three, notifiable, invasive species, Giant Hogweed, *Heracleum mantegazzianum*, Himalayan Balsam, *Impatiens glandiflora,* and Japanese Knotweed, *Fallopia japonica.* These have been treated in an erratic manner.

2.5.4.3 The number of Giant Hogweed plants that occur in the LNR each year can high – often around 300 specimens. Typically they are sprayed with a glyphosate agent, though given the city-wide nature of the spread of this plant, it remains a problem on the LNR.

2.5.4.4 Himalayan Balsam has been allowed to grow unchecked until 1998, when initial steps were undertaken to control its spread. Sites containing the plant were identified, and some clearing took place. This policy was more thoroughly enacted in 1999, with all main areas affected being cut and hand picked.

2.5.4.5 Fortunately, Japanese Knotweed has only a modest distribution within the LNR, though this could change if shaded areas are opened up. During 1998 and 1999, individual plants have been repeatedly cut, and the species appears to be well contained.

2.5.4.6 Ruderal Communities; Evaluation

2.5.4.6.1 The extent of ruderal communities need to be established, and if seen to be increasing in size, appropriate management policies, e.g. strimming, brought into force.

2.5.4.6.2 The three invasive species need to be contained and reduced through a control programme.

2.5.4.3 Ruderal Communities; Objectives

- **To limit the spread of invasive weed communities**

2.5.5 Wetlands

2.5.5.1 Refer to section 2.2 (Hydrology), for a description of the aquatic features of the LNR.

2.5.5.2 The course of the Braid Burn contains plants of local interest, principally Stream Water Crowfoot, *Ranunculus pencillatus*, and Water Figwort, *Scrophularia auriculata.*

2.5.5.3 Current Management

2.5.5.3.1 The Braid Burn is cleared of litter by the ranger service and members of the public on an average of 6 times a year.

2.5.5.3.2 The water quality of the Braid Burn and Blackford Pond is monitored by both East of Scotland water and the Scottish Environmental Protection Agency.

2.5.5.4 Wetlands; Evaluation.

2.5.5.4.1 Pollution by both visible waste and invisible chemicals are the greatest issues to wetland habitats, and the prime source of grievance by members of the public. In addition waste material carried in the water adds to blockages and can cause water levels to build up to flood levels.

2.5.5.4.2 Blackford Pond continues to suffer from the appearance of algal blooms each summer and counteractive measures, in the form of barley rafts, need to be introduced. As a by-product of limiting algal development, the water habitat will improve, due to an increase in the oxygen content.

2.5.5.4.3 Additional work around Blackford Pond is desirable, both to limit the erosive effects of wave action, and to enhance the habitat for roosting and nesting birds.

2.5.5.5 Wetlands; Objectives- see section 2.2.5

2.5.6 Rock Faces

2.5.6.1 Rock faces form an important habitat for many lower plant species, e.g. mosses and lichens, together with specific flora, e.g. Rue-leaved saxifrage (*Saxifraga tridactylites*).

2.5.6.2 The habitat is currently under pressure by encroachment of scrub species (Gorse), as described in section 2.5.2. Management objectives for rock faces are thereby inextricably linked to containing the spread of gorse, as outlined in the Objectives for scrubland, section 2.5.2.4.

2.6 Flora

2.6.1 Full species lists for flora and fauna of the LNR are not provided within this plan, though are held on a variety of formats at the countryside ranger base, and can be obtained upon enquiry. An up to date cataloguing of all such data will be a requested action of this plan. For now species will only be named where deemed of significance.

2.6.2 Bluebell (Wild Hyacinth), *Hyacinhthoides non-scripta,* enjoys specific protection under the Wildlife and Countryside Act (1981), having recently been added to Schedule 8, though under the same act it is an offence to pick, uproot or destroy any wild plant. Picking of flowers across the LNR remains an ongoing problem

2.6.3 Table 2 (Section 2.5.3.1) indicates plants of note on Blackford Hill. In addition, the Ranger Service is currently involved in a programme to reintroduce Primrose, *Primula vulgaris,* across the woods.

2.6.4 Elsewhere within the woodlands there are a wide array of flora containing several locally interesting specimens, including Wood Speedwell, *Veronica montana,* and Wood Anenome, *Anenome nemorosa*.

2.6.5 The former quarry in Blackford Glen provides a habitat of thin soils and bare rock, and contains species of local significance, including Knotted Clover, *Trifolium striatum,* and Hairy Rockcress, *Arabis hirsuta.*

2.6.2 Current Management

2.6.2.1 The Countryside Ranger Service undertakes casual recording of plant specimens. In addition, management policies currently in practice, e.g. path work, management rule enforcement; are specifically geared towards preserving the range and diversity of native flora.

2.6.2.2 The wildflower meadow is cordoned off each March and left to grow unchecked. It is then cut each September, and the cuttings removed.

2.6.3 **Flora; Evaluation**

Much of the ground flora of the LNR is suffering in response to the twin pressures of erosion (by trampling and bicycle), along with deliberate picking of individual plant specimens. Primrose, *Primula vulgaris,* became locally extinct as a result of picking, and despite education to the contrary, this practice continues. Future management will have to reinforce the message of conservation via new Management Rules and appropriate signage.

2.6.4 Flora; Objectives

- **To conserve and enhance the population levels of native flora present within the LNR.**

2.7 Fauna

2.7.1 Table 3 indicates fauna observed within the LNR which receive special protection under the Wildlife and Countryside Act, 1981.

Table 3 Scheduled Fauna, The Hermitage of Braid & Blackford Hill LNR

Species	Scientific Name	Protection	Comments
Kingfisher	Alcedo alcedo	Schedule 1part1	Winter visitor
Brambling	Fringilla montifringilla	Schedule 1part1	Winter visitor
Crossbill	Loxia	Schedule 1part1	Winter visitor
Fieldfare	Turdus pilaris	Schedule 1part1	Winter visitor
Redwing	Turdus iliacus	Schedule 1part1	Winter visitor
Garganey	Anas querquedula	Schedule 1part1	Rare passage migrant
Peregrine Falcon	Falco peregrinus	Schedule 1part1	Rare visitor
Whimbrel	Numenis Phaeopus	Schedule 1part1	Rare passage migrant
Wryneck	Jynx Torquilla	Schedule 1part1	Rare passage migrant
Bats (Typical) all species	Vespertilionidae	Schedule 5	Daubenton's bat & Pipistrelle sp.recorded
Common frog	Rana temporia	Schedule 5	In respect of section 9(5) only
Common Toad	Bufo bufo	Schedule 5	In respect of section 9(5) only
Otter	Lutra lutra	Schedule 5	Not recorded on site, but occuring within the Braid Burn water system
Water Vole	Arvicola terrestris	Schedule 5	Formerly recorded on site.

2.7.2 The Otter, (*Lutra lutra),* is known to inhabit the lower reaches of the Braid Burn water system, and ought to be brought into overall management considerations for the site. Likewise the Water Vole (*Arvicola Terrestris*), is believed to inhabit the Braid Burn system, and should also be included in to management considerations.

2.7.3 120 bird species have been observed within the LNR in total, though typically some 60-70 species are recorded in one year. In addition, the site contains 16 species of mammal. This diversity, coupled with the LNR's proximity to the city of Edinburgh, is at least as telling in understanding the importance of the area for wildlife, as the presence on site of the rarer species outlined by Table 3.

2.7.4 Current Management

2.7.4.1 The Countryside Ranger Service updates records of fauna during regular patrolling of the LNR.

2.7.4.2 The Ranger Service conducts a Common Bird Census annually, submitting the records to the national database.

2.7.4.3 There are some 30 nestboxes located throughout the woods of the LNR, suitable for a number of hole-nesting birds. In addition there are 3 bat boxes on site. At present there is no formal inspection of these boxes.

2.7.4.4 Weekly counts of wildfowl are undertaken at Blackford Pond, and results passed to local bird groups.

2.7.4.5 A squirrel census was initiated in 1998-99, to estimate the population level of the Grey Squirrel, *Sciurus carolinensis.* The survey will be repeated every three years in an attempt to register changes in the population level for this species.

2.7.4.6 A butterfly transect was initiated in 1998 to monitor species' presence and abundance within the LNR. The survey is repeated annually in order to monitor population levels within species and detect changes in species' distribution.

2.7.5 Evaluation

2.7.5.1 The LNR hold a wide variety of fauna, reflecting its importance to wildlife. Future management should maintain the overall habitat distribution of the LNR, and maximise its value for wildlife. This will lead to conflicts of interest, (i.e. the restricting certain activities in order to enhance the wildlife value, e.g. public access, dog access).

2.7.5.2 Future research into fauna should be concentrated away from the familiar Classes e.g. birds, and towards groups where less is known, e.g. mammals, invertebrates.

2.7.6 Fauna; Objective

- **To conserve and enhance the LNR for native fauna, and increase understanding about the fauna present on site.**

2.8 The Edinburgh Biodiversity Action Plan

2.8.1 The Edinburgh Biodiversity Partnership identified 97 species and habitats (from a total of 8,000 species), found within the City of Edinburgh, which have a particular nature conservation value, or are of particular interest to the public. These have been enshrined within the Edinburgh Biodiversity Action Plan (EBAP), containing a series of actions and recommendations for species and habitat conservation. Where relevant to the context of the Hermitage of Braid and Blackford Hill LNR, these actions will be implemented. The species and habitats identified as occurring on site, are summarised in the following table.

Table 4; EBAP Species and Habitats Present At The LNR

Habitats	Flora	Fauna
Semi-Natural Grassland	Giant Bellfower	Water Vole
Rock Faces	Maiden Pink	Hedgehog
Rivers / Streams	Meadow Cranesbill	Otter
Ponds	Common Rock-rose	Daubenton's Bat
Woodlands	Bluebell	Pipistrelle Bat
	Ragged Robin	Sparrowhawk
	Sticky Catchfly	Linnet
	Stream Water Crowfoot	Great Spotted Woodpecker
	Mountain Pansy	Yellowhamer
	Sieve-toothed Moss	Spotted Flycatcher
		Song Thrush
		Bullfinch
		Common Toad
		A Plume Moth *(Capperia britaniodactyla*)
		Common Blue Butterfly

2.8.2 The Edinburgh Biodiversity Action Plan will be launched on March 29th 2000, and upon receipt, a copy will be included in the appendices.

3 The Historic Environment

3.1 Archaeological Sites And Monuments

3.1.1 A prehistoric hillfort is situated at the summit of Blackford Hill, commanding extensive views over the surrounding area. The fort was defended in part by the naturally precipitous slopes, as well as by at least two circular ramparts which are still visible in places. The interior of the fort measured some 70 by 50 metres, and probably contained circular houses, though none can be seen today. The hillfort was probably built in the Iron Age, about 2000 years ago.

3.1.2 On an area of level ground immediately east of the hillfort, there are circular foundations of at least four houses, each about 8 metres in diameter, of which two are clearly visible. The remains of later rig and furrow field cultivation can also be seen in this area.

3.1.3 Cup and Ring marked rocks were recovered from the summit of Blackford Hill, and are now on display in the Royal Museum of Scotland.

3.1.4 The hillfort and external settlement are of national importance and are protected as a Scheduled Ancient Monument (SAM 5818). The area as a whole forms part of a larger historic landscape and it is quite possible that other as yet undiscovered prehistoric and medieval archaeological remains lie within the boundaries of the LNR.

3.2 History and Architectural Features

3.2.1 The first identifiable landowner of the lands now covered by the LNR, was Sir Henry de Brad, Sherriff of Edinburgh in 1165. It is presumed the lands of the area were named after him. No evidence remains of his property, though it is believed to have been a fortified structure located in what is now the field to the north of the house (Midmar field).

3.2.2 Successions of landowners are documented as occupying the property from the c16 until the present date, including Sir William Dick, Lord Provost of Edinburgh during the c17.

3.2.3 The current house, Hermitage House, is a category ‘A’ Listed Building, built by Robert Burn for Charles Gordon of Cluny in 1785,

replacing a former dwelling. Many of the landscape design features of the LNR, e.g. canalisation of the river and tree avenue planting, are thought to have occurred at this time.

3.2.4 The Doocot predates the current house, being at least c17 in construction. It is a situated within a walled garden, now overgrown. Both the Doocot and the walled garden are Category 'B' Listed features. The wall is in a poor condition, derelict in some areas, repaired in others, and patched up in yet further locations. The Doocot is in a fair condition.

3.2.5 The Ice House feature dates from the 18th century and is a typical example of this type of feature. It is a Category C/S Listed Building.

3.2.6 Other architectural remains include remnants associated with a mill, which was initially involved in food production, before being redeployed as a paper mill in 1571. The mill was demolished as part of landscape improvements carried out by Charles Gordon.

3.2.7 The date of the stable bock is unknown.

3.2.8 Two small water pump structures, of brick material, are located on the north side of the Braid burn, downstream of the weir. The function of these pumps was to provide fresh water for the house. Their date of construction is unknown. Both are currently in a semi-derelict condition.

3.2.9 The buildings on Blackford Hill are all privately owned, being associated with the Royal Observatory or the communications industry.

3.2.10 Blackford Hill entered public ownership in 1884, when they were purchased by the then Edinburgh Corporation, for £8,000. The final owner, John McDougal, bequeathed the lands of the Hermitage of Braid to the City and its people in 1938. Since this date, the area has been a public space, the house itself being the residence of the Parks Superintendent 1939-66, before briefly a venue for the Boy Scouts Association. The house was then renovated before becoming a Countryside Information Centre in 1979.

3.2.11 Quarrying in Blackford Glen (for road surfacing), occurred between 1826-1953.

3.3 Current Management

3.3.1 The Countryside Ranger Service has produced a variety of interpretative literature describing the historical background to the LNR.

3.3.2 Buildings and structural features are examined during patrolling, and where defects are recorded, repairs carried out by the Property Services section. At present there is no cohesive plan for the conservation of the designed landscape elements of the LNR.

3.4 The Historic Landscape; Evaluation

3.4.1 Given the limited information currently held, a professional, historic landscape and cultural heritage appraisal would be an ideal means to understand the development of the landscape, and make recommendations for its long-term maintenance.

3.4.2 The built landscape of the LNR is of great interest for many people. Resources should be channeled to preserving the remains and buildings on site, and repairing as necessary. Specifically:

3.4.2.1 The walled garden is very overgrown, planted with unsuitable coniferous trees, hiding the Doocot from view. Selective thinning and path clearance will enhance this feature and benefit ground flora that has been recorded in this part of the site. In addition the wall is in places, in a severe state of disrepair, and resources ought to be made available to restore this historic feature.

3.4.2.2. The Ice House is a continuing source of interest to the general public, and would benefit from internal lighting, provided that a power system could be installed.

3.4.2.3 The condition of the embankment along the Braid Burn, and associated features, e.g. Pump Houses, is in many places poor and deteriorating, and any repair work would require extensive resources.

3.5 The Historic Landscape; Objectives

- **To preserve and enhance the historic remains.**
- **To increase knowledge about the archaeological remains and the historic landscape.**

4 Access

4.1 Access Points

4.1.1 There are 13 principle access points into the LNR, as shown on Map 3. Two of these points have small self-contained car parks, whilst the third access at Blackford Hill shares a larger car park in conjunction with the Royal Observatory. Elsewhere car users must park on the roadside, and this can cause congestion at the Braid Road entrance.

4.1.2 Special Needs Access Points

Upon request, special needs groups are permitted to drive along the main entrance and use the car park close to Hermitage House. This facility is also available to individual Orange Badge holders upon request, though current signage fails to inform of this access.

4.2 Paths

4.2.1 The main path networks are illustrated on Map 3. The path system was surveyed in 1996, with surface type & condition, drainage, width and any step system all being elements recorded and assessed, (full report in Appendix).

4.2.2 Two Rights of Way traverse the LNR, namely the path along Howe Dean Glen, and secondly the Lang Linn path. Both provide links to the Braid Hills on the South of the site.

4.2.3 Special Needs Paths

There are at present no paths specifically designed for Special Needs Groups. The topography of the LNR inhibits large-scale path creation for wheelchair users, though some of the surfaced paths do permit informal access. Principally these paths are located at:

- The north side of Blackford Pond,
- Blackford Hill, between the car park and the communications mast,
- The Main Drive to Hermitage House.

4.3 Boundaries

4.3.1 The LNR boundary is made up of a series of stone walls, metal railings and wire fences, the conditions of which vary enormously. These boundaries were surveyed in 1996 and recommendations made as to actions needing undertaken. A full version of the survey is held by the Countryside Ranger Service.

4.4 Visitor Numbers

4.4.1 Currently no data is available for the number of people who visit the LNR each year. In 1998-1999 the Ranger Service began to install electronic recorders at the main access points in order to calculate visitor numbers. This system is expected to come into use in October 1999, once it has been calibrated.

4.5 Public Safety and Security

4.5.1 Members of the public are responsible for their own health and safety whilst recreating within the LNR. Security, however, is a different matter, and several members of the public have been involved in incidents on the site. Where possible the Ranger Service will either assist personally in such cases, or contact relevant agencies. In addition the Park Warden Service division provide assistance outside office hours.

4.6 Signage

4.6.1 Information panels can be found at 6 of the entrances to the LNR (see map 3). These typically display Visitor Centre opening times, together with seasonal wildlife information and vehicle and bicycle prohibition indicators. The boards are constructed of elm sourced from the former council sawmill, and despite being only 4 years in age have weathered badly and split in most instances.

4.6.2 4 Map panels are located at site entrances (see Map 3). These are 20 years old, and are made of polymer coated hardboard. They depict the area of the LNR, the main habitats and paths, together with some of the key features. The boards have lasted extremely well against both weathering and vandalism, but as they contain some information that is now incorrect, ought now be upgraded.

4.6.3 At Blackford Pond, an interpretation board highlights the water life of the pond. It is in a very good condition.

4.6.4 Across the LNR occasional relic signage can be found e.g. “No Football”. These signs have in most cases ceased to be of relevance.

4.6.5 Temporary / emergency signage is put up by the Countryside Ranger Service as required.

4.6.6 There are currently no signs outwith the L.N.R to guide individuals to the main entrances.

4.7 Management Rules

4.7.1 The LNR currently operates to Management Rules created in 1982. These rules were drawn up by the (then) City of Edinburgh District Council to cover all public parks. As such their relevance in the management of a park, subsequently designated a Local Nature Reserve, has to be assessed. Most anti-social behaviour is covered by the 1982 rules, though elements of the country code (e.g. keeping to paths), are not specified.

4.8 Current Management

4.8.1 The Countryside Ranger Service, in conjunction with the Park Warden Section, are both currently responsible for ensuring compliance with the Management Rules.

4.8.2 Recommendations of the 1996 path report are being implemented, with priority going to paths identified as being in the greatest need for repair. The main drive is cleaned annually by the Department of Environmental & Consumer Services.

4.8.3 Rights of way, together with main paths, are kept free of obstacles and encroaching vegetation.

4.8.4 The information panels are inspected at least once a month.

4.9 Access; Evaluation

4.9.1 The current path work programme, though limited by resources, is now beginning to tackle the worst areas. Future management will continue to adopt a programme of path work repair and monitoring.

4.9.2 The Management Rules of 1982 require revision and appropriate signage at all access points of the LNR. Specifically issues of access, dog fouling and cycling must be addressed and suitable measures adopted.

4.9.3 Greater work is required to provide enhanced access within the LNR to a variety of Special Needs groups.

4.9.4 Current signage across the LNR is of varying quality and relevance. Where appropriate, signs ought be repaired, replaced or removed altogether, to produce a co-ordinated pattern of signage.

4.9.5 The recommendations of the boundary survey should be implemented, where resources permit.

4.10 Access; Objectives

- **To establish and maintain a controlled system of access across the LNR.**
- **To maintain the principle path network in a good condition.**
- **To enhance access for Special Needs groups.**

5 Recreation

5.1 User Groups

5.1.1 Despite the title 'Local Nature Reserve', the site is managed equally to meet the needs of nature conservation, alongside recreation and access. Several formal and informal recreational activities occur on site, including:

Walking, picnics, dog exercising, running, orienteering, climbing, natural history studies, drawing, and cycling.

5.1.2 Cycling

5.1.2.1 Cycling is only permitted within the LNR for those aged 14 years and under. In practice this is not the case, the site increasingly being frequented by off-road cyclists.

5.1.2.2 Cyclists have been involved in several accidents and near misses with other site users; in addition cycling is recognised as having a severe impact upon the erosion of surfaces across the LNR.

5.1.3 Dog Walking

5.1.3.1 The LNR is heavily used by dog walkers, partly in response to the banning of dogs from other parks in Edinburgh, together with a probable increase in dog ownership. Despite the creation of signage, and the provision of litter bins across the site, there is an excessive degree of dog fouling. The thoughtlessness of some dog owners presents a very real health hazard, and inhibits other users from visiting the site.

5.1.3.2 The high incidence of dog usage in areas of the LNR is also seen as detrimental to wildlife, with species of former ground and scrub nesting birds, e.g. Skylark, *Alauda arvensis*, and Meadow Pipit, *Anthus pratensis*, no longer nesting on site. In addition, several 'desire lines' within the woodlands are the consequence of dog activity, in certain cases these tracks running through areas of locally important ground flora, e.g. Bluebell, *Hyacithoides non-scripta.*

5.1.4 Climbing

5.1.4.1 Climbing occurs at Blackford Quarry, with groups receiving permits to use the site, together with a code of conduct, from the

Countryside Ranger Service. The groups typically use the west face of the quarry, and are self regulating. The quarry is used by groups between 20-30 times/year.

5.1.4.2 Groups are issued with a key to the entrance at Blackford Glen Road, in order to permit vehicular access to the quarry if desired. All groups assist the ranger in an annual tidy up of the quarry. In 1999, 12 new climbing bolts were situated on the West face, supplied and secured by group members.

5.1.4.3 Apart from official groups, individual climbers use the West face of the quarry, together with other exposures nearby. This activity is discouraged by the ranger service, on grounds of both personal safety, and because many individuals climb upon the Agassiz Rock S.S.S.I. A sign that formerly described the significance of Agassiz Rock is currently absent, having been vandalised, and requires replacement.

5.1.5 Orienteering

5.1.5.1 A fixed-point orienteering course exists throughout the woodland of the Hermitage of Braid, comprising of a series of metal plates attached to features across the area. The course has been in existence for 20 years, and during this time, several marker points have been removed or fallen off through wear and tear, and now require replacement.

5.1.5.2 In addition to the fixed course, the LNR is used occasionally by orienteering groups as a venue for club events. Prior to use all groups inform the Countryside Ranger Service, in order that any relevant information (e.g. ‘no-go’ areas) can be disseminated.

5.1.6 Friends Of The Hermitage & Blackford Hill LNR

5.1.6.1 In April 1999, a ‘Friends’ group was created, comprised of various members of the local public, with an interest in the LNR. Since its conception, the group has grown to include over 100 members (February 2000).

5.1.6.2 Committee is currently ratifying the aims and objectives of the ‘Friends’, but the group is envisaged to be both a consultative body, and an active agent in the securing of funds for management tasks to be conducted across the LNR. To this extent, the group’s potential influence in the management plan’s implementation could be most significant.

5.2 Recreational Facilities

5.2.1 Benches and Picnic Tables.

64 benches and 2 picnic tables are located across the LNR. These were surveyed in 1998, their condition reported, and a programme of repair commenced. Due to the exposed condition of these benches many weather very quickly. This does not, however, explain the catalogue of benches that are missing part of all of their seating, indicating that these items have not been adequately maintained for several years.

5.2.2 Litter Bins

12 litter bins are located within the LNR, and are emptied three times a week by Environmental & Consumer Services. The bins are of an open top variety and problems occur with crows and dogs pulling out items in search of food, scattering rubbish in the process. In general though there is little litter on site, with the bins being used for both rubbish and dog waste.

5.2.3 Toilets

3 sets of toilets are situated within the LNR. One set is contained within the Visitor Centre (Hermitage House), cleaned daily. A second set by the stable block lie currently closed, requiring a major overhaul. A third toilet exists by Blackford pond. It is locked, and, apart from an individual who has requested the use of the facility for her disabled son, (and who has been provided with a key), is not accessible to the public. This facility is hardly ever maintained to an appropriate standard.

5.2.4 Visitor Centre

5.2.4.1 Hermitage House serves as both the base for the City of Edinburgh Ranger Service and as a Visitor Centre for members of the public. It is open Monday – Friday during office hours, and on Sunday during peak hours. The centre contains a number of displays and information leaflets focusing on nature conservation. In addition there are audio-visual displays available on request, emergency telephone access, and First Aid provision, with all the rangers being fully qualified. The number of people using the visitor centre is in the region of 7,000 each year.

5.2.4.2 Despite containing a variety of displays and information, the Visitor Centre remains an under-used facility. This is partly due to the state

of repair of the property – the second floor is undecorated and without electricity- but also to the very real difficulty of attracting people inside the premises in the first instance. A greater public profile, with more facilities and rooms for, e.g. community groups and / or conference facilities, would widen its appeal as well as increasing the means to pay for the maintenance of the property.

5.2.4 Sculptures

4 carved drum sculptures are located within the Hermitage of Braid, and are a popular play item for children.

5.2.5 Informal Recreation

The LNR is a popular venue for informal recreation. Of particular appeal is the Braid Burn, which is the focus for several activities, fishing and dam building to name but two. The woods and the hill are likewise locations for informal activities such as kite flying, den building and picnic.

5.3 Current Management

5.3.1 The Property Services Section manages the maintenance of Hermitage House. The display material shown within the visitor centre is created and changed by the Ranger Service. Environmental & Consumer Services are responsible for the cleaning of the property, including the toilets.

5.3.2 The ranger service manages the climbing permit scheme at Blackford quarry. Likewise the litter bins, benches and sculptures are checked for defects as part of patrolling duties.

5.4 Recreation; Evaluation

5.4.1 Cycling

5.4.1.1. Erosion of surfaces and the braiding of path edges are the most significant effects of cycling upon the physical structure of the LNR, and cycling must continue to be discouraged through a combination of signage and educational programmes.

5.4.1.2 The dangers posed by cyclists to other site users, as well as themselves, serve to reinforce the need to maintain the current prohibitive status of this activity.

5.4.1.3 Cycling shall continue to be permitted for those under 14 years of age, when accompanied by an adult.

5.4.2 Dog Walking

5.4.2.1 The LNR shall remain available to responsible dog walkers.

5.4.2.2 All dog users will have the duty to clean up after their dog across the entire LNR, using the bins for disposal.

5.4.2.3 The incidence of dog fouling, and its consequent health hazards, must be dramatically reduced across the entire site. Failure to do so would bring the continued use of the LNR by dog walkers into question. Dog walkers and other members of the public, together with council staff, should all act to instill this message to the those dog users who persist in allowing their dog to foul. This message can be reinforced by a combination of educational programmes and interpretative material.

5.4.2.4 A portion of the LNR should be set apart as a dog free area in order to encourage scrub and ground nesting birds, during the breeding season (April – September).

5.4.3 Climbing

The use of the quarry by recognised climbing groups is to be encouraged, whilst individual climbers shall continue to be deterred from using this facility. The condition of climbing bolts should be inspected on an annual basis.

5.4.4 Orienteering

5.4.4.1 The continued use of the LNR by groups is to be encouraged, subject to current restrictions on access to sensitive habitats.

5.4.4.2 The fixed-point course within the Hermitage of Braid should be examined and repairs made as necessary.

5.4.5 Friends of the Hermitage & Blackford Hill

The role of the Friends of the Hermitage & Blackford Hill whilst requiring clarification, has great potential to assist in the acquisition of funds for management tasks. In addition, the group will be an invaluable source of public opinion, and can but help to raise the profile of the LNR.

5.4.6 Benches / Picnic Tables / Sculptures

The condition of many of the benches is very poor, several missing sections of planking and nearly all requiring repainting or re-varnishing. The benches and picnic tables should be examined annually and repaired / repainted biannually, and any that cannot be adequately repaired should be replaced or removed altogether.

5.4.7 Litter Bins

Additional litter bins are necessary at entrances to the LNR, e.g. Blackford Glen Road, Lang Linn footpath, and should be installed. In addition, all litter bins require signage to indicate their suitability as a site for the disposal of dog waste.

5.4.8 Toilets

Resources to repair and regularly clean the toilets must be regarded as a priority. The Blackford Pond facility is suitable for replacement with an automated facility.

5.4.9 Visitor Centre

5.4.9.1 The value of the Visitor Centre as a resource has yet to be fully realised. Funds to upgrade the building should be sought, in order to increase the value of the building as a centre a variety of local activities.

5.4.9.2 Staffing restrictions inhibit the opening of the centre beyond the present levels.

5.5 Recreation; Objectives

- **To encourage and facilitate sustainable recreation.**
- **To support and develop the 'Friends' group, and assist, where applicable, in project implementation.**

6 Education & Interpretation

The LNR is the focal point for environmental education and interpretation by the Countryside Ranger Service. This is largely due to the resource of the Visitor Centre, which provides several facilities for groups, (identified in section 5.2.4), in addition to these a large classroom and laboratory are available for use by educational parties.

6.1 Environmental Education To Schools

6.1.1 The Countryside Ranger Service has produced an educational programme designed to compliment the requirements of the 5-14 Curriculum Guidelines for Environmental Studies. Set topics are provided for classes (e.g. Woodlands), and classes at levels Primary 1-3 spend a half-day studying the topic. With Primary 4-7 classes, this is extended to a full day. Timetable restrictions result in hardly any Secondary classes visiting the LNR, apart from individual students conducting research for Higher / 6th year projects.

6.1.2 Currently some 40 classes each year visit the LNR. This number would doubtless be higher if resources permitted. Moreover any additional classes would arguably have a detrimental effect upon the LNR. The site suffers from over use, with negative factors, such as trampling of plants, being an unintentional, but regular consequence. Future educational parties must be more evenly distributed amongst the green spaces of wherever possible.

6.2 Tertiary Environmental Studies

Edinburgh University has a large scientific campus close to the LNR, King's Buildings. This has meant that the site historically has been frequently used as a study area. Unfortunately these studies have tended to operate in isolation of each other. Results are compiled, reports completed and then are forgotten about. The Ranger Service identified this as an area where by contacting all relevant tertiary departments, individual research projects could be coordinated with the aim of producing valuable new data about the LNR. This scheme was commenced in April 1999.

6.3 Special Needs Groups

The LNR is visited by several Special Needs groups each year, many having ranger involvement. For such groups a more flexible

approach is adopted, both in terms of subject material studied, and the level at which the study is set.

6.4 Interpretation

6.4.1 Refer to Section 4.6 for an overview of signage across the LNR, together with an evaluation of the current position.

6.4.2 Interpretation within the LNR takes many shapes and utilises a variety of media. Guided walks are provided for a variety of groups (e.g. 50+ groups, walks for women), together with general walks open to individual members of the public. Large scale open day events, e.g. the "Wild Fling" of 1999, incorporate a number of conservation groups and activities, and have attracted some 2,000 visitors on the day. These large-scale events involve a great amount of resources, and as such can only be offered biannually.

6.4.3 Individual displays and leaflets within the Visitor Centre cover a diverse array of topics, and are suited towards a variety of interests and abilities. The LNR can be explored on the internet, **www.cecrangerservice.demon.co.uk**, the web site also containing a booking facility for events. A small shop in the Visitor Centre sells items connected with environmental issues.

6.5 Current Management

6.5.1 The large-scale displays within the Visitor Centre are changed three times each year. In addition smaller display areas "Nature Notes", "News Bulletins", are changed monthly/fortnightly. The web site will be regularly updated.

6.5.2 Leaflets are popular with the public and photocopying up of replacements is virtually a weekly business.

6.5.3 The shop is maintained by the Ranger Service, who also bank the takings on behalf of the City of Edinburgh Council.

6.5.4 The Ranger Service produce an education pack, sent to all primary schools in the city, to prepare classes for their study days. This pack is revised annually and redistributed accordingly.

6.5.5 All school groups are issued with evaluation forms to assess the success of their day and the ranger's capability.

6.6	**Education & Interpretation; Evaluation**
6.6.1	Environmental education to schools of the LNR is both varied and thorough. If anything the site suffers from overuse, to the detriment of its flora and fauna. A revised environmental education strategy ought to address this issue, and make provisions for distributing group visits to other sites in Edinburgh. At the same time, there is no desire to reduce group / school / visits to the site, simply to ensure such groups are managed carefully.
6.6.2	All display material and leaflets produced by the Ranger Service make use of desktop publishing software, and are produced to the best of the Section's ability. This said, the lack of suitable training with computer facilities inhibits the production of more advanced media.
6.6.3	Revenue from the shop is small (e.g. £50-100 / month) and would be enhanced by the marketing of a wider array of material, and the selling of drinks and food items in the current absence of a tea room facility.

6.8	**Education & Interpretation; Objective**
•	**To continue to meet a variety of educational and interpretative requests, but also to decrease the effects caused by excessive effects of the LNR**

D: Objectives & Actions

1 Summary of Objectives

Hydrology / Wetlands

- To conserve and enhance the wetland habitats
- To improve public safety awareness at water features

Geology and Geomophology

- To preserve the geological and geomorphological landforms
- To enhance public awareness about geology and geomorphology

Soils

- To increase the knowledge of soil profiles across the LNR

Woodland

- To ensure the woodlands have a diversity of age structure and species mix, with a shift towards enhancing native stock over naturalised / non-native species
- To retain the landscape design elements of the woodlands
- To ensure the woodland is kept in a safe condition
- To maintain the current woodland area cover
- To conserve the woods as a habitat for flora and fauna

Scrubland

- To contain the spread of gorse on Blackford Hill and maintain a sufficient scrub habitat for nesting birds

Grassland

- To conserve and enhance existing grasslands habitats

Ruderal Communities

- To limit the spread of invasive weed communities

Flora

- To conserve and enhance the population levels of native flora present within the LNR

Fauna

- To conserve and enhance the LNR for native fauna, and increase understanding about the fauna present on site

The Historic Environment

- To preserve and upgrade the historic remains
- To increase knowledge about the archaeological remains and the historic landscape

Access

- To establish a controlled system of access across the LNR
- To maintain the principle path network in a good condition
- To enhance access for Special Needs groups

Recreation

- To encourage and facilitate sustainable recreation
- To supportand develop the ‘Friends’ group, and assist, where applicable, in project implementation

Education and Interpretation

- To continue to offer a wide variety of educational and interpretative requirements, as well as decreasing the effects caused by excessive usage of the LNR

2. Implementation of Objectives

2.1 The implementaion of the objectives is achieved through the completion of a series of **Actions**, presented in the following tables.

2.2 Before reading the tables, a guide to the terminology is given;

Actioned By. Indicates who / what authority will carry out suggested actions.
CECRS = The City of Edinburgh Ranger Service
SEPA = Scottish Environmental Protection Agency
ESW = East of Scotland Water.

Priority. A priority scale of 1-3 is given, with 1 corresponding to the most pressing tasks requiring action.

Hours. Time is measured in (approximate) man hours needed to complete the project.

Cost. The estimated cost of a project is given, though it should be regarded as a ball park figure, rather than a finalised cost.

Compartments. Indicates where the project is to be undertaken.

Years for Action. The year(s) when a project is to be undertaken is represented by the figures 1-10, with 1 corresponding to April 2000-April 2001; 2 corresponding to April 2001-April 2002 etc. Where several year entries are put in, this indicates the project is to be repeated in subsequent years of the plan.

E; Appendices