Wessex Ecological Consultancy

28 Egerton Road, Bishopston, Bristol BS7 8HL
Tel: 0117 944 1034

TROOPER'S HILL

VEGETATION AND PHOTOGRAPHIC MONITORING

2000

Partners: Dawn Lawrence B.Sc.(Hons) C.Biol M.I.Biol. Rupert Higgins B.Sc.(Hons) MIEEM.

TROOPERS HILL, BRISTOL

ECOLOGICAL MONITORING 2000

INTRODUCTION

This report describes the results of vegetation and photographic monitoring carried out in 2000 as a repeat of surveys carried out in 1994, 1996 and 1998. The purpose of the monitoring is to identify any changes in the vegetation of Troopers Hill; to monitor the success of management; and to identify any further priorities for management required to conserve and enhance the site's ecological interest. Particular attention is paid to heathland vegetation since this is a key habitat type on the site.

METHODS AND RESULTS

The methodology followed that employed during 1994, 1996 and 1998. Photographs were taken from the locations mapped and described in the previous reports at the same time of year - in August, when the heather species are in flower.

Notes were made of the nature and extent of patches of heather species and of other scrub, using the same lettering system to identify these areas as was used in previous years.

Area Descriptions

Areas are described below where significant changes have been noted since the previous reports. Several photographs show a large increase in grass vigour in 1998 and especially in 2000, with either short grass replaced by tall grass or grass growing on areas which were previously bare ground. This is presumably the result of a succession of wet summers in recent years, in contrast to a run of dry summers during the early years of the monitoring programme.

A: Scrub vegetation in the upper parts of the area has now recovered from the 1995 fire and in places scrub is now more dense than it was in 1994. This can be seen towards the right of photograph 1 and, on the same photograph, around the hawthorn bush to the left of the tower.

B: Photograph 2 shows the results of management of the bramble here, and of the adjacent grassland. Regrowth under the former bramble patch is at present restricted to bramble, stinging nettle, rosebay willowherb and Yorkshire fog. Litter which had been hidden by the bramble is now more evident.

North of D: There was a significant increase in Japanese knotweed, shown on photographs 3 and 4, between 1994 and 1998. There does not appear to have been a further increase between 1998 and 2000, although a large patch of Japanese knotweed remains.

D: The large patch of *Calluna* (heather or ling) seen in photo 6 in 1994 had completely disappeared in 1996, presumably as a result of the fires of 1995. In 1998 it

had regenerated, although it was much smaller than it was in 1994. In 2000 it had recovered to its size in 1994. Grass growth is much more vigorous than it was in either 1994 or 1996.

E: Previously this was a patch of *Calluna* plants in an otherwise grassy sward. It is now a dense growth of *Calluna*, as can be seen in photographs 7 and 8. The patch is now 32m x 10.7m (in 1998 it was 10m and in 1996 it was 9.47 metres across at its widest point).

F: The regeneration of the broom scrub since the 1995 fire continues although the broom is not yet as dense as it was in 1994. This can be seen on photographs 9, 10 and 11. Woody species including oak (*Quercus robur*), hawthorn (*Crataegus monogyna*) and silver birch (*Betula pendula*) are also regenerating. The surrounding sward is generally grassier but heath species are also both more numerous and more vigorous.

G: Previously this area consisted of one plant of *Calluna* surrounded by small seedlings. In 1998 the whole patch was 9.15 metres across at its widest point. In 2000 it was 10.4 metres across. Photograph 11 shows the general increase in heath species.

H: A patch of *Erica cinerea* (bell heather) 0.78m x 0.8m x 0.35m tall (0.5 x 0.25 x 0.3m tall in 1998). There are further small plants of *Erica* and some *Calluna* to the west. The main patch of *Erica* was smaller in 1998 than in 1996 but has since grown. Seedlings continue to increase.

I: Although this area is now very grassy there has also been an increase in the number of *Erica* plants.

J: Photographs 13, 14 and 15 again show an increase in the vigour and the extent of *Erica* in this area. *Calluna* has colonised the area. Scrub control in 1995/6 was successful in increasing the area of *Erica* but there has since been a slight increase in the extent of scrub. Photographs 13 and 14 show the increased height of the trees on the edge of the area. Some of the scrub visible in photograph 15 should be removed.

K: Oak and bramble are growing up through the broom scrub here.

L: In previous years there was one plant of *Calluna* here, which is now 1.35m x 1.15m and 0.61m tall (0.71 x 0.62 metres and 0.30 metres tall in 1998). There are now also several seedlings of both *Erica* and *Calluna*.

M: *Erica* and *Calluna* have increased in this area.

N: This area is shown on photographs 16, 17 and 18. There has been a general increase in both heather species here and *Calluna* is spreading well. There has also been a slight spread of scrub here. Localised scrub control would be beneficial. Bramble at the bottom of the slope should be trimmed back. There is a small oak tree which is shading part of the area - this could be controlled by removing some of the lower limbs of the tree. Some hawthorn plants could be removed.

O: As can be seen in photograph 19, bramble and hawthorn are spreading here, partly at the expense of the broom. Scrub control would be beneficial here.

P: *Erica* is spreading in this area.

R: Regeneration of the heath species in this area has been good and it is now very similar to its appearance in 1994 - see photo 21.

S: Photograph 22 shows dense and improved growth of heath species here.

T: Heather continues to increase in this area with about 8 plants of *Calluna* and 4-5 plants of *Erica* plus about 7 upslope.

U: 5 clumps of *Calluna* are now present (1 main plant on the south slope and about 4 on the north slope). The area has now been colonised by *Erica* - 1 plant within the main area and 1 on the north-west facing slope.

V: Both *Calluna* and *Erica* increased here between 1994 and 1998. The area in 2000 was generally similar to 1998, with a slight increase in *Calluna* in a grassier sward.

W: *Calluna* had decreased here from 4 patches with many seedlings in 1996 to 4 patches in 1998. Between 1998 and 2000 it increased, so that the 4 patches were merged into 1 large patch and numerous seedlings were also present. Now 2 large patches of *Erica* are present along with several seedlings; none was present in 1994.

Y: Photograph 28 shows continued spread of bramble and bracken at the edge of this area and this should be a priority for localised scrub control.

AA: *Calluna* growth here has been good and a dense patch is now present.

BB: This area has also seen increased *Calluna* growth, along with colonisation by *Erica*. Some small scale control of bramble would be beneficial.

CC: It would be beneficial to coppice or trim back the oak visible on photograph 32 and to carry out some small scale clearance of bramble.

DD: The heath species are still present in this area but there has been slight bramble encroachment and this area should be considered a priority for localised scrub control. See photograph 34.

EE: No heath species were found here in 1998 - it was suggested that the fire had a permanent adverse impact here. In 2000 3 plants of *Erica* and 1 plant of *Calluna* were found. Photograph 35 shows an increase in grass at the expense of *Polytrichum* moss, which looks brown in photographs from previous years.

Summary

The survey shows that the sward at Troopers Hill has become more grassy since 1994 and that the vigour and extent of the heath species has also increased

during this time. The grassier appearance of the sward is almost certainly due to the succession of wet summers in recent years, following several dry summers in the early 1990s. The increase in the heath species might be due to the same factors, or it might be a response to the 1995 fire. There has been some loss of bare ground habitat, which is important for invertebrates, as a result of these changes. However, photograph 20 shows that the main area of erosion has remained remarkably stable over the period of monitoring, although some smaller areas nearby which were previously bare are now covered in grass.

Recovery from the fire in 1995 was partial in 1998 but is now virtually complete. The only major remaining change is that the broom scrub in places is still not as dense as formerly. Recovery of heath species has been very good and both are doing well throughout the site.

MANAGEMENT

As in previous years there is a need for small scale management works only. Unfortunately the site continues to attract litter and this should be cleared regularly eg in Area B. Bramble and other scrub continues to encroach on some areas of interesting vegetation. Scrub is an important component of the site's biodiversity and is especially important to some insect species. However, in order to maintain a balance between the different habitats on the site some small scale scrub clearance should be carried out. The following areas have been identified as being in need of management: J, control of bramble and other scrub at edge of area; N, trim oak, remove hawthorns and cut back bramble; O, control bramble and hawthorn; Y, cut back scrub; BB, control bramble; CC control bramble; DD, cut back scrub.

Invertebrate Records

Casual records of invertebrates were made during the survey. The following table provides the data from the three year's monitoring visits. P = recorded as present but not counted, the number is given if the species was counted and a dash indicates that the species was not recorded in that year. A indicates that the species was noted as being abundant. Weather was poor during the 1998 visit and so fewer invertebrates were seen.

	94	96	98	00
Grayling	P	6	-	-
Small heath	P	-	-	-
Meadow brown	-	-	-	10+
Gatekeeper	-	-	-	5+
Common blue	-	-	-	4
Small copper	P	-	-	4
Brown argus	-	-	-	3
Clouded yellow	-	P	-	-
Speckled wood	-	-	-	1
Painted lady	-	P	-	-
Silver y	-	P	-	10+
Vapourer	-	-	-	2

Rush veneer	-	P	-	100+
Agriphila tristella	-	P	-	10+
Agriphila straminella	-	P	-	10+
Agriphila inquinitella	-	P	-	-
Mottled grasshopper	A	-	P	P
Field grasshopper	P	-	P	P
Meadow grasshopper	P	-	P	P
Dark bush cricket	P	-	P	P

Dawn Lawrence and Rupert Higgins
Wessex Ecological Consultancy