

## Appendix 10.2 Catchment Descriptors

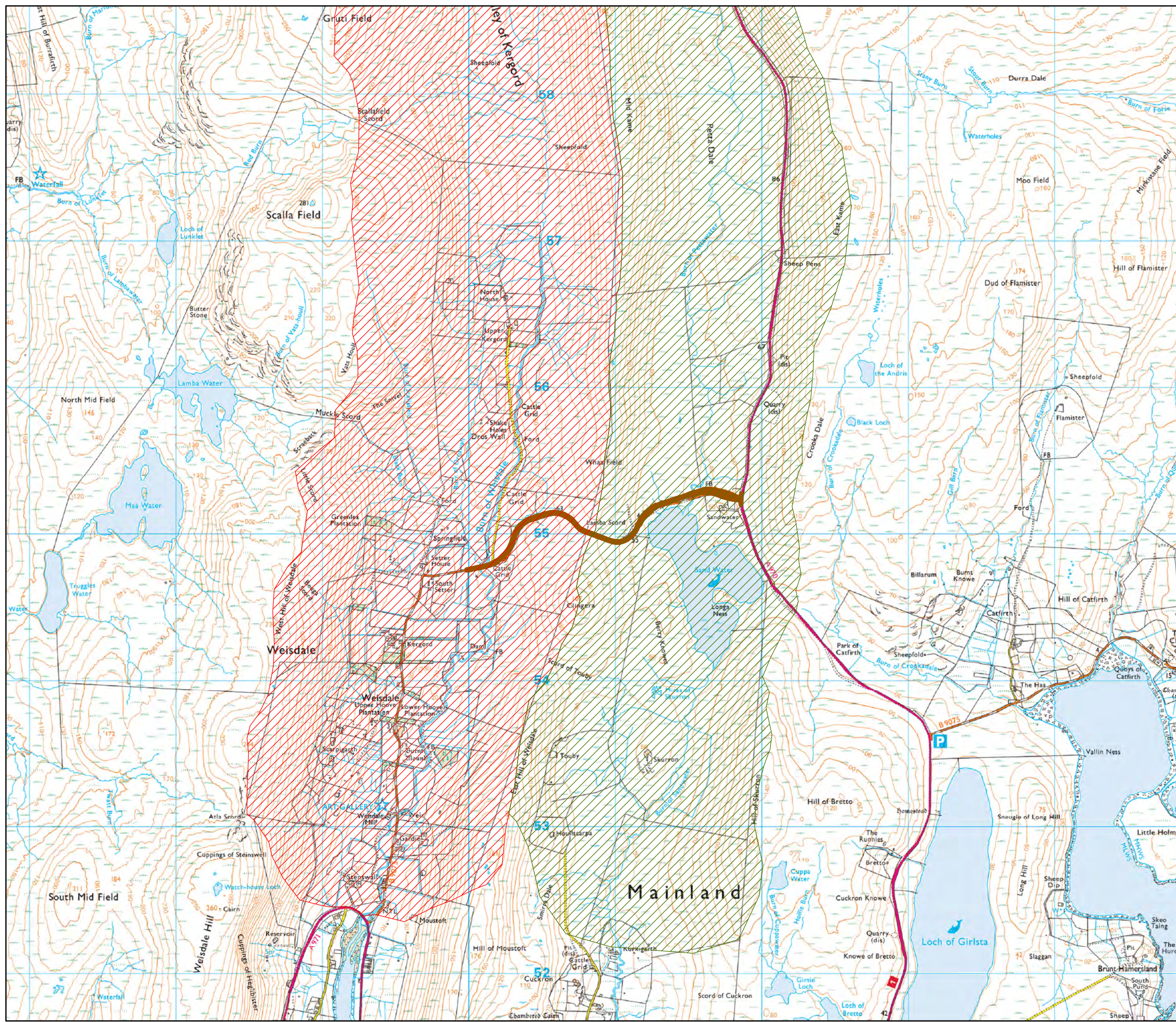
**Table 1: Watercourse Catchment Descriptors**

Watercourse	Burn of Weisdale	Sandwater Burn
<b>Grid Reference</b>	HU 40350 55450	HU 41500 55150
<b>Catchment Area (km<sup>2</sup>) upstream of Sandwater Road</b>	6.74	6.73
<b>ALTBAR</b>	123	99
<b>BFIHOST</b>	0.486	0.363
<b>DPSBAR</b>	163.2	144.6
<b>FARL</b>	0.997	0.927
<b>PROPWET</b>	0.52	0.52
<b>SAAR</b>	1347	1276
<b>SPRHOST</b>	58.13	58.47
<b>URBEXT1990</b>	0	0


1. ALTBAR represents the mean catchment altitude (m above sea level). These values are generally consistent with topographic levels discussed previously.
2. BFIHOST is a measure of catchment responsiveness to rainfall. Each of the soil types in the UK have been delineated into 29 specific HOST (Hydrology of Soil Types) classification. A Baseflow Index (BFI) value is determined from the designated HOST value for the catchment. BFI values range between 0.170 and 1.0 in the UK. The BFI may be thought of as a measure of the proportion of the river runoff that derives from stored sources; the more permeable the rock, superficial deposits and soils in a catchment, the higher the BFI and the more sustained the river's flow during periods of dry weather. Thus the BFI is an effective means of indexing catchment geology. The BFIHOST values for the catchments in Table 2 are in the mid-low range of values, suggesting relatively impermeable geology with watercourses dominated by surface water inputs rather than a significant baseflow component.
3. SPRHOST is also a measure of catchment responsiveness to rainfall in terms of the Standard Percentage of Runoff (SPR). This represents an average value for the percentage of rainfall which would be expected to exceed the infiltration capacity of underlying soils and geology, leading to runoff. An SPR value is determined from the designated HOST value for the catchment. SPR values range between 2% and 60%. The SPRHOST values for the catchments in Table 2 are therefore in the high range of values, confirming that the watercourses are dominated by surface water inputs rather than a significant baseflow component.
4. However, the assessment of the permeability of underlying geology based on BFIHOST and SPRHOST values is less accurate than more site-specific investigations.
5. The mean slope of the drainage path (m/km) within the catchment is represented by the DPSBAR value. Approximately 80% of catchments within the FEH have a DPSBAR value lower than 150. The values for DPSBAR in Table 2 are relatively high suggesting that there are steep aspects to the catchments. In particular, the Burn of Weisdale, is shown to have a mean drainage path slope in the top 20% of UK catchments.

6. A FARL value close to 1 indicates that there is little attenuation of flood waters in reservoirs or lakes within the catchment. A FARL value lower than 0.9 suggests that there is significant attenuation offered by lakes or reservoirs within the catchment.
7. PROPWET represents a measure of the proportion of time that catchment soils are defined as wet (the FEH defines 'wet' as being when soil moisture deficits are less than 6 mm). PROPWET values range from over 80% in the wettest catchments to less than 20% in the driest parts of the country. Values of 58% for the catchments in Table 2 are therefore mid-range.
8. Each of the catchments has an URBEXT (Urban Extent) value of zero due to the lack of any urban surfaces within the catchment.







**Key**

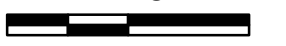
 Proposed B9075 Sandwater Road Alignment

**Catchment Areas**


 Burn of Sandwater

 Burn of Weisdale

Scale 1:25,000 @ A3



0 0.2 0.4 0.8 km



**Appendix 10.2**  
Catchment characteristics  
Surface water catchment

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**Sandwater Road (B9075)**  
Environmental Statement



