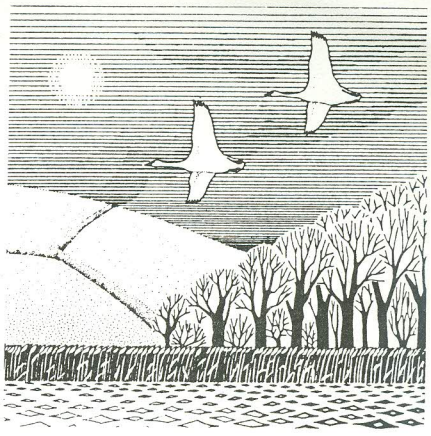
Wessex Ecological Consultancy

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



# TROOPER'S HILL

# PHOTOGRAPHIC MONITORING

# 1996

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

# TROOPERS HILL, BRISTOL

# ECOLOGICAL MONITORING 1996

## INTRODUCTION

This report describes the results of vegetational and photographic monitoring carried out in 1996 as a repeat of a survey carried out in 1994. 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 was paid to heathland vegetation since this is a key habitat type on the site.

## METHODS AND RESULTS

The methodology followed that employed during 1994. Photographs were taken from the locations mapped and described in the 1994 report 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 1996.

### Area Descriptions

Areas are described below where they have changed since the 1994 report. The summer of 1995 was exceptionally dry and several severe fires affected parts of the hill.

A: The lower parts of this area are much as they were described in 1994 but the upper slopes were burnt during 1995 and large areas of hawthorn (*Crataegus monogyna*) and smaller areas of broom (*Cytinus scoparius*) were killed. Broom is now regenerating freely, over a greater area than it previously occupies, and bramble (*Rubus fruticosus agg*) is also regenerating vigorously. Several herbaceous species have benefited from the destruction of the scrub here, including wood sage (*Teucrium scorodonium*), sorrel (*Rumex acetosa*), sheeps sorrel (*Rumex acetosella*), goldenrod (*Solidago virgaurea*) and early hair-grass. See photographs 1 and 20.

D: This patch of *Calluna* has completely disappeared, presumably as a result of a fire during 1995. There are several small bare patches of ground in this area, identified by H Hall as being the result of deep fires catching where coal outcrops close to the surface. See photograph 6.

E: Continues to be a patch of *Calluna* plants in an otherwise grassy sward. It was not measured in 1994 but in 1996 it was 9.47 metres across at its widest point. See photographs 7 and 8. Note that on photograph 8 there appears to have been some decline in *Calluna* vigour, especially towards the left of the photograph.

F: The broom scrub which dominates this area was burnt in 1995. There is now frequent broom regeneration, as well as oak (*Quercus robur)* and hawthorn regeneration from stumps. Herbaceous species now growing amongst the burnt scrub include catsear (*Hypochaeris radicata*), early hair-grass, wild carrot (*Daucus carota*), sheep's sorrel and mouse-ear hawkweed (*Pilosella officinarum*). See photographs 9 and 10.

G. A patch of *Calluna* 0.55 x 0.42 metres and 0.32 metres tall with frequent small seedlings - no significant change since 1994. See photograph 11.

H. A patch of *Erica* 1.10 x 0.72 metres and 0.54 metres tall with two seedlings measuring 0.35 x 0.25 and 0.22 x 0.18 metres respectively and one very small seedling. This represents a considerable increase in vigour since 1994 when only one smaller plant was present.

J. Similar to 1994 but two small plants of *Calluna* found. The photographs (13, 14 and 15) show greater quantities of *Erica* but this is probably due to a better show of flowers in 1996, perhaps due to competing grasses having been weakened by the 1995 drought. Note that localised clearance of bramble is visible in photographs 14 and 15 and reveals some increase in *Erica* vigour.

L. One plant of *Calluna* as in 1994, now 0.49 x 0.41 metres and 0.35 metres tall - an apparent increase in vigour.

N. This area is shown on photographs 16, 17 and 18. It remains much as it was in 1994 but there has been a slight spread of scrub and this area could probably benefit from localised scrub control.

O. The broom in this area is thickening and spreading (this is exaggerated in photograph 19 because it was taken from a slightly different place in 1996 but is a genuine trend).

R. The north-eastern part of this area remains as it was in 1994 but the south-western part of the area (shown in photograph 21) was burnt in 1995. Although little *Erica* is flowering in this area it is regenerating strongly. Heath bedstraw (*Galium saxatile*) is growing well here. There are a few plants of *Erica* regenerating in the area of burnt broom scrub visible in the background of this photograph but this probably does not represent any spread of the species and bramble is also regenerating strongly.

S. Most of the area is still as it was in 1994 but one part (the near right-hand area of photograph 22) was burnt in 1995. There is scattered regeneration of *Erica* in this area.

T. There is more heather present in this area than was recorded in 1994. As well as the small plant of *Calluna* at the bottom of the gully there are 5 plants of *Erica* and a small patch of *Calluna* on the north-facing gully slope.

U. The 4 clumps of *Calluna* are still present and the largest now measures 0.88 x 0.65 metres and 0.45 metres tall - an increase over its size in 1994.

W. There are now 6 clumps of *Calluna* and many seedlings here - a definite increase over 1994.

X. There has been some spread of *Calluna* at the top of this area.

Y. As can be seen on photograph 27 *Calluna* is present in the same patches as in 1994 but is perhaps less vigorous. Photograph 28 shows some spread of bramble at the edge of this area and this should be a priority for localised scrub control.

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.

EE. In 1994 there were 2 clumps of *Calluna* and 1 clump of *Erica* in this area. It was burnt during 1995 and in 1996 only one clump of *Calluna* was present. No signs of regeneration from the other clumps was found.

Invertebrate Records

Casual records of invertebrates were made during the survey. Butterflies seen included 6 graylings as well as the migrant species clouded yellow and painted lady. A few moths were recorded. These were the migrants silver Y and rush veneer and the grass moths *Agriphila tristella*, *Agriphila straminella* and *Agriphila inquinitella*. The last species is fairly uncommon and is associated with fine grass species such as fescues and bents.

## CONCLUSIONS

The major changes that have occurred since 1994 on Troopers Hill are as a result of fires in 1995. Areas of grassland which were affected by these fires appear to have recovered except where the fire burnt deep (see area D above). In these latter areas regeneration has been slow and is dominated by sheep's sorrel. The effects on areas of scrub have been more severe. Areas of hawthorn, broom and bramble have been burnt, killing mature shrubs. These species are all regenerating freely, however, although there has been a flush of herbaceous species in these areas. Areas of heath were also burnt and on the whole are regenerating, although there has been some loss of plants especially in outlying areas such as D and EE. The fires probably have had little long term effect on the vegetation of the hill but where there has been an effect it has been negative and more frequent fires would probably have a more serious adverse impact.

Apart from the impact of fire few changes were detected. In a few areas there appeared to have been some decline in the vigour of heath species but in others (probably slightly more) there was an increase in vigour. The rate of scrub encroachment is clearly very slow, probably limited by soil fertility. There are a few areas, however, where scrub is very slowly encroaching on heath vegetation and some limited clearance in these areas would probably be beneficial. These are areas N, Y and DD.