

Land

Use this section to find out more about the geology, topography and soils of the Belubula River sub-catchment

Topography	2
Landform and Slope	2
Soils	2
Land Classes and Uses	3
Groundwater	4
References	4

Soil type, land capability, groundwater, slope and topography maps for the Belubula River sub-catchment are at the end of this section.

Topography

There are two main geological features in the Belubula River sub-catchment; Mt Macquarie, (1205m) near Carcoar and the southern slopes of Mt Canobolas. The peak of Mt Canobolas does not fall within the Belubula sub-catchment, however a neighbouring peak, Mt Towac (1365m) does. Areas of the sub-catchment surrounding Hobby Yards and Millthorpe have areas with an elevation of over 1000 m. The elevation drops with the Belubula River as it moves toward the Lachlan River. Some of the lower areas of the sub-catchment, for example the Junction with Panuara Rivulet, have an elevation of around 400m.

Table 1. Elevations of towns and localities in the Belubula River sub-catchment.

Elevation	Town/Locality
> 1000m	No towns but areas surrounding Hobbys Yards and Millthorpe
1000 - 750m	Millthorpe, Blayney, Barry, Hobbys Yards, Neville, Forests Reefs, Four Mile Creek, Errowanbang
750 - 500m	Panuara, Mandurama, Lyndhurst, Burnt Yards, Junction Reefs
< 500m	Canomodine, Davys Flat

The sub-catchment can be broadly divided into two sections, a higher and a lower, by the western fall of the Central Tablelands. This can be seen on the mid-western highway between Blayney and Mandurama but is broken by the valley carved by the Belubula River in which Carcoar is situated. It is most obvious when driving from Beneree to Errowanbang/Panuara and in some places the elevation can drop 300 vertical metres in one continuous fall.

Landform and Slope

The majority of the sub-catchment has slopes of between 5 and 20 degrees. These areas have been formed by Browns Creek, the Belubula River, Panuara Rivulet, Canomodine Creek, Flyers Creek, Cadiangullong Creek, Mandurama Ponds, the southern slopes of Mt Canobolas and the slopes of Mt Macquarie. Some slopes in these areas do exceed 20 degrees but do not exceed 40 degrees. Some areas of the sub-catchment, however, are flat to very mildly sloped. These areas can be found near Forest Reefs, Millthorpe, Gregahmstown and Hobby Yards.

Soils

The different types of soils

There are 28 different soil types in the Belubula River sub-catchment. Of these Vittoria - Blayney (vb) is dominant with large areas also consisting of Spring Hill (sh), Panuara (pu) and Borenore - Lyndhurst (bl). The characteristics of soils are too convoluted to include with this chapter. If you wish to acquire more information on the soils, obtain the *Soil landscapes of the 1 : 250 000 Bathurst sheet* book from your local library or the internet (see contacts section). The map provided with this chapter should be used as an indication only as local

conditions can influence soils and small patches of soils that are not shown on the map may exist within a larger area of another type. Local variability also plays a role in determining soil quality. A general rule is that ridge tops and upper slopes will differ in soil properties to the lower slopes and flats. Lower slopes and flats will *generally* have better soils that have been washed down from the ridge tops leaving the poorer rockier soils.

Soils erosion

Although the majority of the sub-catchment does not experience severe or even moderate soil erosion, some areas are prone to severe erosion. Certain soil types can be more prone to erosion but many factors determine soil erosion. A lack of vegetation on a slope that is exposed to a high intensity rainfall event is likely to cause erosion. Obviously, steeper slopes are also more prone to erosion. The main streams in the region have carved some valleys with steep slopes around Carcoar, Browns Creek, Panuara Rivulet and Canomodine Creek, as well as the southern slopes of Mt Canobolas. Areas where a combination of these factors *i.e.* lack of vegetation, steep slopes and erodeable soils, exist occur sporadically within the sub-catchment and are generally river/creek banks where minimal vegetation exists. It is, therefore, important to maintain vegetation on ground especially on steep slopes and poor soils.

Some subsidence from mine activity is evident around Cadia and Browns Creek. Mine subsidence occurs when the earth above an underground mine falls. Mine subsidence does not always lead to sheet or rill erosion, but can do if it occurs on sloped ground.

Land Classes and Uses

The land capability classes of the sub-catchment cover all classes, from 1 to 7 (land class descriptions can be found in the main Land chapter). A large proportion of land is suitable for cultivation with areas around Millthorpe, Forests Reef Blayney, Barry, Mares Flat being of the highest class. These areas are used for grazing, vegetable production e.g. potatoes and dryland cropping. Areas with moderate land classes *i.e.* class 4, are interspersed between lands with high classes and poor lands. Although the description states otherwise, these lands are also cropped but are predominantly grazed. When cropped however these lands are not as productive as class 1 or 3 lands. Land classes are determined by multiple factors including soil type and slope. For this reason, the hilly areas of the sub-catchment where the higher elevations lead down to the creeks and rivers usually fall into the lower quality land classes, even where they might have high quality basalt soils. Much of the poorer country with lower classes has been appropriately left timbered or planted to pine forests as it holds very little agricultural value. This country can be found along Canomodine Creek, the mid reaches of the Belubula River, the lower reaches of Cadiangullong Creek and Cowriga Creek, and areas surrounding Burnt Yards, Kangaroo Flat.

As was noted for the soil map, the land capability classes shown on map sc11.6 should be used as an indicator only. It is difficult to accurately map land classes so small patches of excellent land may be found in larger areas of lower classed land

Groundwater

Although variation exists in the quality of ground water throughout the entire Belubula River sub-catchment, all is suitable for domestic use. The southern slopes of Mt Canobolas have the highest quality water and this water spreads out as far as Forests Reefs and Greghamstown. It is generally found on fractured volcanic rocks. The remainder of the sub-catchment has water that is suitable for most uses and is found on fractured igneous, metasediment and unconsolidated alluvial.

References

M. Kovac, B.W. Murphy and J.W. Lawrie (1990) Soil landscapes of the 1: 250 000 Bathurst sheet. Department of Land and Water Conservation