

TROOPERS HILL DRAFT MANAGEMENT PLAN

A REPORT TO

BRISTOL DEVELOPMENT CORPORATION

MARCH 1992



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1. Introduction

1.1 Scope and purpose of the management plan

The management plan for Troopers Hill has been prepared by Landmark Environmental consultants on behalf of Bristol Development Corporation (BDC). The purpose of the plan is to describe and assess the site and to draw up objectives and practical measures to protect and enhance its nature conservation, landscape and amenity interest.

The preparation of the management plan for Troopers Hill has been stimulated by a number of factors:

- a. the strategic planning of the Avon basin prompted by the establishment of Bristol Development Corporation;
- b. the BDC landscape strategy which recommends the preparation of management plans for all sites of wildlife interest within the Development Corporation's area of interest;
- c. the proposal by Bristol City Council in conjunction with English Nature to declare the site a local nature reserve (LNR) under section 21 of the National Parks and Access to the Countryside Act (1949); and
- d. worries about the maintenance of the site over time.

This management plan aims to address all the issues raised by the above factors. It follows the format recommended by the NCC although this has been adapted to take full account of the amenity and landscape interest of the site.

The plan has been prepared in consultation with interested parties including Avon County Council, Avon Wildlife Trust, Bristol City Council (Parks Department), and English Nature. It has involved limited liaison with members of the public.

2. Site description

2.1 General information

2.1.1 Location and tenure

Troopers Hill lies in the Parish of St George on the eastern edge of the city of Bristol. The boundary of the site, taken from the records of Bristol City Council, is given at map 1. It occupies 21 acres and is owned and managed by Bristol City Council. The freehold was acquired by the Council in 1956 from a private owner. The reason for acquisition was the site's value as public open space.

A summary of information about the site is given in table 1.

2.1.2 Context

Troopers Hill is made up of open grassland, scrub and old quarry workings. It is located next to an extensive area of secondary woodland, known as Crews Hole woodlands, which flanks its western boundary. The southern boundary of the site is defined by Crews Hole Road, the eastern edge of the site follows Troopers Hill Road while the northern boundary is defined by housing and allotments.

Troopers Hill forms part of a wider area of semi-natural vegetation and public open space in the Avon valley which is enclosed by residential and industrial development. In establishing proposals for the future management of Troopers Hill, its relationship

to other areas of public open space and areas of natural vegetation has been central.

The site has not been considered simply as a discrete area with a clear boundary but as part of a wider natural unit within the city of Bristol.

2.1.3 Policy context

Troopers Hill lies within an urban development area (UDA). Bristol Development Corporation has the strategic planning responsibility within this area. The aim of the Development Corporation, to stimulate the physical, economic and social regeneration of the UDA, is key to the future management of the site and its environs.

In its landscape strategy, the BDC identifies Troopers Hill as an important site for nature conservation, landscape and amenity. It recommends that the site should be protected and form a key part of a green network within the area. The landscape strategy proposes the development of 'a system of greenways, wooded corridors and linked open spaces, which ties together the existing fragmented assets of the area'. It recommends the establishment of a network of footpaths and identifies Troopers Hill as central to this path network. Another recommendation from the BDC landscape strategy is the promotion of public enjoyment of the Avon valley through a programme of interpretation.

The Greater Bristol Nature Conservation Strategy (1991), which sets the local policy for wildlife in the city of Bristol, identifies Troopers Hill as a site of nature conservation interest. Furthermore, the whole of the Avon valley within which Troopers Hill falls has been described as a priority nature conservation area in the

Avon County Council structure plan.

→ Also a county C4 site - receives protection of policy 4 of the County Structure Plan.

Bristol City Council in conjunction with English Nature is proposing to designate Troopers Hill as a local nature reserve (LNR). It is a requirement of LNR designation that a site is managed for the care and enhancement of its special interest (English Nature 1991).

Troopers Hill falls within the Avon Valley conservation area designated by Bristol City Council in 1981 and extended in 1986. The site is also subject to a TPO (number 259, Crews Hole Road, St George).

2.1.4 History of the site

Troopers Hill has a complex history which is dominated by extractive industries.

The site has been quarried for pennant sandstone and mined for coal, fire clay and iron at various times in the past. Quarrying for pennant sandstone to supply material for local building is thought to have started in medieval times and to have continued, sporadically, into the twentieth century. The dramatic internal landscapes of Troopers Hill and small areas of stone terracing on the southern edge of the site, are a result of this extended period of quarrying. The tythe map of 1842 shows the Troopers Hill as a quarry surrounded by open farm land. Later maps show an expansion of surface quarrying and there is evidence of tramways which were used to remove the quarried material from site.

Several deep coal mines run under Troopers Hill. The mine entrances lie mainly off the site. In the late 1890s and early 1900s a small amount of open cast mining was also undertaken on Troopers Hill but this was not successful (Cornwell 1989). There is some local disagreement about the extent of coal spoil on the hill itself. One school of thought is that mining spoil was deposited on the central area of the site (Mantell, personal communication), while other sources identify these deposits of coal as natural surface seams (Cornwell 1989).

Fire clay was mined from beneath the site between 1900 and 1908 (Cornwell 1989). There are no known surface features associated with this extraction although it is possible that spoil from these workings was dumped on the eastern side of the hill.

Throughout its history, Troopers Hill has remained as open land. Old newspaper reports indicate that donkeys were kept on Troopers Hill in the nineteenth century and, as a result, the hill was known as Donkey Island.

Since the 1930s, Troopers Hill has received little management. As a result, parts of the southern slopes have reverted to woodland and scrub while the top of the Hill has continued as open grassland. This lack of natural succession on the upper slopes is probably due to the thin nature of the soils, the effect of human trampling, and the regular occurrence of small summer fires.

In 1991 a series of capital works was implemented on the hill. The overall aim of these works was to slow down and reverse the erosion caused by heavy use and exacerbated by the site's steep slopes and thin vegetation cover. The work undertaken

in three stages included:

- a. the resurfacing of existing main paths;
- b. the erection of a timber perimeter fence to restrict access of cars and motorbikes and to encourage people to use the gated access points; and
- c. restoration of areas of erosion through temporary fencing and erosion.

The detail of the capital works is shown in map 2. Plate 1 shows the hill before the capital works were undertaken. Plate 2 shows the effect of the programme of works.

In addition to the programme of work outlined above, Troopers Hill chimney, a prominent feature of the site, is to be repointed and made structurally secure.

2.2 Environmental information

2.2.1 Physical

Troopers Hill rises to 254 ft above sea level. It is dominated by pennant sandstone which can be seen both as natural outcrops and exposed quarry faces. The sandstone is interbedded with mudstones, fireclays and coal seams (rag vein, lower and upper millgrit veins). In some places, coal seams break the surface and this is reflected in the vegetation patterns on the site.

PLATE 1: Typical views of Troopers Hill prior to 1991-1992 Capital Works Programme.

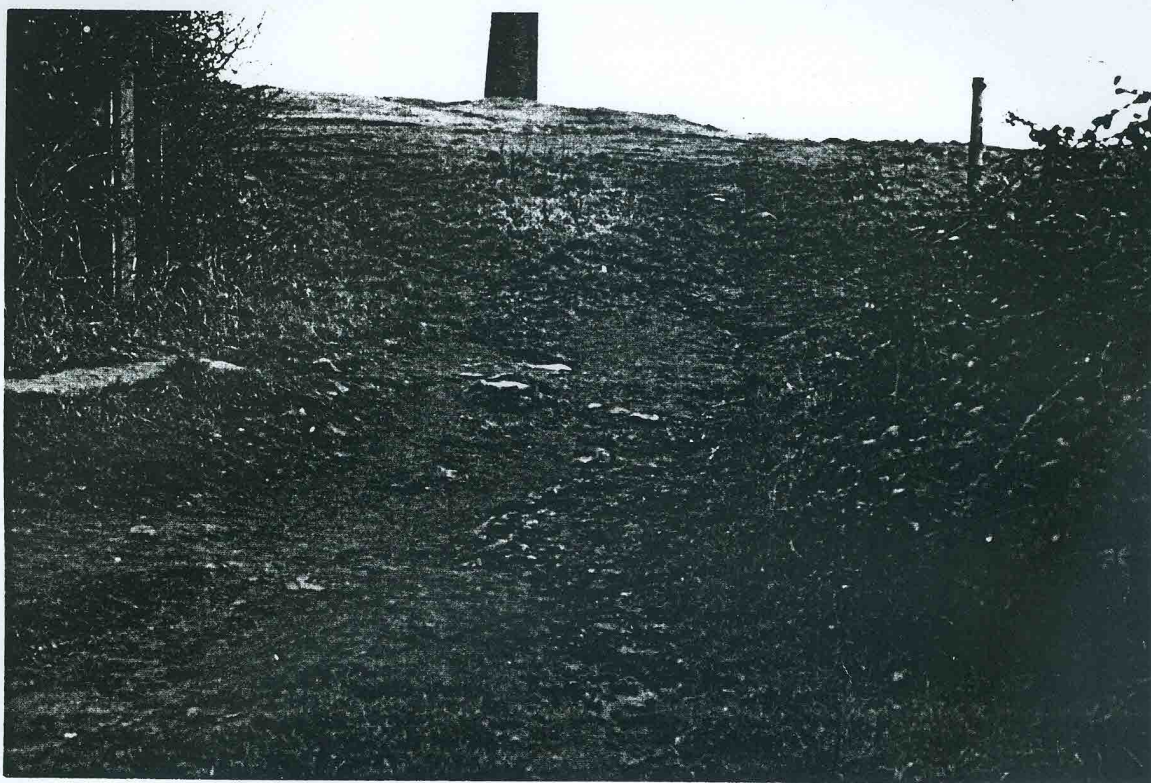
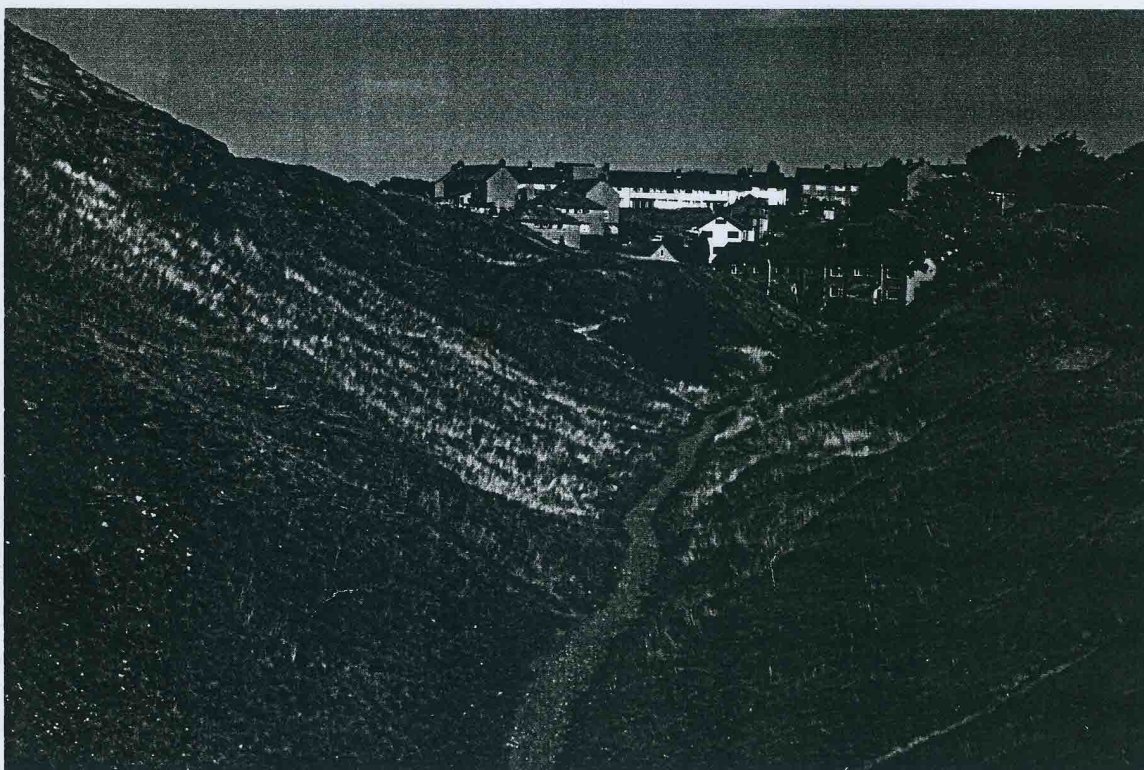
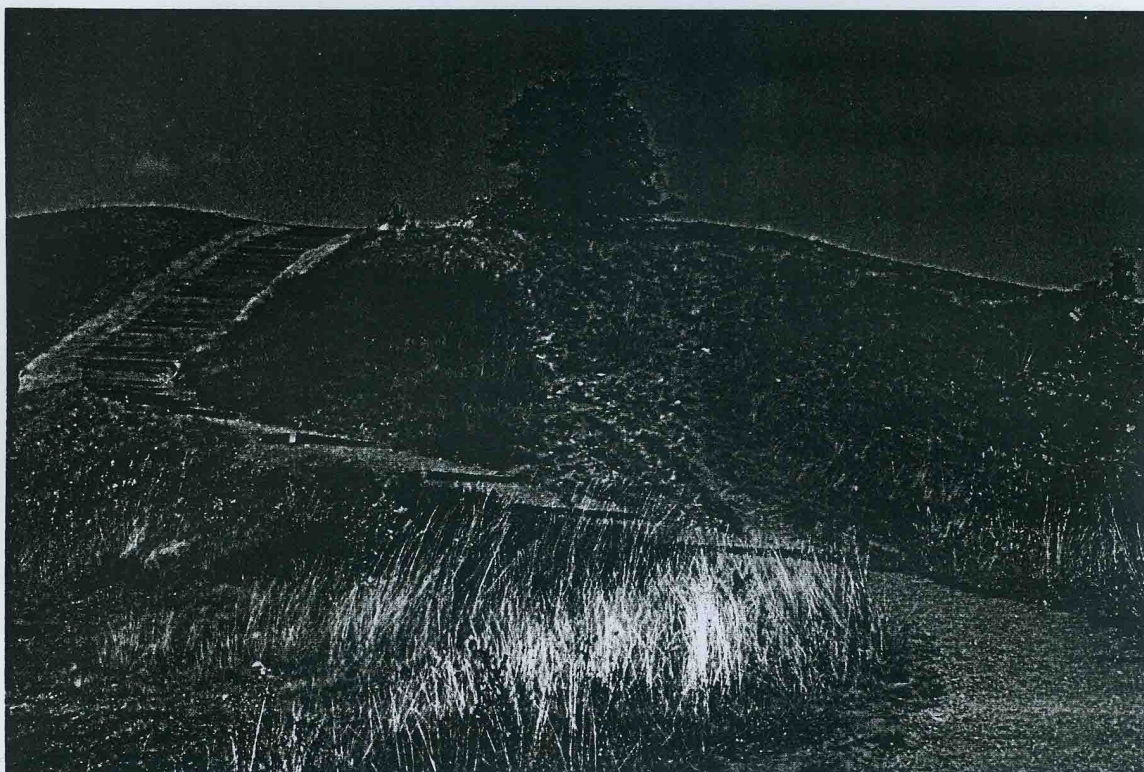


PLATE 2: Typical views of Troopers Hill after 1991-1992 Capital Works Programme.



There has been extensive quarrying for pennant sandstone on the hill. As a result, the surface of the hill is irregular and contains a number of deep depressions. The underlying geology has produced acidic soils. These are unusual in the Bristol area where most of the underlying rock is predominately limestone and the associated soils are alkaline.

2.2.2 Biological

Troopers Hill contains a number of different habitats. These include:

- a. secondary woodland and scrub;
- b. acid grassland;
- c. heathland.

Map 3 shows the distribution of these different types of vegetation.

There is limited information about the biological interest of the site. The results of a botanical survey carried out in 1985 and 1986, and supplemented by information obtained in 1990 is given at Appendix 2. These surveys identify a number of locally uncommon species. Most noticeable are Ling (Calluna vulgaris) and Bell Heather, (Erica cinerea) which are found nowhere else in the city. Whites flora of Bristol (1972) cites a number of locally uncommon plant species which have been recorded on Troopers Hill in the past. These include: Trifolium striatum (seen in 1990); Rosa (knotted clover)

^{Birds foot}
tomentosa; Ornithopus perpusillus; Sambucus ebulus; and Spargularia rubra.
^{sand spung}

The results of a butterfly survey are also given at Appendix 2. This identifies the presence of a population of breeding grayling butterflies, the only known colony in the city of Bristol.

There is no data available on invertebrates, lichens and briophytes or the ornithological and mammal interest of the hill. However, the site is known to support a badger sett which is located within dense scrub on the eastern flank of the site. The status of the sett and its level of use is not known.

2.2.3 Historic and cultural

Despite its complex history, there are few remaining man-made artifacts associated with Troopers Hill. The most prominent feature on the site is Troopers Hill chimney which stands at the highest point on the hill. This chimney once provided the venting for works located at the bottom of Troopers Hill. There is some disagreement about which works the chimney vented. The most common explanation is that the chimney vented a tar works. However, Cornwell (1989) states that the chimney was used to vent a chemical plant, while Mantell (personal communication) claims that a pottery works was associated with the chimney.

The line of a tunnel which once linked the chimney with its redundant can be seen as a slight depression in the ground. The chimney and the line of the tunnel are listed, grade 2. A second structure which was used to house winding gear during mining on

the site, is located at the foot of the hill. This building is currently being considered for listed building status.

2.2.4 Landscape character

Troopers Hill is a prominent landscape feature within the Avon valley. The chimney at the top of the hill dominates the sky line. There are excellent views of South Bristol and the Mendips from the top of the hill and this is a major draw for visitors. The wild nature of the site with its areas of semi-natural vegetation and the contrast between open grass and woodlands contributes to the unique rural landscape of the Avon valley. The internal landscape of the site is diverse. The secluded hollows and diverse vegetation gives a feeling of seclusion and isolation while the open hill top and its far reaching views provide a very different landscape experience.

2.2.5 Recreation and public use

Troopers Hill is well used by local people for informal recreation. The undulating nature of the site and the prominent views, together with its central location, make it an attractive site for outdoor pursuits such as walking (especially dog walking) and children's play. The use of the site for walking and in more recent years cycling and motor bikes, has caused some management problems in the form of erosion. There is strong local concern about fouling of the site by dogs and the accumulation of litter.

There are two definitive footpaths crossing the hill. These presumably date back to the time when the valley was industrialised and workers crossed the hill from work or

home. A network of smaller 'desire lines' have developed on the hill. This network has recently been upgraded and rationalised to reduce erosion and direct visitors away from sensitive grassland areas (see map 2).

Troopers Hill is a focus for local events. There are two bonfire sites on the hill.

These are used for functions associated with the church and local community groups.

The site is also used for Easter services when crosses commemorating the crucifixion are erected on the skyline.

At present there are no interpretation facilities on the site.

Proposed Path

The path is a low wall made of stones and is a good example of a traditional stone wall. It is a good example of a traditional stone wall. It is a good example of a traditional stone wall.

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TABLE 1: Summary of General Information

SITE NAME	Troopers Hill
COUNTY	Avon
DISTRICT	Bristol - St George East
GRID REFERENCE	ST 628731
LOCAL PLANNING AUTHORITY	Bristol City Council
AREA	21 Acres 8.75 ha
OWNERS	Bristol City Council (Date acquired) 1956
TENURE	Freehold
CONTACT	John Wheatley Bristol City Council Parks Department

2.3. Bibliography

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Jones, F C, Old Traditions of Bristol Suburbs, 1927-1937.

Landmark Environmental Consultants (1991), A Management Plan for Woodlands in the Avon Valley.

Nature Conservancy Council (1991), The Greater Bristol Nature Conservation

Strategy, NCC.

White, J W (1972), The Flora of Bristol, Chatford House Press.

3. Evaluation

3.1 Status of the site

3.1.1 Nature conservation

Troopers Hill is of significant local nature conservation interest:

- a. it is identified as a site of nature conservation interest in the Greater Bristol Nature Conservation Strategy;
- b. it is described as a priority wildlife conservation area by Avon County Council;
and
- c. as a proposed LNR, it is considered as being of special importance to nature conservation.

3.1.2 Historic and cultural

Troopers Hill represents an important record of past land use and industrial activity within the Avon valley and is of local importance as an educational resource. It is described as a site of archaeological interest in the Avon County Council structure plan.

3.1.3 Landscape

The landscape importance of Troopers Hill and its contribution to the rural character of the Avon valley is reflected in:

- a. its designation in the County Council's structure plan as a priority landscape conservation area;
- b. its inclusion in the Avon Valley conservation area; and
- c. the recognition by BDC in its landscape strategy that it is a site of landscape importance.

The landscape importance of the site is reinforced by public survey. Local residents in their response to the BDC consultation on the future of the Avon valley indicated that the semi-rural nature of the valley was an important factor in determining the quality of life in the area.

3.1.4 Recreation

Troopers Hill is designated as public open space. The Avon valley, of which Troopers Hill forms part, is expected to experience growth in housing and industrial development. The importance of the hill as a low key amenity facility is likely to increase.

A summary of the status of Troopers Hill is given in Table 2.

TABLE 2: Site Status Summary

INTEREST	IMPORTANCE	STATUS
Nature conservation	Local	Site of nature conservation importance (Greater Bristol Nature Conservation Strategy) Priority Wildlife Conservation Area (ACC) Proposed LNR
Historic/cultural	Local	Site of archaeological interest (ACC)
Landscape	Local	Priority Landscape Conservation Area (ACC) Site of Landscape Importance (BDC) Conservation Area (BCC)
Recreation	Local	Public Open Space (BCC)

3.2 Evaluation of features

3.2.1 Nature conservation.

Important nature conservation features are:

- a. the unusual plant communities that it supports. Acid grassland and heathland which are both present on Troopers Hill are rare plant communities within the County of Avon and within the city of Bristol. Calluna vulgaris and Erica cinerea are found nowhere else in the city of Bristol. Other locally uncommon species (see 2.2.2) have also been identified on the site in the past although these have not been recorded in recent surveys.

- b. the site supports the only known colony of grayling butterflies in the city of Bristol.

- b. the site forms part of a larger area of semi-natural vegetation in the Avon valley basin. Troopers Hill makes a major contribution to an extensive wildlife corridor.

- c. the site supports an active population of badgers. Badgers are protected under Schedule 5 of the 1981 Wildlife and Countryside Act. Further legislation passed in 1991 (the Badgers Act) protects both badgers and their setts.

3.2.2 Historic and cultural

Troopers Hill chimney and the lower building which was used to house winding machinery, are both important remnants of industrial archaeology. However, the historic value of the site lies not in individual artifacts but in its contribution to a larger industrial landscape which acts as a record of the past use of the Avon valley.

3.2.3 Landscape

The landscape value of Troopers Hill is a result of topography and past management. There are some individual features which contribute to the unique 'sense of place' of the site. These include:

- a. the massive pennant sandstone outcrops which are scenically important and

contribute to the dramatic landscape of the hill. These types of outcrop are uncommon within Avon and within the city of Bristol;

b. built structures ie Troopers Hill chimney and the old winding house. Both of these buildings provide a visual link with the past. The chimney also acts as important focal point drawing visitors to the top of the hill;

c. the developing unmanaged vegetation, with natural succession on the lower slopes contribute to the hill's sense of wildness; and

d. the deep quarries which give topographical diversity to the site.

3.2.4 Recreation

The footpath network is probably the most important recreation feature on Troopers Hill although the whole of the site is used for informal recreation use.

A summary of the features associated with Troopers Hill is given in Table 3.

TABLE 3: Evaluation of Features - Summary Table

				COMMENTS
SITE FEATURES	NATIONAL	REGIONAL	LOCAL	
1. Vegetation types:				
Heathland			*	Unique in Bristol. Rare in Avon As above
Acid Grassland			*	
Woodland/Scrub				
2. Species:				
Grayling butterfly			*	Unique in Bristol Protected under Schedule 5 Wildlife and Countryside Act
Badgers	*			
3. Archaeology/ Historic Artifacts:				
Chimney	*			Listed Grade 2 Proposed for listing
Winding house			*	
4. Landscape:				
Geological outcrops			*	Unusual within Bristol
Unmanaged vegetation			*	
Quarry features			*	Important skyline feature
Built structures			*	
5. Recreation:				
Footpath system			*	

3.4 Factors influencing management

3.4.1 Trends

The vegetation on Troopers Hill is subject to a number of dynamic processes. These include:

- a. successional development of woodland around the edge of the site. Photographs taken in the 1930s show the site as open grassland. In recent years some of the inaccessible slopes have become covered in trees and shrubs;
- b. the erosion of grass slopes. There are patches of heavily eroded grassland towards the top of the hill. This is a result of public use such as walking and cycling. A programme of reseeded and protecting these areas has been implemented. In addition the main footpaths have being structurally reinforced to direct public pressure away from minor paths;
- c. the presence of colonies of the invasive species Japanese Knotweed (Reynoutria japonica) on the northern boundary. There are signs that this invasive species is spreading;

There is no data available on the population dynamics of the heathland and acid grassland communities on the site although there is local, anecdotal information to suggest that the population of heather has declined in recent years (Mantell, personal communication). There is no data available on trends in the grayling butterfly population.

No quantitative information is available on trends associated with the recreation use of the site. However, as the development of the Avon valley proceeds the number of local people using the site may increase. Similarly, the valley may start to attract visitors from further afield as the proposed path network develops.

3.4.2 Legal and management constraints

There are no known legal constraints to the management of Troopers Hill. The current level of de facto access and its status of public open space would make it difficult to limit access to substantial areas of the hill. The site's proximity to residential areas and its outstanding position in the landscape require a sensitive and low intervention approach to management.

3.4.3 Opportunities

Troopers Hill offers an opportunity to integrate management for nature conservation with enhanced visitor enjoyment of the site. The cultural history of the site is a rich educational resource which remains untapped and unavailable to visitors. However, opportunities for education and interpretation must respect the wildness of the site which is one of the main attractions of the hill.

The hill also offers an opportunity to involve local people in the management and care of the site. Community involvement is now recognised as an important way of linking people with the environment. The advantages are twofold. First, local people by assuming responsibility for the management of a site will develop a feeling of

ownership, respect and care for that site. This will, in turn, foster a close understanding of the needs of nature. Second, a local group of involved volunteers represent an important resource for management of a site. They are able to monitor changes and contribute to important management practices.

At present there is little if any local involvement in the management of Troopers Hill yet the site is well used by local people for quiet enjoyment and community events.

4. Management objectives

4.1 Priorities for management

The conservation of nature, landscape and amenity interest are important themes in the future management of Troopers Hill. However, the priority for management is determined by the potential LNR status of the site. Under the terms of LNR declaration, 'the primary objective for management must be to care for and enhance the natural features on which the special interest of the site depends' (English Nature 1991). Quiet enjoyment and the appreciation of nature by the public, and community involvement is another strong theme of LNR management specified by English Nature. The approach taken to the development of management objectives has therefore been to give primacy to nature conservation interests while accommodating, through management, landscape and cultural interests, and public enjoyment of the site.

4.2 Rationale

There are no immediate threats to the nature conservation and amenity value of Troopers Hill. Steps have already been taken to reduce the erosion of the site and careful monitoring is required to assess whether these have been successful. The continuation of trampling and local vegetation fires should be sufficient to maintain the grassland and heathland communities on the site. Therefore the management plan proposes limited intervention for habitat and species management. However, monitoring will be required to collect important base line information about the site. This data will ensure that the special interest of the site is retained and that a check is

kept on the populations of notable species such as badgers and grayling butterflies.

Improved education and interpretation facilities will enhance public knowledge and understanding of the site. The proposed visitor centre for the Avon valley, its location and the nature of its exhibits, will have a bearing on the nature of any interpretive facilities planned for Troopers Hill and other valley sites. Similarly, the physical and historic links between Troopers Hill and other areas of public open space in the Avon valley suggests that **interpretation should not be treated on a site specific basis but dealt with as a co-ordinated programme within the whole valley.**

In the absence of such a strategic programme of interpretation and education, it is proposed within the management plan that the interpretation of Troopers Hill should respect the special and wild nature of the site. If the unmanaged character of the site is to be retained it is suggested that large, fixed interpretation boards should be avoided. Such boards would act as visual intrusions within the site and would detract from its unkempt character. The management plan therefore sets out proposals for the introduction of unobtrusive information boards at the main established entrances to the site which give a brief description of the site and a location map. This on site interpretation could be supplemented by more sophisticated facilities in the proposed interpretive centre planned for the Avon valley and by guided walks and local talks.

Finally the plan advocates the establishment of a local community group to assist future management of the site. Attendance at local meetings about the site has been good and the use of the site by the community suggests that local support could be high. In order to direct and maintain enthusiasm and involvement, co-ordination of

local effort is needed. A number of existing organisations may be able to provide this support. These include the Avon Wildlife Trust (AWT) and Bristol City Council through their community liaison officer. The Avon Wildlife Trust already runs a successful network of local groups and it is proposed within the management plan that discussions be undertaken with AWT with a view to developing a local network to advance community involvement in Troopers Hill and other sites in the Avon valley.

4.3 Operational objectives

Operational objectives

1. Maintain and enhance the important heathland and acid grassland communities on the site.

Outline prescription

- a. conduct a survey of vegetation to map distribution of acid and heathland communities
- b. survey and monitor heath and grassland communities over a five year period.
- c. control invasive species by cutting and spot treatment with a systemic herbicide
- d. monitor success of reseeded programme undertaken in 1992.

Operational objectives

2. Establish a programme of education and interpretation for Troopers Hill

Outline prescription

- a. research and design information boards to be erected at the six main entrances to Troopers Hill.
- b. undertake six monthly check of interpretive boards. Repair when necessary.

Operational objectives

3. Maintain public use and enjoyment of the site

Outline prescription

- a. undertake annual survey of the footpath network. Repair where necessary
- b. check perimeter fence on an annual basis. Repair where necessary.
- c. instigate a regular programme of litter collection (see objective 5)
- d. undertake regular monitoring of the built structures on the site to ensure that they are structurally sound.

Operational objectives

4. Maintain and enhance populations of notable species

Outline prescription

- a. monitor populations of grayling butterflies
- b. establish status and use of badger sett
- c. monitor any disturbance to the badger sett

Operational objectives

5. Develop links with the local community

Outline prescription

- a. establish a local conservation group in conjunction with the Avon Wildlife Trust
- b. establish a local voluntary warden service

5. Prescriptions

5.1 Five-year work schedule

A five year work schedule outlining work required is given at table 4. Table 4 also identifies agencies and organisations most likely to be able to undertake or resource the programme of management.

5.2 Annual work plan

An annual work plan covering April 1992 to March 1993 is shown at table 5.

5.3 Resources

Although the proposals for Troopers Hill outlined in this plan identify a limited intervention approach to management, some resources will be required to ensure the ongoing management of the site and the development of improved public enjoyment and interpretation facilities. Table 4 identifies the organisations most suited to undertake the relevant work. Sources of finance and other kinds of resources are identified below:

a. One of the key objectives of the Troopers Hill management plan is to encourage local people to participate in the management process. Community action may stimulate local interest in non specialist operations such as wardening and litter collection. However, it is important that community involvement is not viewed as

simply a supply of inexpensive labour. Resources will be required to support the development and work of a local group and to ensure that local enthusiasm is directed towards rewarding tasks.

b. Bristol Development Corporation has a major interest in improving the environment of the Avon valley. The implementation of the Troopers Hill management plan is clearly of interest to the BDC. Indeed the BDC was largely responsible for funding the major capital works on Troopers Hill undertaken in 1991/2. In view of its limited lifetime, the BDC is likely to have an interest in capital works such as the development of interpretive facilities and providing the necessary support to establish and maintain a community involvement in the management of the site.

c. Bristol City Council as the owner of the site has an obligation to keep the site safe and to maintain it as public open space. Regular estate activities such as the repair of the perimeter fence and maintenance of the footpath network fall within its remit.

d. English Nature may be able to offer grant aid towards management of the site because of its potential LNR declaration. Applications for capital and revenue works may be considered and should be discussed with the local office of English Nature in the first instance.

e. Other sources of finance include EC structural funds such as ACNAT which is due to be replaced by LIFE (the financial instrument for the environment) in 1993.

Funds of up to 50% of public investments may be obtainable from this fund. The preliminary list of eligible works for LIFE funding which are relevant to the management of Troopers Hill include:

- training information and awareness raising
- nature conservation