## 16. BANK STABILITY

This is an assessment of the potential stability of the active channel banks, based on five factors: bank height; bank angle; layering of the bank material; particle size of the bank material; a vegetation factor. Left and right banks are assessed separately. The scoring system consists of the following values 8 (high), 5 (moderate), 2 (low). If bedrock dominates the bank material, the bank stability index is rated as HIGH. Otherwise complete the table provided by placing an appropriate score in the box for the left and right bank. The following procedure is used to derive the ratings.

- 1 Estimate the position of the "bankfull" flow on the active channel bank. If the position is at the top of the active channel, the rating is high. If it is close to the top the rating is moderate, if it is some way below the top it is rated as low.
- 2 Rate the bank angle such that sloping banks are high, vertical banks are moderate and undercut banks are low.
- 3 Assess the degree of layering. If there is no layering in the bank material, the rating is high. If fine material overlies coarser material, the rating is moderate. If coarser layers are interspersed with finer layers, the rating is low.
- 4 Assess the soil particle size. Boulders are rated high. Banks dominated by cobbles, or silt and clay, are rated moderate. Both gravel and sandy banks are rated low.
- 5 Rate the effectiveness of the vegetation cover in protecting the banks against erosion. Both the surface cover and roots are important. Whereas a good grass cover protects the surface, the roots of trees and shrubs increase the bank strength. Note that trees over an undercut bank produce a low rating.
- 6 The rating scores for each factor are added together to give a bank erosion score for each bank. Bedrock banks will have a score of 10.
- 7 Using the score rate the bank stability index as high, moderate or low for each bank.