

## TAUNTON LOCAL PLAN FIRST ALTERATION

## AGRICULTURAL LAND CLASSIFICATION OF ALTERNATIVE SITES

## Report of Survey

## 1. Introduction

Agricultural Land Classification surveys were carried out at 3 sites around Taunton, Somerset, in response to a statutory planning consultation. Field work was carried out during February 1989 by the Resource Planning Group, Bristol. Auger observations were carried out at each site on a 100 m grid, and 6 pits were described overall. The results of the surveys are summarised below and illustrated in the accompanying maps.

	<u>Site Location</u>	<u>Grade</u>	<u>Area (ha)</u>	<u>% of Survey Area</u>
4/89f	1. Staplehay	2	1.8	26
		3a	5.2	74
4/89a	2. Comaytrowe Manor	3a	8.3	37.2
		3b	11.9	53.4
		Non Ag	0.3	1.3
		Urban	0.2	0.9
		Ag Bldgs	1.6	7.2
4/89b	3. Norton Fitzwarren	1	14.4	90
		Non Ag	1.3	8
		Urban	0.3	2
4/89e	4. Staplegrove	2	9.6	100

## 2. Climate

Climatic variables were interpolated from a 5 km grid database as follows:-

	<u>Site 1</u>	<u>Site 2</u>	<u>Site 3</u>	<u>Site 4</u>
Altitude (m)	61	61	30	30
Accumulated Temperature ( $^{\circ}$ days)	1511	1510	1545	1544
Average Annual Rainfall (mm)	863	811	788	774
Moisture Deficit, wheat (mm)	101	103	107	107
Moisture Deficit, potatoes	92	94	99	99
Field Capacity Days (days)	182	173	170	167

Accumulated temperature is a measure of the relative warmth of a locality, and average annual rainfall is a measure of the overall wetness. In combination, these two parameters determine climatic limitations. Climate was not found to be limiting at any of these sites. The other climatic variables are used for soil wetness and droughtiness assessments.

### 3. Agricultural Land Classification

#### Site 1 - Staplehay

**Grade 2:** The eastern part of the site was classified as grade 2. Soil pit No 3 is representative of this eastern area (see appendix 2 for detailed pit descriptions). The soils are deep heavy clay loams with a medium clay loam topsoil. The profile is slightly stoney throughout; the stone content increasing from approximately 4% at the surface to 7% below 20 cm. The colours are reddish, and distinct ochreous mottles occur in the subsoil, with gleying below 60 cm. No slowly permeable layer was found. A medium textured soil, gleyed at 60 cm, with no slowly permeable layer above 80 cm, and 182 field capacity days, has a wetness class of I. The combination of a medium clay loam surface texture and 182 field capacity days lead to a classification as grade 2, with soil wetness as the most limiting factor.

#### Sub-Grade

**3a:** The remainder of the site was classified as sub-grade 3a. Most of the area is represented by pit No 2 (see appendix 2). The soils are similar to the grade 2 soils with gleying occurring at 60 cm, but a slowly permeable layer occurs above 70 cm, leading to a wetness class of III, and hence a grade of 3a.

A small area near the southern boundary consists of an infilled depression. Here the surface stoniness (>5% stones larger than 6 cm) led to the classification of sub-grade 3a. Droughtiness is not a limitation.

#### Site 2 - Comeytrove Manor

#### Sub-grade

**3a:** Much of the eastern and central area of the site has been placed in this grade. Wetness is the most limiting factor in these predominantly red soils. Topsoil textures are medium clay loams which grade into heavy subsoils. Mottling is usually not evident, but gleying can be assessed by the presence of pale ped faces and common manganese. The soils typically fall into wetness class III at this FCD level (171 days) either as a result of shallow gleying in association with slowly permeable layers (SPL's) occurring around 50 cm, or no clear evidence of gleying in these red soils but with SPL's occurring above 60 cm and extending to depth.

#### Sub-grade

**3b:** The western and southern area of the site has been classified as 3b. Here, the topsoil textures are significantly heavier than elsewhere (heavy clay loams), and this, therefore, restricts the grade to 3b for both wetness class III and IV soils. The subsoils are again typically red clays and the final wetness class therefore depends upon the presence or absence of distinct gleying and the exact depth to an SPL (typically above 50 cm).

The isolated map unit of 3b in the east has been identified as a result of locally steep slopes. Part of the main 3b unit in the west also contains slopes in the 3b range.

#### Site 3 - Norton Fitzwarren

**Grade 1:** The entire site, with the exception of 1.6 hectares of urban and non agricultural land, was classified as grade 1. The soils are deep heavy clay loams with a medium clay loam topsoil. Colours are brown with no mottling occurring above 60 cm and no gleying occurring above 100 cm. The soils are generally stone free, with a stoney layer occasionally occurring below 80 cm. The site is flat, and a small area near the eastern edge may be subjected to occasional short winter flooding. This would lead to a classification of grade 2 for that part of the site, but insufficient data is available to map it as such.

#### Site 4 - Staplegrove

**Grade 2:** The entire site was classified as grade 2. Two soil pits were described (see appendix 2). The soils are deep heavy clay loams or clays, with a medium clay loam topsoil. Colours are brown to reddish. The topsoil is slightly stoney (approximately 3% stones), and a stoney layer was encountered at about 30-40 cm deep in places. Measurement of the stone content of this layer by sieving showed a content of 25% stones. The overall stone content led to a droughtiness assessment of grade 2 for pit No 1, which is considered representative of the site.

Gley characteristics occurred at most observation points at approximately 40 cm, but no slowly permeable layer was identified. This led to a wetness assessment of class I, borderline to class II. This puts the site at the grade 1/2 borderline for wetness. Overall, therefore, the site is classified as grade 2 due to droughtiness and possibly due to wetness.