

The experts say it can't be done, but a close look at the elevations of the sources, storages and destinations for the Bradfield Scheme says otherwise.

The ideal gradient for an open gravity-fed irrigation channel is 1:5000 or 100m per 500 km. Any flatter and the flow slows and steeper risks damage. This is the typical gradient for the Roman aqueduct system totaling over almost 1000 km delivering 10,000 GigaLitres of fresh water to Rome per day.

In an eastern Bradfield Scheme, the elevation goes from 430m at Niall near the Burdekin River to Lake Buchanan over the 500km to the main storage at 340m at Lake Buchanan and 280m on Lake Galilee. This is an average gradient of 1:5000.

The water could potentially be distributed throughout the whole of the fertile black soil plains area of Central West Queensland, from Barcaldine at 267m and Aramac at 226m, to Longreach and Richmond at around 200m, as far as Julia Creek at 132m about 500 km from Barcaldine (light blue polygon). Again 1:5000.

The topography starts to rise towards Hughenden at 318m and Blackall 284m and so would set the furthest extent for a gravity-fed supply. However, the land continues to fall towards Birdsville 48m and Innaminika 16m and so could continue to be fed in a south-western direction.

The Tully Falls near Cairns at 670m elevation and Herbert River are viable sources of gravity-fed inflow to the scheme.

The black soil plains of Central West Queensland currently support mainly low intensity grazing due to the irregular water availability. However, they are well located to supply communities to the north, south, east and west with higher value agricultural products, including irrigated cotton, wheat, and horticultural products. This would be enabled by a well established infrastructure of rail and road connections.

Water from the scheme would also augment town water supplies, many of which are under extreme pressure, where the [drought-hit town of Ilfracombe](#) has even imported a temporary desalination plant.

Water from the eastern portion of the scheme may largely flow to the Muttaborra, Aramac, Longreach and Barcaldine area, while from the western portion of the scheme fed by Gulf rivers may supplement areas such as Richmond and Julia Creek.