

Additional info – dot points on Burrinjuck dam increased capacity.
Page 51 ; Question on Notice – The Hon. Penny Sharpe to Paul Pierotti,
Where did you get those figures from (OEH Water Trading 2015)

ANSWER:

<http://www.environment.nsw.gov.au/resources/environmentalwater/150807-environmental-water-outcomes.pdf>

NSW environmental water trade OEH's Environmental Water Business Plan allows for the periodic trading of water allocations in the accounts of OEH water access licences to pay for some of the costs of managing water for the environment. Funds may also be used to purchase allocations or implement small-scale projects that improve environmental watering outcomes. In 2014–15, OEH purchased 5643 megalitres and sold 2350 megalitres in the NSW southern connected system (Murrumbidgee and Murray (NSW) rivers). Trading will continue to occur in future years so as to manage the portfolio for maximum environmental benefit.

Regards,

Paul Pierotti | President

www.griffithbusinesschamber.com.au

Enlarging Burrinjuck Storage Reservoir.

Burrinjuck dam wall is currently 93 metres high and 361 metres above sea level

Burrinjuck wall is 233 metres long and Burrinjuck dam has a surface area of 5500 hectares and dam capacity is 1028 gig litres

On a topographical map if the 400 metre above sea level contour is used the dam surface area would increase to an estimated 8000 hectares and have no impact on Yass

The new dam wall could raise the level by up to forty metres (400 metres above sea level) and increase the potential storage volume to four thousand gig litres

The new dam's design would overcome cold water issues caused by water releases from valves at the bottom of dam at present

At 133 metres high the new wall would be relatively low compared to Dartmouth Dam which is 180 metres tall, the world's tallest dam walls are 300 metres high

Wee Jasper would be inundated (population 80) and several properties, portions of properties, recreational areas, Eco resort and holiday houses would need to be resumed

At present Burrinjuck covers an area of 5,500ha. The catchment area of Burrinjuck Dam is 12,953km², which is larger than the catchment area of Dartmouth Dam (3,600 km²) and the whole of the Snowy Mountains scheme (9,070km²)

Burrinjuck catchment is 1,295,300 hectares (100 mm of runoff per hectare equates to 1 megalitre) of catchment area totals 1295 gig litres of runoff

The average annual rainfall of the Burrinjuck catchment is 900 mm with snow areas as high as 1700mm

In 2010 **1800 gig litres** flowed into Burrinjuck in a six month period

In 2012 over 170 gig litres per day were spilled from Burrinjuck for a short period

There may be a possibility to build a new dam wall downstream from the existing wall (100 years old) or even to build a new wall insitu incorporating the existing wall

There are many advantages in a much larger storage being built

An extra two thousand gig litres could be stored for the environment (Burrinjuck can deliver environmental flows below the "Barmah choke" on the Murray River thus reducing flood damage to Murray River properties) much of the water held by Commonwealth Environmental Water Holder could be sold back for productive use

1. Environmental flows could be held in a larger Burrinjuck and used in drier times to keep the lower lakes of South Australia fresh, this in turn raises the possibility of returning them to their original state as an estuarine body of water as they were before the barrages were constructed

2. An airspace for flood mitigation of up to 1000 gig litres could be maintained to alleviate major floods on the Murrumbidgee and eliminate leakage (present management of Burrinjuck requires releases of water prior to spilling to maintain air space for flood mitigation)
3. With weather events becoming much more volatile due to climate change it is paramount to be able to harvest these extreme events eg 2010 was the wettest year in the Burrinjuck catchment on record
4. A pipeline (54 kilometres) connecting Blowering Dam could be constructed as the two dams would now have a similar wall crest height above sea level
5. A pipeline (250 kilometres) could be constructed to provide water to Sydney Canberra and Goulburn (Canberra and Goulburn water would have to be pumped with off peak power) to drought proof their water supplies. Sydney's water supply dam Lake Burragong (Warragamba Dam) wall crest is 125 metres above sea level (250 metres lower than proposed Burrinjuck wall crest)
6. With a difference in elevation of 250 metres between the wall crests of Burrinjuck and Sydney's Warragamba dam there would be great potential for more hydroelectricity to be generated with the Sydney pipeline
7. Hydro power could be generated at the new Burrinjuck wall as well as numerous sites along the new pipeline all the way to Sydney (250 metres of head)
8. The new wall would be of similar gross dimensions (similar amount of material required if rock fill) to Dartmouth Dam completed in 1979 at a cost of \$139 million which in today's dollars would be \$1.25 billion
9. If a value of **\$1000 a megalitre** is given (much less than the federal government has been spending on buybacks) a budget of **\$2 billion dollars** is on the table (**At \$2000 a megalitre** the budget would become **\$4 Billion**)
10. There will need to be an extensive engineering study to determine the optimum outcome
11. Costs for relocation of residents of Wee Jasper if necessary (population 80) resumption of land and rerouting of roads which will be inundated will have to be undertaken in order to arrive at a total cost for this project
12. **NB This all only preliminary research and areas and quantities would need to be verified by mapping authority engineers and surveys**