Association 9

Soils Associated with Recent Alluvium

Geology

This group of soils is represented by the floodplain and alluvial flats of the Goulburn River and the Acheron River north of Buxton. The area involves approximately 230 sq km of level plains and river alluvium which is strongly influenced by surrounding geologies. The rivers pass through and receive wash from a number of sources including the granitic intrusion of the Strathbogie Plateau, the vast Siluro-Devonian Hills and the rhyodacite deposits of the Cerberean Cauldron.

As a consequence the lithology is highly variable and includes a complex of river alluvium comprising sand, silt, clay and poorly sorted quartzitic gravels.

Soils

Typically soils are polygenetic and quite variable with deep, non-cracking, essentially uniform, massive fine textured profiles.

The variability arises from the differences in parent geology.

Surfaces are generally level and firm with little humus build up excepting in minor areas where native vegetation is still apparent. Cultivation has considerably modified the natural soil surface.

Surface horizons (or layers) are usually a very dark greyish brown to brown moderately firm clay loam to silty clay loam. Structure is generally massive with weak crumb rough-faced friable peds. Layers are often 15-25 cm deep with the deeper variations often occurring within the minor depressions. Occasionally the top 3 cm exhibits a degree of hydrophobicity.

In some instances, material may overly a pale almost bleached light grey, very firm silty clay loam or silty light clay. Structures are typically massive with soil fragments slaking quickly in field tests.

The subsoils reflect the variability of the parent materials and there is extensive grading and intermixing. Soils may have light clay, silty and sandy clay together with clayey sand textures.

Structures are usually massive although there are minor occurrences of coarse angular blocky profiles. At depth, lenses of sand and/or gravel may occur. Soil colours reflect to some extent historical drainage regimes and include greyish brown, dark grey, brown and (dark) yellowish brown. Minor areas have dark grey to black clays to a depth of 2 m or more. Most areas exhibit a moderate to high field slaking tendency.

Generally the soils have a low permeability and are poorly drained. However, where gravel bands exist, water may percolate quickly.

Summary of Soil Features: Soils Associated with Recent Alluvium

Classification		Texture		Structure		Permeability		Depth to Bedrock	Subsoil Slaking Tendency	Inclusions		
PPF	USC	Surface	Subsoil	Surface	Subsoil	Surface	Subsoil			Gravel	Stone	Other
NA	CL, GM GC minor GW, GP, SW	Variable	Variable	Variable	Variable	Good to fair	Good to very poor	Generally >150 cm	Not applicable	Variable	Variable	