

**Submission
No 16**

INQUIRY INTO WATER AUGMENTATION

Name:Name Suppressed

Date received: 14 June 2016

Partially
Confidential

The Hon Robert Brown MLC

Chairman

Inquiry into the augmentation of water supply for rural and regional New South Wales

www.parliament.nsw.gov.au

Submission to the inquiry

There has long been an opportunity to utilise the large water catchment area of the Macleay River for the long term good of the population. The project has been on the agenda several times, over decades, without yet eventuating. Hopefully you can cause it to happen.

Introduction

The Macleay River valley catchment is large – 110500 sq km (4,581 sq miles). More than half of the catchment is more than 900metres (3,000 ft) above sea level.

Flooding of the Macleay River valley is a regular occurrence and often disastrous. Measurement of the flood heights, at the Kempsey traffic bridge, is minor 4.0 m, moderate 5.2 m and major 6.1 m.

The August 1949 flood caused the deaths of six persons, 53 homes & businesses were swept away, over 15,000 head of cattle & other livestock died, scores of other buildings were wrecked.

A flood mitigation scheme was constructed to provide some control of flood waters. The flood mitigation scheme when managed correctly does provide some control in minor and moderate floods. It is ineffective in major floods.

Studies have been done to determine what might happen in a 'maximum possible flood'. A maximum possible flood would measure 11.7 m at the Kempsey traffic bridge & would cause widespread disaster. All buildings in Smithtown, Gladstone, Kinchela & Jerseyville would have flood levels above home & business roof levels.

The 'maximum possible flood' would be more than 3 metres higher (at the Kempsey traffic bridge) than the 1949 flood.

It is worth noting that the Kempsey bypass of the Pacific Highway proposed to use earth walls for the section across the lower Macleay River floodplain. Flood studies highlighted the negative effects which would be caused by the earth wall highway. As a result the plans for the earth wall highway were cancelled and replaced by a long concrete pier bridge. That bridge, now in use, is the longest bridge in Australia.

Flood control – dams in the upper Macleay River catchment area

Control of flood peaks can be controlled by management of water levels in dams.

When dams are constructed in the upper Macleay River catchment area water levels in the dams can be reduced, by outflow, when a flood is predicted. When the flood rains arrive the dam water levels can be managed to reduce flood peaks.

For effective control of flood water peaks there should be at least three dams. One in the north west of the catchment area, one in the west of the catchment area & one in south west of the catchment area.

Water storage dams

In addition to flood water management the dams will provide other positive outcomes.

Drought control

Water storage dams can provide essential farm water supplies in drought times.

Human consumption

Water storage dams can provide high quality water for human consumption. In this instance the water can be shared across the populations of the Macleay Valley, the Nambucca Valley & the Hastings Valley. In this instance the water storage dams can provide water supplies to the feeder dams already in place at West Kempsey, Bowraville & Wauchope.

Agricultural use

The water storage dams can provide water to rural areas to increase the output & effectiveness of farming activities.

Hydro electricity generation

The water storage dams can provide electricity supplies by hydro electric generators contributing to the NSW electricity supplies. There is in place a small dam at Oaky River, with a hydro electric generator, which could be a part of the network.

Sharing water – across The Great Dividing Range

It is possible to effectively divert water from the upper Macleay River catchment to the west. A 1981 study by Rankine & Hill Pty Ltd identified ten suitable dam sites for water diversion to the Gwyder River Basin & the Namoi River Basin.

Summary

The annual discharge of water, from the Macleay River, into the ocean is 2.1 million megalitres. That water can be effectively used for the benefit of current & future populations of the Mid North Coast & New England regions.

The effective flood management by dams is an urgent & essential matter.

This submission has been written in consultation with Mr Mark Rogers Registered Surveyor & Clr Bruce Morris B Eng (Civil) Hons.

I look forward to your positive response in the above matters.

Yours faithfully,

References

The Jacka Report – 1954

Inland Diversion of NSW Coastal Streams – Rankine & Hill Pty Ltd 1981

Webb McKeown & Associates 1985, 1989, 1999, 2004, 2009