

NULLINGA DAM AND OTHER OPTIONS PRELIMINARY BUSINESS CASE 2017 SUMMARY OF COST BENEFIT ANALYSIS



The Nullinga Dam and Other Options Preliminary Business Case considered four shortlisted options. A summary of the cost benefit analysis for each option is provided below.

Option 1: Do minimum (base case) and sensitivity analysis

- The historic base case is considered as a continuation of the current patterns of production within the designated study area and the absence of any policy or infrastructure interventions. All quantified benefits and costs in the cost benefit analysis are incremental changes against option 1 do minimum (base case).
- The sensitivity analysis showed significant changes in the economic net present value and benefit cost ratio depending on the different parameters used in the economic modelling, in particular the use of a shorter or longer timeframe for the projected take-up of new water allocations by irrigators. Given the preliminary nature of the economic analysis in the preliminary business case stage, close consideration should be given to the range of results reported in the outputs to the economic model.

Option 2: Improve Mareeba Dimbulah Water Supply Scheme (MDWSS) rules and operation

- Once fully implemented, option 2 could generate an additional \$1 million per annum of value added to the economy due to increased agricultural production.
- The medium scenario is an economic net present value of \$31 million with a benefit cost ratio of 11.4.
- The upper bound (worst case) of the sensitivity analysis is an economic net present value of positive \$4 million with a benefit cost ratio of 1.8.

Option 3: Modernise MDWSS and convert losses

- Once fully implemented, option 3 could generate an additional \$10 million per annum of value added to the economy due to increased agricultural production.
- The medium scenario is an economic net present value of \$73 million with a benefit cost ratio of 2.8.
- The upper bound (worst case) of the sensitivity analysis is an economic net present value of negative \$9 million with a benefit cost ratio of 0.8.

Option 4: Nullinga Dam for agricultural use

- Once fully implemented, option 4 could generate an additional \$34 million per annum of value add to the economy due to increased agricultural production.
- The medium scenario is an economic net present value of \$6 million with a benefit cost ratio of 1.
- The upper bound (worst case) of the sensitivity analysis is an economic net present value of negative \$163 million with a benefit cost ratio of 0.4.

Refer to the *Nullinga Dam and Other Options Preliminary Business Case*, Chapter 14—Economic analysis, on Building Queensland’s website for further information: www.buildingqueensland.qld.gov.au