

The principal streams of the area are the Mokihinui and Ngakawau Rivers. The Mokihinui has its sources to the east of the Marina Range, through which it flows at grade in a profound gorge. It is therefore tolerably certain that the river is of more ancient date than the mountain range. After flowing through the Seddonville Flat, the Mokihinui breaks through the coastal range by another gorge, and enters the sea. Its mouth is navigable for small vessels at high water, when, it is said, there is 18 ft. of water on the bar.

The much smaller Ngakawau River has its watershed wholly within the Buller-Mokihinui Subdivision. The main stream rises on the western slope of the Marina Range and, after being joined by a number of tributaries, enters a deep gorge with precipitous sides. This gorge is of so remarkable a character that it is described in an old sketch of the locality as a "hill cleft in twain," but it is, of course, entirely formed by stream-erosion. From the gorge the river does not emerge until the coastal plain is reached.

Forest covers by far the greater part of the country north of the Ngakawau River. Considerable clearings, however, have been made near Seddonville, and nearly all the bush has disappeared from the narrow coastal plain. In places, especially where coal-measure grit or sandstone forms the surface-rock, there are *pakihi*s, or areas destitute of forest. In one *pakihi* the surface is underlain by coarse granitic gravel, below which comes mudstone of the coal-measures. The largest *pakihi*s are the one near the head of Charming Creek and that between the middle part of Charming Creek and the Ngakawau River.

II. GENERAL GEOLOGY.

The oldest sedimentary rocks of the Buller-Mokihinui Subdivision are grauwackes and argillites which, with their metamorphic equivalents, are believed to be of approximately Ordovician age, and to belong to the Aorere Series of Bulletin No. 3. Granites certainly intrusive into the supposed Aorere rocks are associated with gneiss that may be older than the latter. Coal-measures of probable Eocene age rest with evident unconformity upon the various rocks mentioned above. Miocene strata overlie the coal-measures with some degree of unconformity. The youngest rocks of the subdivision are stream and marine gravels of Pleistocene and Recent age. Near Westport morainic material, probably deposited by the ancient Buller Glacier, is present.

The following table shows the geological formations represented in the area surveyed during the past season, together with their provisional ages:—

Name.	Provisional Age.
<i>Sedimentary Rocks.</i>	
Marine gravels	Recent.
Younger fluviatile gravels	Recent.
Older fluviatile gravels	Pleistocene.
UNCONFORMITY.	
Kongahu Series (Webb)	Miocene.
MODERATE UNCONFORMITY.	
Coal-measures	Eocene.
GREAT UNCONFORMITY.	
Aorere Series	Ordovician.
<i>Igneous Rocks.</i>	
Granite (Tuhua formation of Bulletin No. 1)	Post-Aorere.
<i>Metamorphic Igneous Rocks.</i>	
Gneiss	Probably Pre-Aorere.

Aorere Series.

The ancient sedimentary rocks of the area under description have been placed in the Aorere Series of Bulletin No. 3 mainly because they are in continuity with the similar rocks in the Mount Radiant Subdivision, which were referred by E. J. H. Webb to that series. There is reason also for thinking that the rocks in question represent the Greenland Series of Bulletin No. 6. If this is so, it follows that the Greenland Series is of Ordovician age. Further reference to this matter will be found in a bulletin upon the Greymouth Subdivision, which is now in the press.

The rocks of the Aorere Series consist mainly of grauwacke, which in many places has been transformed into hornfels by thermal metamorphism induced by intruding masses of granite. Occasionally, near granite contacts, a further transformation into a micaceous schist containing cordierite or allied mineral may be observed. Silky argillites are in evidence towards the head of the Ngakawau River.

The Aorere rocks are extensively exposed on the eastern side of Mount Kilmarnock and on the western slopes of the Marina Range. Several outcrops of hornfels, which are evidently large inclusions in granite, occur along the course of Chasm Creek.

Strike is not always observable in the Aorere rocks, but if detectable is usually approximately north and south. The dip is invariably at high angles, and more commonly to the east than to the west.