

Association 8

Soils Associated with Older Alluvial Sediments

Geology

These units consist primarily of Quaternary alluvial sediments which date back to 5 m.y. ago. Although only some 20 sq km of this material occurs in the study area, it is essentially the southern fringe of the vast Riverine Plain which incorporates approximately 8,000 sq km stretching from Seymour to the Murray River.

Lithology

The unit comprises a complex of clay, silt, sand and gravel with numerous, predominantly sandy levee sequences. Incorporated are the influences from the adjacent granitic, basaltic and sedimentary terrain.

Soils

Being alluvial, the soils are quite variable, however they are generally deep, uniformly fine textured, gradational brown structured earths, and polygenetic soils.

Surfaces are smooth, soft to firm and typically gravel free. Humus build up is restricted to areas underneath the residual native vegetation. Generally areas are covered by sown pastures.

The A horizon is a shallow, (less than 10 cm deep), very dark brown clay loam, which has a moderate to strong, rough-faced, crumb structure. Soils have a weak consistence. There is a wavy to diffuse transition to a partly bleached (dry) brownish yellow to yellow, hard setting, apedal, silty clay or silty clay loam. An A₂ extends to a depth of approximately 40 cm and is obvious in roadside cuttings. Commonly, the surface material within the minor undulating rises and on the drainage bank shoulders where erosion by water, wind and stock has contributed to surface loss.

The transition to subsoil is wavy, irregular, and clear. The upper 70-100 cm of the B horizon exhibits a yellowish-red to reddish-yellow medium clay which tends to have a loose to friable angular blocky smooth-faced structure when in the moist state. The profile may include some quartz sand. The subsoil clay grades (beyond 100 cm) to a strong brown to dark brown colour. Rough-faced pedal structure may become more prevalent.

The soils are somewhat variable with influences of the nearby gravel, sandstone, granitic and basalt geologies are not uncommon. Soils show varying characteristics due to the influence of the surrounding geologies, which include gravel, sandstone, granitic rocks and basalt. This is particularly apparent along the fringes of the units, particularly near Mangalore where gravel and sand may occur.

The soils are generally imperfectly drained, with slow permeability. In drainage areas and in minor depressions, soil colouring tends to take on a brown and pale brown tone

Summary of Soil Features: Soils Associated with Older Alluvial Sediments

Classification		Texture		Structure		Permeability		Depth to Bedrock	Subsoil Slaking Tendency	Inclusions		
PPF	USC	Surface	Subsoil	Surface	Subsoil	Surface	Subsoil			Gravel	Stone	Other
Gn 3.7 Gn 3.9 Uf 4 Uf 5	CL ML	Clay loam to light clay A ₂ is silty clay loam	Medium clay	Crumb-angular	Angular blocky	Moderate	Slow	>150 cm Rock may be reached by 200 cm particularly in the higher DS units	Moderate	Variable often some Qtz sand and gravel beyond 70 cm		