SHROPSHIRE STRUCTURE PLAN
MUCH WENLOCK
LAND WEST OF BRIDGNORTH ROAD

Agricultural Land Classification
ALC Map and Report

May 1999

Resource Planning Team
Northern Region
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AGRICULTURAL LAND CLASSIFICATION REPORT

SHROPSHIRE STRUCTURE PLAN
MUCH WENLOCK, LAND WEST OF BRIDGNORTH ROAD

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 15.4 ha of land west of Bridgnorth Road, to the south of Much Wenlock, Shropshire. The survey was carried out in March 1999.

2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). This survey was carried out in connection with MAFF's statutory input to the Shropshire Structure Plan. This survey supersedes any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Northern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.

4. At the time of survey the majority of the agricultural land site was under grass. In the south west of the site a field was sown to cereals. Areas mapped as 'Other land' include a small area of woodland and gardens.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10 000. It is accurate at this scale but any enlargement would be misleading.

6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% Total agricultural land area	% Total survey area
1	-	-	-
2	0.8	5	5
3a	10.9	73	71
3b	3.2	22	21
4	-	-	-
5	-	-	-
Agricultural land not surveyed	-	-	-
Other land	0.5	-	3
Total agricultural land area	14.9	100	-
Total survey area	15.4	-	100

[1] FRCA is an executive agency of MAFF and the Welsh Office

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. A total of 15 borings and 2 soil pits was described.

8. The agricultural land on this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The principal limitations to the agricultural use of the land are gradient, microrelief and soil wetness.

9. An area of very good quality (Grade 2) land is found in the south-east of the survey area. Soils comprise medium silty clay loam topsoils, which overlie similar textured upper subsoils. Medium silty clay loam and clay textures occur in the lower subsoils. Soil wetness is the principal limitation to the agricultural use of this land.

10. Land of good quality (Subgrade 3a), is found across the site. Soils comprise medium silty clay loam topsoils which overlie similar textured upper subsoils. Clay content often increases in the lower subsoils, with heavy clay loam, and clay textures being found alongside medium silty clay loam. Soil wetness is the principal limitation to the agricultural use of this land.

11. Several small areas of moderate quality (Subgrade 3b) land are found across the site. Where slopes are between 7 and 11°, gradient imposes an overriding limitation to the agricultural use of this land. In places, uneven microrelief also imposes a limitation to the agricultural use of this land.

FACTORS INFLUENCING ALC GRADE

Climate

12. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

13. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	Values
Grid reference	N/A	SO621997	SO620992
Altitude	m, AOD	160	215
Accumulated Temperature	day°C (Jan-June)	1311	1248
Average Annual Rainfall	mm	756	778
Field Capacity Days	days	178	181
Moisture Deficit, Wheat	mm	85	77
Moisture Deficit, Potatoes	mm	69	60
Overall climatic grade	N/A	Grade 2	Grade 2

14. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

15. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

16. The combination of rainfall and temperature at this site means that the land experiences a climatic limitation consistent with Grade 2. As a result land cannot be graded higher than Grade 2.

Site

17. The site lies at an altitude of 160-215m AOD, and slopes to the north and east. The site occupies land between the Bridgnorth and Bourton roads.

18. In places, slopes between 7 and 11°, impose a gradient limitation, which precludes land from being graded any higher than Subgrade 3b. In the west of the site, uneven microrelief also imposes a limitation to the agricultural use of the land.

Geology and soils

19. The published solid geological information for this area (BGS, 1952) maps the site as being underlain by Lower Ludlow shales and Amestry Limestone. Drift geological information for this area (BGS, 1974) indicates that there is no drift mapped at this site.

20. The most detailed published soils information for this area (SSEW, 1983) shows the site to comprise soils of the Munslow association. This association, which occur over siltstones and fine grained sandstones, includes soils broadly described as 'typical brown earths' (SSEW 1984).

21. Upon detailed field examination, soil profiles broadly consistent with the above description were found across the site.

AGRICULTURAL LAND CLASSIFICATION

22. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

Grade 2

23. Land of very good quality occupies 0.8 ha (5%) of the total survey area, and is found in the south-east of the site. The principal limitation to the agricultural use of this land is soil wetness.

24. Within the Grade 2 mapping unit, soils comprise very slightly stony medium silty clay loam topsoils, which overlie similar textured upper subsoils. Medium silty clay loam

and clay textures occur in the lower subsoils. All profiles were found to extend to at least 120cm. Although signs of gleying are evident in the subsoils, these soils are still placed in Wetness Class I and Grade 2.

Subgrade 3a

25. Land of good quality occupies 10.9 ha. (71%) of the total survey area, and is found across the survey area. The principal limitation to the agricultural use of this land is soil wetness.

26. Within the Subgrade 3a mapping unit, soils comprise very slightly stony medium silty clay loam topsoils which overlie similar textured upper subsoils. Clay content often increases in the lower subsoils, with heavy clay loam, and clay textures being found alongside medium silty clay loam. All profiles were found to extend to at least 120cm. Observed depths of gleying and slowly permeable layers in relation to the local climatic regime, place these soils into Wetness Classes II, III and Subgrade 3a.

Subgrade 3b

27. Land of moderate quality occupies 3.2 ha. (21%) of the total survey area, and is found in places where slopes exceed 7°, or the land is affected by complex changes in slope angle and direction over short distances. In these areas, the principal limitations to the agricultural use of the land are gradient and microrelief.

William Fearnehough
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SOURCES OF REFERENCE

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BGS: London.

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Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land.*
MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification.*
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 3, Soils of Midland and Western England. (1:250 000).*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their use in Midland and Western England.*
SSEW: Harpenden.

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

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SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	—WETNESS— CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SO62009960	PGR	N		065	075	2	3A	141	60	138	74	1				WE	3A	
1P	SO62209930	LEY	N	04	050		2 1	3A 2	170	89	152	88	1				WE	3A 2	
2	SO62109960	PGR	NW	08	055	055	3	3A	127	46	125	61	1				GR	3B	
2A	SO62159968	PGR	NE	06	000		1	2	175	94	148	84	1				WE	2	
2P	SO62209960	GRA	N	02	062	034	3	3B	100	19	103	39	2				WE	3A	
3	SO62209960	GRA	N	02	075	075	2	3A	101	20	092	28	2				WE	3A	CK SPL
5	SO62109950	GRA	N	01	027	050	3	3A	155	74	137	73	1				WE	3A	MNFROM27
6	SO62209950	GRA	NE	02	027		2	3A	171	90	145	81	1				WE	3A	MNFROM27
7	SO62009940	MZE	N	08	030		3	3A	163	82	137	73	1				GR	3B	
8	SO62109940	GRA	NE	02	029		2	3A	154	73	134	70	1				WE	3A	MNFROM29
9	SO62209940	GRA	NE	02	000		1	2	172	91	156	92	1				WE	2	CK GLEY
10	SO62309940	GRA	NE	02	037		2	3A	167	86	141	77	1				WE	3A	
11	SO62009930	MZE	NE		032		3	3A	164	83	138	74	1				WE	3A	
12	SO62109930	CER	NE	03	028		2	3A	159	78	133	69	1				WE	3A	MNFROM28
13	SO62209930	GRA	NE	03	040		2 1	3A 2	168	87	142	78	1				WE	2 3A	MNFROM40
14	SO62109920	MZE	NE	03	045	097	2	3A	164	83	142	78	1				WE	3A	
15	SO62209920	GRA	NE	03	037		2	3A	166	85	140	76	1				WE	3A	MNFROM37

BORING	WET CLASS	TEXTURE	TOPSOIL STONES >2	>6	DEPTH	COLOUR	CaCO3	MOTTLES
1	2	mzcl			0-32	10YR32 00		
		mzcl			32-65	10YR43 53		
		mzcl			65-75	10YR53 00		common 10YR56 52
		c			75-90	75YR44 00		common 10YR58 00
1P	2	mzcl			0-30	25Y 42 00		
		mzcl			30-50	25Y 54 00		
		mzcl			50-100	25Y 54 62		common 10YR56 00
2	3	mszl			0-26	10YR42 00		
		mzcl			26-40	75YR54 00		
		mzcl			40-55	75YR54 00		
		c			55-90	75YR44 00		common 10YR56 52
2A	1	mzcl			0-25	10YR32 00		
		mzcl			25-55	10YR44 00		
		mcl			55-85	10YR44 00		
		scl			85-110	75YR46 54		
2P	3	hcl			0-34	10YR32 00		
		hcl			34-62	75YR44 42		
		hcl			62-80	25Y 53 00		common 10YR56 52
3	2	mcl			0-27	10YR32 00		
		hcl			27-75	75YR44 00		few
		hcl			75-97	25Y 53 00		common 10YR56 00
5	3	mzcl			0-27	10YR32 00		
		mzcl			27-50	25Y 53 54		
		hcl			50-110	05Y 52 00		many 10YR56 00
6	2	mzcl			0-27	10YR31 00		
		mzcl			27-47	25Y 42 00		
		mzcl			47-110	05Y 53 00		common 10YR56 00
7	3	mzcl			0-30	10YR41 00		
		mzcl			30-58	25Y 53 00		common 10YR56 61
		mzcl			58-110	25Y 63 00		common 10YR56 00

8	2	mzcl	0-29 25Y 52 00		
		mzcl	29-37 25Y 53 00	common	10YR56 00
		mzcl	37-50 25Y 53 00	common	10YR56 00
		mzcl	50-90 05Y 52 00	many	10YR56 00
		c	90-10005Y 53 00	many	10YR56 00
		hcl	100-11075YR44 00		
9	1	mzcl	0-27 10YR42 00		
		mzcl	27-60 25Y 54 00		
		mzcl	60-68 25Y 53 00		
		mzcl	68-85 75YR54 00	common	10YR56 00
		c	85-11075YR54 00		

BORING	WET CLASS	TEXTURE	TOPSOIL STONES >2	>6	DEPTH COLOUR	CaCO3	MOTTLES
10	2	mzcl			0-37 25Y 42 00		
		mzcl			37-10525Y 53 00		common 10YR56 00
		mzcl			105-11025Y 62 00		
11	3	mzcl			0-32 25Y 52 00		
		mzcl			32-50 25Y 53 00		common 10YR51 56
		mzcl			50-90 25Y 53 00		many 10YR56 51
		mzcl			90-11025Y 63 00		many 10YR56 51
12	2	mzcl			0-28 10YR42 00		
		mzcl			28-65 25Y 53 00		
		mzcl			65-11025Y 53 00		common 25Y 56 00
13	2	mzcl			0-29 25Y 42 00		
		mzcl			29-40 25Y 42 00		
		mzcl			40-65 25Y 53 54		
		mzcl			65-11025Y 53 00		common 10YR56 00
14	2	mzcl			0-27 10YR42 00		
		mzcl			27-45 25Y 53 00		
		mzcl			45-75 25Y 64 00		common 25Y 68 00
		mzcl			75-97 25Y 64 00		common 25Y 68 61
		c			97-11075YR43 00		
15	2	mzcl			0-27 10YR42 00		
		mzcl			27-37 10YR53 00		
		mzcl			37-60 10YR53 00		
		mzcl			60-11010YR53 00		