

## Appendix A15.1: Land Capability Assessment Descriptors

### 1 Introduction

- 1.1 This appendix describes the agricultural land capability classes used on the assessment on agricultural land affected by the proposed scheme. Sections 2 to 5 provide the Macaulay Land Use Research Institute (MLURI) descriptors for each land capability class. An accompanying Tree Constraints Plan (Figure 15.3) displays the location and potential impacts of each feature in relation to the proposed scheme.

### 2 Land Suited to Arable Cropping

#### **Class 1: Land Capable of Producing a Very Wide Range of Crops**

- 2.1 Cropping is highly flexible and includes the more exacting crops (i.e. those with demanding requirements) such as winter harvested vegetables (cauliflower, Brussels sprouts, leeks). The level of yield is consistently high. Soils are usually well-drained deep loams, sandy loams, silty loams or their related humic variants with good reserves of moisture. Sites are level or gently sloping, and the climate is favourable. If there are physical limitations which affect agricultural land use, these are very minor.

#### **Class 2: Land Capable of Producing a Wide Range of Crops**

- 2.2 Cropping is very flexible and a wide range of crops can be grown, however the land may be unsuited to winter harvested crops. The level of yield is high but less consistently obtained than on Class 1 land due to the effects of minor limitations which impact upon cultivation, crop growth or harvesting. The limitations include either singly or in combination:

- slight workability or wetness problems;
- slightly unfavourable soil structure or texture; and
- moderate slopes or slightly unfavourable climate.

#### **Class 3: Land Capable of Producing a Moderate Range of Crops**

- 2.3 Class 3 land is capable of producing good yields of a narrow range of crops, principally cereals and grass, and/or moderate yields of a wider range including potatoes, some vegetable crops (e.g. field beans and summer harvested brassicae) and oilseed rape. The degree of variability between years will be greater than for the degree of variability in Classes 1 and 2, mainly due to:

- interactions between climate;
- soil and management factors which affect the timing and type of cultivations;
- sowing and harvesting;
- wetness;
- restrictions to rooting depth;
- unfavourable structure or texture;
- strongly sloping ground;
- slight erosion; or
- a variable climate.

- 2.4 The range of soil types within the class is greater than for previous classes.

Class 3: Division 3.1

- 2.5 Land in this division is capable of producing consistently high yields of a narrow range of crops (principally cereals and grass) and/or moderate yields of a wider range (including potatoes, field beans and other vegetables and root crops). Short grass leys are common.

Class 3: Division 3.2

- 2.6 This land is capable of average production but high yields of barley, oats and grass are often obtained. Other crops are limited to potatoes and forage crops. Grass leys are common and reflect the increasing growth limitations for arable crops and degree of risk involved in their production.

**Class 4: Land Capable of Producing a Narrow Range of Crops**

- 2.7 The land is suitable for enterprises based primarily on grassland with short arable breaks (e.g. barley, oats, forage crops). Yields of arable crops are variable due to soil, wetness or climatic factors. Yields of grass are often high but difficulties of production or utilisation may be encountered. The moderately severe levels of limitation restrict the choice of crops and demand careful management. The limitations may include:

- moderately severe wetness;
- occasional damaging floods;
- shallow or very stony soils;
- moderately steep gradients;
- moderate erosion risk;
- moderately severe climate; or
- interactions of these which increase the level of farming risk.

Class 4: Division 4.1

- 2.8 Land in this division is suited to rotations, which, although primarily based on ley grassland, include forage crops and cereals for stock feed. Yields of grass are high but difficulties of utilisation and conservation may be encountered. Other crop yields are very variable and usually below the national average.

Class 4: Division 4.2

- 2.9 The land is primarily grassland with some limited potential for other crops. Grass yields can be high but difficulties of conservation or utilisation may be severe, especially in areas of poor climate or on very wet soils. Some forage cropping is possible and, when the extra risks involved can be accepted, an occasional cereal crop.

### **3 Land Suited only to Improved Grassland and Rough Grazing**

#### **Class 5: Land Capable of Use as Improved Grassland**

3.1 The agricultural use of land in Class 5 is restricted to grass production but such land frequently plays an important role in the economy of British hill lands. Mechanised surface treatments to improve the grassland, ranging from ploughing through rotation to surface seeding and improvement by non-disruptive techniques are all possible. Although an occasional pioneer forage crop may be grown, one or more severe limitations render the land unsuited for arable cropping. These include:

- adverse climate;
- wetness;
- frequent damaging floods;
- steep slopes;
- soil defects; or
- erosion risks.

3.2 Grass yields within the class can be variable and difficulties in production, and particularly utilisation, are common.

#### Class 5: Division 5.1

3.3 Establishment of a grass sward and its maintenance present few problems and potential yields are high with ample growth throughout the season. Patterns of soil, slope or wetness may be slightly restricting but the land has few poaching problems. High stocking rates are possible.

#### Class 5: Division 5.2

3.4 Sward establishment presents no difficulties but moderate or low traffic ability, patterned land and/or strong slopes cause maintenance problems. Growth rates are high and despite some problems of poaching satisfactory stocking rates are achievable.

#### Class 5: Division 5.3

3.5 Land in this division has properties which lead to serious traffic ability and poaching difficulties and although sward establishment may be easy, deterioration in quality is often rapid. Patterns of soil, slope or wetness may seriously interfere with establishment and/or maintenance. The land cannot support high stock densities without damage and this may be serious after heavy rain even in summer.

### **4 Land Capable of Use Only as Rough Grazing**

#### **Class 6: Land Capable of Use Only as Rough Grazing**

4.1 The land has very severe site, soil or wetness limitations, which generally prevent the use of tractor-operated machinery for improvement. Reclamation of small areas to encourage stock to range is often possible. Climate is often a very significant limiting factor. A range of widely different qualities of grazing is included from very steep land with significant grazing value in the lowland situation to moorland with a low but sustained production in the uplands. Grazing is usually insignificant in the full arctic zones of the mountain lands, but below this level grazings which can be utilised for five months or longer in any year are included in the class. Land affected by severe industrial pollution or dereliction may be included if the effects of the pollution are non-toxic.

Class 6: Division 6.1

- 4.2 Land in the division has high proportions of palatable herbage in the sward, principally the better grasses, e.g. meadow grass-bent grassland, bent-fescue grasslands.

Class 6: Division 6.2

- 4.3 Moderate quality herbage such as white and flying bent grasslands, rush pastures and herb-rich moorlands or mosaics of high and low grazing values characterise land in the division.

Class 6: Division 6.3

- 4.4 The vegetation is dominated by plant communities with low grazing values, particularly heather moor, bog heather moor and blanket bog

## **5 Land of Very Limited Agricultural Value**

### **Class 7: Very Limited Agricultural Value**

- 5.1 This land has extremely severe limitations that cannot be rectified. The limitations may result from one or more of the following:
- extremely severe wetness;
  - extremely stony, rocky land;
  - unvegetated soils;
  - scree or beach gravels;
  - toxic waste tips and dereliction;
  - very steep gradients;
  - severe erosion including intensively hagged peat lands; and
  - extremely severe climates (exposed situations, protracted snow-cover and short growing season).
- 5.2 Agricultural use is restricted to very poor rough grazing.