

SOIL ASSOCIATIONS

The soil types have been combined into larger units called soil associations; these are shown on the Soil Association Map contained in the envelope at the back of this publication. This map enables the over-all soil pattern of the area to be seen readily. It also indicates in a broad way the potential land use in different parts of the area.

A soil association is a grouping of adjoining soil types which occurs in a pattern that may be repeated in different parts of the area. The pattern is dominated by one, and sometimes by two of the component soil types. The soils grouped in this way occupy a particular and usually distinctive part of the landscape.

Fourteen soil associations, none of which has been recorded previously, have been recognised in the present area. The relationship of the soil associations to landscape features is given in the section, "Landscape Units and Guide to Soil Types" and is set out in Table 3. The areas of the individual soil associations are also given in the table.

The soil associations, in alphabetical order, are described below in terms of their dominant, subdominant and minor soil types. Any one soil type may occur in two or more different soil associations, assuming a different degree of importance in each. Each soil association has been given the name of its dominant soil type. The present and potential agricultural use of each soil association is stated in general terms.

Boort Association.

The Boort association is a relatively minor one found in the *low woodland landscape unit* in the vicinity of Boort.

Dominant soil type:
Boort clay.

Subdominant soil types:
Minmindie clay.
Wandella clay.

Minor occurrences of Lyndger loam and Catumnal loam are included in the area of the Boort association delineated on the map.

Most of the Boort association is suitable for irrigated pastures, and, in fact, much of it is irrigated. The lowest situations, mainly Wandella clay, are unsatisfactory because of drainage difficulties. Soil salinity is low to moderate.

Catumnal Association.

The Catumnal association is one of three soil associations comprising the *ridge and lake landscape unit* in the Boort area.

Dominant soil types:
Catumnal loam. Catumnal clay loam.

Subdominant soil types:
Tumnal clay loam.
Swamp soil Sw5.

Type G and Woolappee clay loam are minor soil types in this soil association.

Present land use is mainly cereal-cropping and grazing of sheep on native and volunteer pastures. Most of the association if irrigated would be suitable for pastures, cereals, summer fodder crops, and some vegetables. Salinity hazards are low in the dominant soil types but may be moderate in the subdominant types

Combatook Association.

This is a small, but complex, soil association located on the mallee fringe in the north western part of the surveyed area. It is one of the three soil associations forming the *ridge and lake landscape unit*.

Dominant soil types:
Combatook sandy loam. Combatook sandy clay loam.
Swamp soil Sw5.

Subdominant soil types:

Wandella clay.

Types A, B, C, D, E, F.

Other components of the Coombatook association are unclassified high land and small lakes used as storages for irrigation water.

The present land use includes cereal-cropping, irrigation of pastures and sparse grazing. There is little scope for irrigation expansion due to elevation in some parts, and to poor drainage in others. Soil salinity is low.

Fernihurst Association.

The Fernihurst association occupies nearly 30 per cent of the whole area, and is one of three soil associations comprising the very extensive *treeless plain landscape unit*.

Dominant soil types:

Fernihurst clay loam.

Kinypanial clay loam.

Subdominant soil types:

Fernihurst friable clay.

Kinypanial friable clay.

Towangurr clay loam.

Minor soil types in the Fernihurst association are Janiember clay and Towangurr clay. Some occurrences of Mologa loam and Lyndger loam are also included in the area delineated on the map.

Much of the Fernihurst association provides grazing for sheep on native and volunteer pastures, and part is cropped. Some of the association is under irrigated annual pastures and its future potential is mainly in this direction, although it can also support irrigated cereals and summer fodder crops. The sub-soils vary from moderately to highly saline and irrigation measures to control salinity are necessary. The Salt Map on the reverse side of the Soil Association Map indicates where salinity hazards are greatest.

Macorna Association.

Next to the Fernihurst association, the Macorna is the most widespread soil association. It also occurs in the *treeless plain landscape unit*.

Dominant soil types:

Macorna clay.

Kerang clay.

Subdominant soil types:

Towangurr clay loam.

Towangurr clay.

The remarks concerning the land use of the Fernihurst association apply also to the Macorna association, except that subsoil salinity on the average is higher.

Marmal Association.

This is a minor soil association comprising the *mallee plain landscape unit* in the extreme west of the surveyed area.

Dominant soil types:

Marmal loam.

Marmal clay loam.

Subdominant soil type:

Terrappee clay loam.

Barraport sandy clay loam is a minor component of the Marmal association.

Cereals are grown widely on this soil association. Its potential for irrigation of vegetables, summer fodder crops, lucerne and pastures is good. Subsoil salinity is low or moderate.

Mologa Association.

This is the most extensive of the three soil associations found in the prior stream landscape unit. In total area, it is only exceeded by the Fernihurst and Macorna associations.

Dominant soil types:

Mologa loam.
Lyndger loam.

Subdominant soil types:

Loga clay loam.
Towangurr clay loam.

Loga friable clay is a minor soil type while small areas of Kerang clay, Macorna clay, Yarrowalla fine sandy loam and loam and Towangurr clay are included in the area of the Mologa association shown on the map.

Cultivation for cereals and the grazing of sheep on volunteer pastures are the dry-farming pursuits over a considerable part of this soil association. Irrigation of pastures is practised fairly extensively in the Calivil Irrigation Area. The Mologa association is considered to have general suitability for the irrigation of pastures, cereals, and summer fodder crops. Subsoil salinity ranges from low to high, the salinity hazard being greatest in the northern part of the association where the principal soil type is Lyndger loam.

Mysia Association.

The Mysia association comprises that part of the *prior stream landscape unit* which occurs to the west of the Loddon River.

Dominant soil type:

Mysia loam.

Subdominant soil types:

Lyndger loam.
Myella loam.

Minor soil types in the Mysia association are Mysia fine sandy loam, Lyndger fine sandy loam, and swamp soils Sw2 and Sw3. Some Fernihurst clay loam is included in the area defined on the map.

Wheat- and sheep-farming are practised on most of this soil association, although there is a little irrigation of pastures. Its potential is good for the irrigation of some kinds of vegetables, summer fodder crops, cereals, pastures, and lucerne. The subsoils contain low, or at the most, moderate amounts of salt.

Terricks Association.

The granite *highland landscape unit* identifies the Terricks association.

Dominant soil types:

Terricks sandy loam.
Terricks sandy clay loam.
Sylvaterre sandy clay loam.

The minor soil types in this soil association are Types K and L, together with areas of skeletal soils.

Part of this soil association is devoted to cereal-farming, part is reserved as State Forest. High elevation seems to preclude using most of the Terricks association for irrigation, although some of the soil types have suitable physical characteristics for irrigation of horticultural crops and vegetables, as well as for lucerne, summer fodder crops and pastures. Subsoil salinity is low.

Tragowel Association.

The Tragowel association represents the low elements of the *treeless plain landscape unit*. It occurs mainly adjoining the Loddon River north of Boort.

Dominant soil type:
Tragowell clay.

Subdominant soil type:
Kerang clay.

Yando clay, Wandella clay and Loddon silty clay loam are the minor soil types in this soil association, while odd small areas of Macorna clay are included.

Most of the Tragowel association is given to grazing pursuits, although some of it is under irrigation. Extension of irrigation is limited by problems of grading, drainage and, in some parts, salinity. Where these difficulties can be overcome, the Tragowel association is suit-able for irrigated pastures and summer fodder crops.

Wandella Association.

This soil association is responsible for carrying natural drainage northward from the vicinity of Lake Lyndger. Together with the Boort association it comprises the *low woodland landscape unit*.

Dominant soil type:
Wandella clay.

Subdominant soil type:
Boort clay.

The swamp soil Sw4 is a minor component of the association, while small areas of Macorna clay and Kerang clay also occur in the area delineated on the map.

The Wandella association is mainly given to grazing pursuits, although a little is irrigated and some is under State Forest. There is little scope for further irrigation development because of drainage problems.

Woolshed Association.

The Woodshed association is the largest of the three associations comprising the *ridge and lake landscape unit*.

Dominant soil types:
Woolshed sandy loam.
Woolshed loam.

Subdominant soil types:
Woolappee clay loam.
Swamp soil Sw5.

The delineated area of the Woodshed association also includes much unclassified high land and depression, as well as small areas of Catumnal loam and clay loam, Barra' port sandy clay loam, Coombatook sandy clay loam and Wandella clay.

The Woolshed association is mainly given to cereal-farming and the grazing of sheep.

There is some potential for irrigation development, the principal limitations being inaccessibility to gravitational water-supply and poor drainage of the low areas. Subsoil salinity is low to moderate. Most of the association, if irrigated, would support summer fodder crops and pastures, but parts would be suitable also for horticultural crops, vegetables and lucerne.

Wychitella Association.

This is a small, but distinctive, soil association which is defined by the ironstone *gravelly ridgeland landscape unit*.

Dominant soil type:
Wychitella clay loam.

Subdominant soil type:
Wychitella loam.

The farming pursuits on the Wychitella association are wheat-growing in conjunction with grazing sheep. There is a little irrigation, but the potential for further development is good due to proximity to watersupply, low salinity, and favourable physical characteristics in the soils. The soils should be capable of supporting lucerne, summer fodder crops, pastures, and perhaps some horticultural and vegetable crops.

Yarrowalla Association.

The Yarrowalla association represents the focal point of the *prior stream woodland landscape unit* in that it includes the visible prior stream channels and nearby soils.

Dominant soil types:
Yarrowalla fine sandy loam.
Yarrowalla loam.

Subdominant soil types:
Mologa loam.
Lyndger loam.
Soils of Prior Stream Beds, Types 1 and 2.

Pompapeil sandy loam and Loga clay loam are minor soil types, while a little Towangurr clay loam are minor soil types, while a little Towangurr clay loam is included in the association as delineated on the map.

The Yarrowalla association is under both dry-land and irrigation-farming, the latter mainly in the Calivil Irrigation Area. It is the most attractive of those soil associations found in the constituted irrigation areas, and is suitable generally for the irrigation of cereals, summer fodder crops, and pastures. Parts are suitable for lucerne, and for some horticultural crops and vegetables. Soil salinity hazards are low to moderate.