

Troopers Hill Local Nature Reserve

Report on Photographic Survey 2006 and Vegetation Changes since the 1980s

1.0 Introduction

- 1.1 The 2006 survey builds on the work carried out for Bristol Parks by Wessex Ecological Consultancy since 1994. Photographs have been taken from 35 fixed points on the hill every other year so that changes in the vegetation can be monitored.
- 1.2 For this year it was decided in consultation between the Friends of Troopers Hill and Sally Oldfield, Bristol Parks Local Nature Reserves Officer, that the Friends of Troopers Hill would carry out the survey on a volunteer basis. This allowed the funds earmarked for survey work to be used for a further invertebrate survey. The 2006 photos were therefore taken by the Friends of Troopers Hill, who have also written this report.
- 1.3 This report is much less detailed than those produced in previous years and focuses on the overall situation rather than individual areas. The report also considers the reasons for the overall changes in the past 20 years and makes suggestions for future management.

2.0 Website

- 2.1 This report should be read in conjunction with the comments on the individual photographs which are posted on the 'Photo Survey' page of the Friends of Troopers Hill website at www.troopers-hill.org.uk. The web page has click through slide shows showing photographs 4, 9, 19, 20 & 33 for each year of the survey.
- 2.2 There are also links to three separate pages showing the 1994 and 2006 versions of all the photographs side by side, with descriptions of the main changes and location of each. Additional pages show three shots from the 1980s with corresponding 2006 views and three shots from 1953.

3.0 Changes Since 2004

- 3.1 Probably the most significant change is the treatment of the knotweed area shown in photographs 3, 4 and 5. This was sprayed with approved herbicide in 2005 and 2006 and has died back to leave a clear area. At the time of the survey a further late spraying was due and some re-growth could be seen. Unfortunately the knotweed in the woodland area of the LNR has not received such regular treatment and is growing strongly.

- 3.2 The area of grassland near Greendown was scheduled for a late summer hay cut both for 2005 and 2006. In 2005, the area was cut in May rather than July due to an error in management. In 2006 the hay cut was carried out in July to the area off the photograph to the right and on the Greendown side of the path. Future management needs to ensure that the cutting of this bramble area on a regular rotation continues alongside the hay cut. Management of the other areas cut in 2005 also needs to be planned.
- 3.3 The establishment of several holm oak saplings was particularly noted in the 2004 report. Some of these were cut at the Friends of Troopers Hill Work Party in February 2005 and more have been cut this year, including the re-growth since 2005. The 2004 report also noted a large holm oak in the woodland as a possible source of acorns leading to the presence of the saplings. This tree was felled by Bristol Parks in June 2006.
- 3.4 The bracken in front of the fence in photograph 1 was cut by Bristol Parks' contractors two days after the photograph was taken. The area behind the fence and to the left of the steps was also cut as it had been in June. This continues the work that the Friends of Troopers Hill had started in 2004 and 2005. It is hoped that this regular cutting will weaken the bracken and over time return this area to grassland.
- 3.5 Apart from the above there have been no major changes, with the trends noted in previous surveys continuing, these are discussed further below. There have been no major fires since 2004 and 2006 has been a good growing season with a wet May followed by a warm summer – bramble and broom have both done particularly well.
- 3.6 At their regular work parties the Friends of Troopers Hill have started to clear bramble from areas of broom and heather. The area shown in photograph 34 was cleared, but the bramble re-grew during 2006. Work has also been done in the area to the right of the gorse in photograph 20 where individual broom bushes could be seen in 1994. This will be done again this winter. The area now known as Sally's Glade and shown in photographs 9 to 11 has also been visited but with more success. There is also a further area of broom to the right of the area shown in photograph 19 where broom is now growing in an area that was thick bramble in 2003.

4.0 Continuing Trends

- 4.1 The overall trend since 1994 has been for the area of grassland to decrease as scrub spreads. On the south facing slopes broom seems to establish first and then in following years bramble takes hold. Once the bramble is established hawthorn also appears. This process is leading to a spread of the scrub up the slopes. Photographs 19 and 20 show this clearly, while the 1980s and 1953 show how much has changed since then.
- 4.2 Despite an increase in scrub, the area of heather has dramatically spread since 1994, though it was knocked back by the fire in 1995.

- 4.3 Isolated saplings of oak have also appeared together with some silver birch.
- 4.4 The area of gorse has spread dramatically since 1994, but is isolated in one area.
- 4.5 The area of bare soil which supports the mining bee population has remained unchanged.
- 4.6 The trees in Crews Hole Woodland (part of which is in the designated LNR) have continued to mature and increase in height.
- 4.7 The current mix of grassland, broom, bramble and hawthorn dominated scrub together with some silver birch supports and good range of species. Although no bird surveys have been carried out, the bird population is thought to have increased, particularly along Troopers Hill Road where residents have reported more birds, perhaps due to the increase in scrub. Further spread of the scrub will however start to impact on the grassland and the species that it supports.

5.0 Reasons for Change

- 5.1 The 1953 photographs show very little on the hill other than grassland and isolated hawthorn bushes, and this had changed relatively little by the 1980s. Troopers Hill has been an open space since at least the 1700s when a similar landscape also extended over the area now covered by Crews Hole Woodland. *'The barren and quarried hill, yellow spots of broom, and its purple shade of heath'* was described by Elizabeth Emra in the 1830s. So the changes recorded of the last 20 years or so must be due to a change in the environment or usage from that which had existed for the previous 300 years.
- 5.2 The following factors might be causes or partial causes of recent changes:
 - The closure of Butlers Tar Works and St Annes Board Mills in the 1980s and the associated reduction in pollution. Copper smelting started adjacent to the hill in the early 1700s and smelting or chemical plants were then continuously in operation in the valley until the 1980s.
 - Fencing of the hill and construction of paths by Bristol Development Corporation in 1991. Prior to this the hill was open along Troopers Hill Road and there were no formal paths. The public can now only enter at the entrance gates and tend to stay on the paths, particularly on the lower slopes, the remainder is therefore less trampled. Motorbike access has also been almost eliminated.
 - Less children playing on the hill. Although some cardboard sliding continues the number of children playing on the site is reported to be much less than in the 1970s.
 - Climate changes – there have been no very cold winters since the early 1980s.
 - Reduction in the number of fires – there have been no major fires since 1995. Fires are reported to have been more frequent in the past, the reduction may well be an indication that the hill is now better maintained and looked after.

6.0 Management Proposals

- 6.1 The above changes will not or cannot be reversed, although children will be encouraged to visit the hill whenever possible. The spread of bramble, hawthorn and other shrubs therefore requires active management.
- 6.2 In conjunction with Bristol Parks the Friends of Troopers Hill have put together a work programme for the winter of 2006/2007. This will include more aggressive clearance of bramble and hawthorn than has been done to date. It is hoped that mid-week work parties can be introduced to increase the work that can be done.
- 6.3 Work Parties in the spring and summer of 2007 will return to areas of broom cleared of bramble during the winter to cut back new bramble growth. If this is done frequently enough the bramble will not become thick enough for birds to nest allowing work to continue throughout the year.
- 6.4 Isolated saplings and gorse bushes will be cut down.
- 6.5 Further surveys of invertebrate, birdlife, badgers and other species will be carried out as funds allow to advise on future work programmes.

7.0 Conclusions

- 7.1 Troopers Hill has probably been open acidic grassland since the 1700s and is now the last remaining area of this habitat in the Avon Valley.
- 7.2 In recent years hawthorn scrub and bramble has started to encroach on the grassland.
- 7.3 It appears that the environment and usage of the hill previously restricted the growth of the scrub. Changes in environment and usage are now allowing the scrub to spread.
- 7.4 Since these changes cannot be reversed more active management is now required to protect the grassland which in previous years had been self sustaining.
- 7.5 The Friends of Troopers Hill will continue to work with Bristol Parks' Officers to ensure the required management regime is put in place.