

## **Nogoa Mackenzie Water Supply Scheme**

### **History**

The Nogoa Mackenzie Water Supply Scheme was established in 1968 to meet agricultural and mining developments and the water requirements of associated urban communities in Central Queensland. Fairbairn Dam on the Nogoa River is the main storage for the scheme.

The central feature of the scheme is the conservation of water of the Nogoa River by Fairbairn Dam, near Emerald. The storage for the dam is known as Lake Maraboon, with the Selma, Bedford, Binegang and Tartrus weirs below it on the Mackenzie River.

### **Uses of Water**

#### **Irrigation**

The main crops irrigated are cotton, citrus (mandarins, oranges and lemons) and grapes. Other crops irrigated include wheat, pulse crops, sorghum, maize, lucerne, oats, barley and sunflowers.

#### **Urban Water Supplies**

Water from Fairbairn Dam is released down the Nogoa River to the Selma Weir for supply to the town of Emerald. Supplies are diverted by pipelines to the towns of Blackwater, Bluff, Tieri, Dysart and Middlemount.

#### **Industrial**

Water from Fairbairn Dam is released to supply massive coal mining developments on the Bowen Basin.

SunWater's Blackwater Pipeline provides water to several mines and the town of Blackwater.

Several other pipelines owned by mines divert water from the scheme to support various mining operations.

### **Major Storage**

#### **Fairbairn Dam**

Fairbairn Dam is built across the Nogoa Gap about 19 kilometres upstream (south) of the town of Emerald, in Queensland's central west.

Work on the dam commenced in 1968 and was completed in December 1972. Storage of water commenced in January 1972 and the dam filled and overflowed for the first time two years later.

### **Channel/Pipeline System**

Water is diverted from Fairbairn Dam to two channel systems to customers via a network of mostly open-earth channels.

### **Selma Channel System**

The Selma Channel System supplies water to the left bank, west and north of Emerald. The channel is approximately 47 kilometres long and supplies subsidiary channels totalling a further 26 kilometres. The left bank outlet which releases water into the Selma Channel System is at a relatively high level and a pump station is required to lift water into the outlet channel for peak demand periods when the storage level falls. The pump station is located in the left bank wall of the spillway and is equipped with three variable discharge pumps.

### **Weemah Channel System**

The Weemah Channel System supplies water to the right bank irrigation area east of Emerald. The channel is approximately 53 kilometres long.

The right bank outlet which releases water into Weemah Channel and the Nogoia River consists of a 6 metre diameter tunnel with an intake tower housing control gates at the upstream end. The tunnel was used to divert the river during construction of the dam.

Surface drainage systems are in place to provide drainage services in the area. The total length of drains is 204 kilometres.