The Senate

Standing Committee on Rural and Regional Affairs and Transport

Options for additional water supplies for South East Queensland

August 2007

ISBN 978-0-642-71826-6

This document was prepared by the Senate Standing Committee on Rural and Regional Affairs and Transport, and printed by the Senate Printing Unit, Department of the Senate, Parliament House, Canberra.

MEMBERSHIP OF THE COMMITTEE

Members

Senator the Hon. Bill Heffernan	LP, New South Wales	Chair
Senator Rachel Siewert	AG, Western Australia	Deputy Chair
Senator John Hogg	ALP, Queensland	
Senator Barnaby Joyce	NATS, Queensland	
Senator the Hon Ian Macdonald	LP, Queensland	
Senator Claire Moore	ALP, Queensland	
Senator Kerry O'Brien	ALP, Tasmania	
Senator Russell Trood	LP, Queensland	

Participating Members involved in the inquiry

Senator Andrew Bartlett	AD, Queensland
Senator the Hon Ronald Boswell	NATS, Queensland

Committee Secretariat

Ms Jeanette Radcliffe, Secretary
Ms Kerrie Martain, Principal Research Officer
Ms Trish Carling, Senior Research Officer
Ms Rosalind McMahon, Executive Assistant

Parliament House, Canberra
Telephone: (02) 6277 3511
Facsimile (02) 6277 5811

Internet: www.aph.gov.au/senate
Email: rrat.sen@aph.gov.au

Table of contents

Abbreviations

ACF	Australian Conservation Council
AFTCRA	Australian Freshwater Turtle Conservation and Research Association
CEO	Chief Executive Officer
CFTF	Community Futures Taskforce
CG	Coordinator General
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
COAG	Council of Australian Governments
DPIF	Department of Primary Industries and Fisheries – Queensland
DNRW	Department of Natural Resources and Water - Queensland
EIS	Environmental Impact Statement
EPA	Environment Protection Agency - Queensland
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FIDO	Fraser Island Defenders Organisation
FSL	full supply level
GHD	GHD Pty Ltd
GL/a	gigalitres per annum
IQQM	Integrated Quantity and Quality Modelling
IUCN	International Union of Conservation of Nature and Natural Resources
LARC	Logan and Albert Rivers Catchment Association Inc
ML/a	megalitres per annum

NACCAP	National Agriculture and Climate Change Action Plan
NAPSWQ	National Action Plan for Salinity and Water Quality
NBCCAP	National Biodiversity and Climate Change Action Plan
NES	national environmental significance
NHT	Natural Heritage Trust
NWI	National Water Initiative
Qld	Queensland
QWC	Queensland Water Commission
QWI	Queensland Water Infrastructure Pty Ltd
QWIPL	Queensland Water Infrastructure Pty Ltd
ROL	Resource Operations Licence
SEQ	South East Queensland
SMEC	Snowy Mountains Engineering Corporation Australia
the GHD Report	GHD Pty Ltd, *South East Queensland Regional Water Supply Strategy - Desktop Review of Identified Dam and Weir Sites*, June 2006
the MJA Report	Marsden Jacob Associates, *The economics of rainwater tanks and alternative water supply options*. Prepared for the Australian Conservation Foundation, Nature Conservation Council (NSW) and Environment Victoria, April 2007
the Review Report	Turner, A., Hausler, G, Carrard, N, Kazaglis, A., White, S, Hughes, A and Johnson, T., *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February 2007
the SMEC Report	Snowy Mountains Engineering Corporation Australia, *Integrated Water Supply Options for north east New South Wales and south east Queensland*, 2007

WPSQ	Wildlife Preservation Society of Queensland
WRP	Water Resource Plan
WWF	World Wide Fund for Nature (Australia)

Recommendations

Recommendation 1

7.13 The committee recommends that the Commonwealth Minister for Environment and Water Resources, when exercising authority under the EPBC Act, considers the evidence received on the potential environmental impact of the Traveston Dam on the Mary River and the species of the river. The committee also recommends that the Minister reviews the results of the audit on the Paradise Dam approval conditions to mitigate any potential effect on threatened species.

Recommendation 2

7.14 The committee recommends that the Queensland Government continues to:

- **instigate strategies that will inform, engage and consult with members of the affected communities;**
- **ensure that businesses affected by the proposed dams are adequately compensated and offered appropriate assistance; and**
- **where possible, facilitate the timely release of copies of reports and information to members of the community to achieve a transparent and open process.**

Chapter 1

Introduction

Terms of reference

1.1 On 26 February 2007, the Senate referred the following matter to the Senate Standing Committee on Rural and Regional Affairs and Transport for inquiry and report:

> The examination of all reasonable options, including increased dam capacity, for additional water supplies for South East Queensland, including:
>
> (a) the merits of all options, including the Queensland Government's proposed Traveston Crossing Dam as well as raising the Borumba Dam; and
>
> (b) the social, environmental, economic and engineering impacts of the various proposals.[1]

Conduct of the inquiry

1.2 The inquiry was advertised in *The Australian*, *The Courier Mail*, and *The Northern Star* and through the Internet. The committee invited submissions from a wide range of interested organisations, government departments and authorities and individuals. The committee continued to accept submissions throughout the inquiry.

1.3 The committee received 246 public and 3 confidential submissions. A list of individuals and organisations that made public submissions to the inquiry together with other information authorised for publication is at Appendix 1. The committee held public hearings in Gympie, Brisbane and Canberra. A list of the witnesses who gave evidence at the public hearings is available at Appendix 2. The committee was pleased to undertake inspections of the proposed Traveston Crossing Dam site and the Borumba Dam site.

Scope of the inquiry

1.4 The committee acknowledges that under the Constitution, the management of water resources in Australia is a state responsibility. In conducting this inquiry, the committee spoke to, and heard from, many people who are directly and indirectly affected by various Queensland Government initiatives which aim to secure future water supplies. Throughout the inquiry, the committee has been very conscious that members of the affected communities and other interested stakeholders may have

---

1 Senate Notice Paper, No. 129–26 February 2007, p. 2.

expectations that the Senate, through this committee inquiry process, may be able to affect change and influence the progress of certain initiatives. The committee recognises that the Commonwealth Government is significantly restricted in its ability to influence both the decisions made by the Queensland Government and the processes undertaken in implementing various water supply initiatives. However, the Commonwealth Government does have a role to play in the assessment and approval processes of 'controlled actions' under the *Environment Protection and Biodiversity Conservation Act 1999*. A number of initiatives fall under this category, including the Traveston Crossing Dam and the Wyaralong Dam. The committee is clearly aware of the limitations it faces in respect of this inquiry and intends to make accurate and forthright comments on the evidence received and detail appropriate and practical recommendations.

The committee's report

1.5 Due to the broad range of issues covered within the inquiry's terms of reference, the committee has grouped related themes and topics together and allocated chapters accordingly. Chapter 1 provides a general overview of the inquiry process. Chapter 2 provides relevant information on the region of South East Queensland and the government structures in place to develop initiatives and implement strategies to secure and manage water supply.

1.6 Chapters 3, 4 and 5 relate to the proposed Traveston Crossing Dam and the proposed Wyaralong Dam. The committee received a significant amount of evidence on these dams and has split the three chapters as:

- Chapter 3 – a description of each of the proposals including evidence addressing the decision making process, the technical aspects of the dam, such as site suitability, and the cost of the dam;
- Chapter 4 – the social impact of the dams including community engagement and consultation and the affect on the communities; and
- Chapter 5 – the environmental impact of the dams including the Commonwealth Environmental Impact Statement approval process and the identified species impacted by the dams.

1.7 Chapter 6 considers the majority of evidence received regarding other alternative water supply options for South East Queensland and chapter 7 details the committee's conclusions and recommendations.

Acknowledgement

1.8 The committee thanks those organisations and individuals who made submissions and gave evidence at the public hearings. The committee would like to express its appreciation and thanks to the Queensland Government for their contribution and cooperation during this inquiry. In particular, members of the committee appreciated the opportunity to undertake site visits at the proposed Traveston Crossing Dam and Borumba Dam sites.

Note on references

1.9 References in this report are to individual submissions as received by the committee, not to a bound volume. References to the committee Hansard are to the proof Hansard: page numbers may vary between the proof and the official Hansard transcript.

Chapter 2

South East Queensland

2.1 Chapter 2 provides a brief outline of the elements influencing the supply of, and demand for, water in South East Queensland (SEQ). This chapter also provides the demand projections utilised by the Queensland Government and outlines some of the major reports and research undertaken by the Queensland Government. At the conclusion of this chapter, the initiatives which are being implemented or have been identified for consideration to address water shortages and secure future supply are listed, and the government agencies and authorities who have roles and responsibilities in developing infrastructure and the delivery of water supplies to SEQ are identified.

Introduction

2.2 SEQ as a region is experiencing the compound effects of the worst drought in more than 100 years, a booming residential population and the prospect of continuing irregular rainfall due to natural climate variability and long-term climate change.[1] Existing water supplies previously thought to be long-term and secure are currently at or have recently been at record lows. For example, inflows to the major dam systems in 2006, the Wivenhoe, Somerset and North Pine, are the lowest on record and these systems were at 20.5 per cent of capacity in April 2007.[2] The drought has exposed the vulnerability of the region's water supplies and the fact that SEQ is experiencing huge population growth to the amount of 50,000–60,000 people per annum is increasing the water demand in an already stretched system.[3]

2.3 Level 5 water restrictions were introduced in SEQ on 10 April 2007, as dam capacities dropped below 20 per cent. Water restrictions apply to households as well as businesses, industries and government agencies, and these restrictions now also address water use by some power stations and licensed irrigators. The Queensland Government will also focus on household water efficiency through a high volume water usage audit.[4]

2.4 The Queensland Water Commission have stated that SEQ residential water consumption has already reduced from a pre-restrictions level of approximately 300 litres per person per day to approximately 180 litres per person per day under level 4

---

1 Queensland Government, *Submission* 166, p. 6.

2 *Submission* 166, p. 9.

3 *Submission* 166, p. 32; for information on population projections, see pp 41–42.

4 Queensland Water Commission, *Draft for Consultation The Framework for a South East Queensland Regional Demand Management Program 2007–2009*, p. 10. http://www.qwc.qld.gov.au/myfiles/uploads/Regional%20Demand%20Management%20Framework%20Consultation%20Paper.pdf (accessed 19 July 07).

water restrictions.[5] The 'Target 140 campaign', a coordinated education and awareness program, focusing on achieving a regional average target of 140 litres per person per day has been implemented. The campaign has the potential to deliver significant water savings and influence a more sustainable post-drought level of residential water consumption.[6] Mr Ken Smith, Director General, Department of Infrastructure, Queensland indicated that people living in Queensland have responded well to the current water crisis and requests for a decrease in residential water usage:

> The community are responding marvellously. To get the level down, we had a target of 140 litres. People have got down to 147 litres, which…is the lowest level of average utilisation per person of any urban city in Australia—probably around the world, really.[7]

Existing water supplies

2.5 SEQ has 19 major urban surface water storages with a diverse ownership of 12 separate proprietors including: SEQWater, Sunwater, local governments and a local government cooperative.[8] The Queensland Government is working cooperatively with local governments to implement drought contingency projects and ensure the security of the water supply. Water Resource Plans (WRP) have recently been finalised for catchments in the SEQ region. These plans define the balance between water to be available for consumption and water to be available for environmental purposes.[9] The Queensland Government explained the importance of WRPs when considering alternative water supply options, and stated that:

> WRPs are developed through detailed technical and scientific assessment as well as extensive community consultation to determine the right balance between competing requirements for water…When comparing various supply sources, the restrictions imposed on supply sources by WRPs must be considered. Hence, it may be that a particular water source may be favourable in an economic and financial sense but cannot demonstrate compliance with the relevant WRP.[10]

2.6 The Queensland Government indicated that while the total supply from the major urban water sources in SEQ is 636,000 megalitres per annum (ML/a), not all of

---

5 Queensland Water Commission, *Draft for Consultation The Framework for a South East Queensland Regional Demand Management Program 2007–2009*, p. 11. http://www.qwc.qld.gov.au/myfiles/uploads/Regional%20Demand%20Management%20Framework%20Consultation%20Paper.pdf (accessed 19 July 07).

6 Queensland Water Commission, *Draft for Consultation The Framework for a South East Queensland Regional Demand Management Program 2007–2009*, pp 11–12. http://www.qwc.qld.gov.au/myfiles/uploads/Regional%20Demand%20Management%20Framework%20Consultation%20Paper.pdf (accessed 19 July 07).

7 *Committee Hansard*, 04 June 07, p. 98.

8 For full details of major urban water sources in SEQ see, *Submission* 166, p. 68.

9 *Submission* 166, p. 47.

10 *Submission* 166, p. 76.

this supply is actually available for consumption in SEQ as historical no failure yield amounts for some water sources have been downgraded due to the drought. The total available supply in the region is only 528,259 ML/a.[11]

Water demand projections

2.7 The Queensland Government provided extensive information detailing urban and industrial water demand projections and highlighted that numerous assumptions underpin these forecasts, such as the accuracy of population projections, the assumed uptake or penetration rates of non-mandatory water efficiency opportunities and the achievement of predicted rainwater tank yields.[12] The Queensland Government stated that:

> Unrestricted existing urban and industrial water demands are about 480,000 ML/a. The early implementation of water use efficiency and customer side source substitution measures is likely to reduce SEQ urban and industrial demand projections by about 30,000 ML/a. SEQ water demands are anticipated to be about 520,000 ML/a in 2026 and 710,000 ML/a in 2051. If high series population projections eventuate, the equivalent 2026 and 2051 demands are 590,000 and 1,100,000 ML/a.[13]

2.8 On the basis of the supply/demand gap analysis undertaken by the Queensland Government between 540,000 and 720,000 ML/a will need to be provided to satisfy projected 'business as usual' demand by around 2051 and between 150,000 and 200,000 ML/a of contingency will need to be identified and pre-planned.[14]

2.9 The committee received a report titled *Review of Water Supply-Demand Options for South East Queensland – Final Report* (the Review Report) which questioned the Queensland Government's demand projection figures.[15] The Review Report made the following comments:

> The assumptions [regarding the level of restrictions (frequency, depth, duration)] now being used are very conservative, and differ significantly from standards that apply in comparable cities. In addition there is no clear evidence that these changes have been based on any surveys or community engagement processes to determine what is deemed acceptable to the community.
>
> …

---

11 *Submission* 166, pp 66–67.

12 For further information on the water demand forecasting see *Submission* 166, pp 48–64.

13 *Submission* 166, pp 49 and 89–92.

14 *Submission* 166, p. 79. For full detail on the supply/demand gap analysis, see *Submission* 166, pp 86–90.

15 A.Turner, G.Hausler, N. Carrard, A. Kazaglis, S. White, A. Hughes, T. Johnson. (2007) *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February.

> The figure of 300 litres per capita per day being used for [business-as-usual] projections is significantly higher than the demand in comparable eastern seaboard capital cities. This projection being used to forecast to 2050 is therefore likely to be a significant overestimate, as it does not adequately take into consideration expected downward pressure on water demand due to changes in land use (urban consolidation and the shift to more flats and units with the associated reduction in lawn and garden area) and the improving efficiency of water using equipment such as dual flush toilets and washing machines.
>
> The Queensland Government estimate of the supply-demand gap is considered to be extreme and unjustified. The combination of these projections of reduced yield and elevated demand has implications for the supply-demand balance in 2050 of several hundred billion litres per year (GL/a).[16]

2.10 Mr John Bradley, CEO, Queensland Water Commission responded to the comments made in the Review Report on demand projections and stated:

> There are some significant errors in that analysis which raise concerns about the conclusions that it draws, particularly around its assessment of base line demand. They questioned the use within the SEQ regional water supply strategy study of 300 litres per person per day and said that that is excessive. They said that on the basis of interstate comparisons rather than a substantiated analysis of demand. What we have done within the SEQ regional water supply strategy over a long period is the largest study ever undertaken of demand management trends, using very sophisticated analysis undertaken by Montgomery Watson Hauser to assess our demand trends and the achievable savings we can make in demand management. It is because of this difference in opinion on demand management that Professor White came to a very different conclusion.[17]

Water allocations and the price of water

2.11 The Queensland Government do not have pricing signals in their water market. When questioned on their view of pricing signals, Mr Ken Smith, Department of Infrastructure, Queensland, commented on a report released by the Queensland Water Commission on pricing issues and stated that in that report 'there is a proposal with respect to both the wholesale price of water and the impact on the retail price of water'.[18] Mr Bradley also commented that 'the government has made an early response to the commission's report indicating that they would be prepared to accept lower rates of

16 *Review of Water Supply-Demand Options for South East Queensland*, p. i; for further information on water demand projections see pp 8–12 and pp 69–71; See also Professor Stuart White, Institute of Sustainable Futures, *Committee Hansard*, 17 April 07, pp 50–53 and 58–59.

17 *Committee Hansard*, 18 April 07, p. 93.

18 *Committee Hansard*, 18 April 07, p. 88.

return on the drought infrastructure in order to minimise price shock for the community'.[19]

2.12 The Queensland Government provided some evidence on the number of water licences allocated in SEQ incorporating both sleepers and dozers (unused or little used allocations). In their modelling, the Queensland Government have assumed that all licences are being utilised and have identified that the next step would be further consultations to quantify actual use. Mr Graeme Newton, CEO, Queensland Water Infrastructure Pty Ltd (QWI), commented 'the reality is that they [sleepers' and dozers' licences] are not all being used, but the quantum is not yet defined because it is actually quite a thorough consultation process'.[20]

Queensland Government

2.13 The Queensland Government has over many years conducted studies and developed strategies and plans incorporating the region of SEQ, which identify initiatives to secure water supplies for the region. This section provides comments on studies, reports and initiatives that have been discussed at length in evidence and have been identified as particularly relevant to the water issues experienced in SEQ. Further information can be found in the Queensland Government's submission and supporting documents provided to the inquiry.

Government studies and reports

2.14 The Queensland Government provided a number of reports and additional information to the committee as evidence. The full reference details for the reports referred to in this report are available in Appendix 3.

2.15 Two past reports, one titled *SEQ Sources Study* published in 1991 and the second report titled *The SEQ and Water and Wastewater Management and Infrastructure Study – Final Report for Phase 1 – Water Sources and Infrastructure Needs – April 1999* noted that the Wyaralong Dam and the Borumba Dam sites have been identified as alternative supply sources and have been considered for development at various times.

2.16 A report produced in 1994 titled *The Water Supply Sources for the Sunshine Coast and the Mary River Valley* identified that the Traveston Crossing Dam on the Mary River did not warrant further investigation as a water supply source. The report stated the following reasons '[e]xtensive alluvial flood plain on right bank. Cost for dam updated from 1977 is $125 million. Damsite considered unsuitable because of high

19 *Committee Hansard*, 18 April 07, p. 89.

20 *Committee Hansard*, 04 June 07, p. 113.

capital cost, inundation of prime agricultural land and displacement of rural population'.[21]

2.17 The *SEQ Regional Water Supply Strategy – Stage 2 Interim Report* was released in January 2006 and outlined the approach needed to ensure water supplies meet the short and medium-term water needs. It also provided details of short-term priority projects and contingency planning initiatives to be commenced in the period 2005–2009, and provides a commitment to medium-term (2010–2020) and possible long-term (2021–2051) initiatives. Mr David Gibson, Member for Gympie, commented on the absence of consideration of the Traveston Crossing Dam initiative in this report:

> …with regard to the South East Queensland Regional Water Supply Strategy—the government was very clearly and very openly talking about a weir on the Mary River at Coles Crossing... They reinforced that on 7 April with another ministerial statement saying that they would proceed with that weir. On 20 April we have both the minister at the time and the Premier committing to the South East Queensland Regional Water Supply Strategy which talks about a weir. Seven days later, they talked about a dam—a mega dam is how they addressed it—on the Mary River. The people of this electorate were understandably very confused and incredibly frustrated at the information that became available. Why was there a change from a two-year report that the government commissioned to determine what were the best water supply strategies to then suddenly—within seven days—appear to disregard that report?[22]

2.18 The report titled *SEQ Regional Water Supply Strategy - Desk Top Review of Identified Dam and Weir Sites - Report to the Bulk Supply Infrastructure Task Group* (the GHD report) was released in June 2006. This report was commissioned by the Queensland Government and prepared by consultants GHD Pty Ltd (GHD) who were asked to conduct a desktop review of existing reports and data and publicly available information regarding dam and weir sites that had previously been identified in the region.[23] In preparing this report, GHD were specifically asked to:

- make recommendations regarding those sites that did not warrant further consideration; and
- identify any shortfalls in available information that had the potential to impact on the viability of a particular development.

---

21 Department of Primary Industries (DPI) Water Resources, *Water Supply Sources for the Sunshine Coast and the Mary River Valley*, December, 1994, p. 53.

22 *Committee Hansard*, 17 April 07, p. 30.

23 For further information, see *Submission* 166, pp 43–47.

Legislative amendments

2.19 The *Water Amendment Regulation (No.6) 2006* (Qld) was made as a response to the worst drought on record and aimed to expedite the coordinated delivery of initiatives and projects. The Queensland Government explained the intention of the amendment:

> To ensure adequate supplies are maintained, the Queensland Government is working with QWC, SEQWater, SunWater and SEQ councils to develop and implement the large range of emergency projects and other drought contingency measures detailed in the Water Amendment Regulation (No. 6) 2006. These emergency projects and other measures (such as water restrictions) are collectively designed to ensure ongoing water supply in the event that the current drought continues.
>
> The Water Amendment Regulation (No.6) 2006 provides a coordinated set of actions to be undertaken by a number of State and local government entities and provides details on project measures, outcomes, timelines and target water volumes to be achieved.
>
> Service providers develop monthly progress reports on their projects for publication on the QWC website.[24]

2.20 The Queensland Government confirmed that a range of projects that QWI are responsible for are included in the regulation. Mr Ken Smith stated '[a]s you know, it was not just Traveston; it was a range of projects that QWI are responsible for…All the ones we are talking about were in it: Wyaralong, Cedar Grove Weir. There is a range of projects that were part of that'.[25]

2.21 Many witnesses and submitters questioned whether the Traveston Crossing Dam initiative should be included in this regulation, given that Stage 1 of the initiative will not be operating until 2011.[26] Professor Stuart White, Director of the Institute of Sustainable Futures and one of the authors of the Review Report commented:

> …the Traveston Dam is not designed to solve the current drought. This is an extremely important point…Unfortunately I am not sure that that understanding is shared within the wider south-east Queensland community, and it is extremely important in assessing this dam. This dam must be assessed on its contribution to the medium to long-term supply demand balance for south-east Queensland, not on its ability to solve the current drought. This is despite the fact that it is included in the emergency legislation as if it were part of that drought response package, which, as many of you realise, is quite anomalous.[27]

---

24 *Submission* 166, p. 46.

25 *Committee Hansard*, 18 April 07, p. 135.

26 For example see, *Submission* 182; *Submission* 186; *Submission* 192.

27 *Committee Hansard*, 17 April 07, p. 45.

2.22 The Queensland Government explained the reasoning for including the Traveston Crossing Dam in the regulation, and stated:

> The reason for including Traveston Crossing Dam and other projects such as Wyaralong Dam and Hinze Dam Stage 3 in the Regulation was to include a comprehensive enunciation of the short and medium term priorities of the Queensland Government in achieving water security in SEQ and to indicate the responsibilities of all water service providers and the State.[28]

Demand and supply initiatives

2.23 The Queensland Government has stated that 'a single solution to the long-term water needs of SEQ does not exist' and is therefore instituting a Water Grid which adopts a multi-faceted approach to meet future water demands. This approach includes demand site management and the diversification of supply sources, comprising dams and weirs, desalination, recycling and ground water sources.

2.24 A range of demand management initiatives will be implemented by the Queensland Government to target business and industry as well as residents with rebate schemes and incentive programs. The offer of subsidies to local governments has been expanded to accelerate the implementation of pressure and leakage management programs.[29]

2.25 The Queensland Government identified the main bulk supply options to meet the projected demands in SEQ as:

- additional ground water supplies;
- desalination;
- recycling; and
- new dams and weirs.[30]

2.26 The diversification of supply sources combined with a significant infrastructure investment program provide the following water supply initiatives:

- Western Corridor Recycled Water Project;
- SEQ (Gold Coast) Desalination Project;
- Southern Regional Water Pipeline;
- Northern Pipeline Interconnector;
- Eastern Pipeline Interconnector;
- Cedar Grove Weir;

---

28 Queensland Government, answer to question on notice, 30 April 2007, (received 31 May 2007).

29 For further information on recent urban demand initiatives, see *Submission* 166, pp 59–61.

30 For further detail on the bulk supply options, see *Submission* 166, pp 69–77.

- Bromelton Offstream Storage;
- Wyaralong Dam; and
- Traveston Crossing Dam.

2.27 More detailed information on each of the initiatives listed above is available at Appendix 4. The majority of evidence the committee received was in relation to the Traveston Crossing Dam and the Wyaralong Dam, and these two initiatives are discussed in further detail in chapters 3, 4, and 5.

State government roles and responsibilities

2.28 The Queensland Government, through different agencies and authorities, performs a number of roles and responsibilities in progressing proposed infrastructure and water projects. Full details of relevant agencies and authorities are available in the Queensland Government's submission.[31] However, a brief outline of the major state government agencies and authorities is given below:

- **Department of Natural Resources and Water (DNRW)** - administers the *Water Act 2000* (Qld), which puts in place the overall legislative and institutional framework for the sustainable planning, allocation and use of water. DNRW also provides ongoing advisory input and audits the results of the substantial hydrological modelling exercises associated with the Environmental Impact Statement (EIS) and the subsequent granting of a Resource Operations Licence (ROL).
- **Queensland Water Corporation (QWC)** - an independent, statutory authority responsible for planning and achieving safe, secure and sustainable water supplies in SEQ and other designated regions. The QWC is currently completing a long-term water strategy to guide the region's water initiatives in conjunction with state and local governments.
- **Coordinator General (CG)** - the manager, coordinator and key state decision maker in relation to the impact assessment process of any major water storage proposal.
- **Environment Protection Agency (EPA)** - responsible for protecting Queensland's natural and cultural heritage, and promoting sustainable use of its natural capital and ensuring a clean environment. The EPA plays a key role in assisting the Coordinator General to assess the impacts of a water storage proposal and develop strategies to suitably mitigate such impacts on identified environmental values.
- **Department of Primary Industries and Fisheries (DPIF)** - strives to ensure Queensland's primary industries and fisheries support sustainable production systems and use best practice in water management and water allocation, vegetation and pest management, and chemical use.

31 For further detail, see *Submission* 166, pp 155–169.

- **Community Futures Taskforce (CFTF)** - established to work with communities affected by the proposed dams. The CFTF is chaired by Major-General Peter Arnison, former Governor of Queensland. Comprising relevant state agencies and representatives of councils, the CFTF is developing strategies to maximise the medium to long-term opportunities presented by the development.
- **Queensland Water Infrastructure (QWI)** - a company incorporated on 28 June 2006 pursuant to the *Corporations Act 2001* (Cth) and whose shares are wholly owned by the State of Queensland. QWI is the proponent for the proposed Traveston Crossing Dam project, the Wyaralong Dam, the Cedar Grove Weir and the Bromelton Offstream Storage. QWI was established by the Queensland Government with the objectives of investigating, obtaining all relevant approvals and constructing and operating a number of water infrastructure projects in SEQ.

Conclusion

2.29 The region of SEQ is facing challenges in balancing the demand for, and supply of water for urban, industrial and irrigation purposes. Through much analysis and research, the Queensland Government have identified a range of initiatives for implementation; some of which are currently in place and others which represent long-term solutions. The fact that SEQ is experiencing a large rate of population growth during an extended time of drought and rainfall variability means that the Queensland Government needs to consider carefully the implications of these planned initiatives, both present and future, when endeavouring to meet the water supply requirements of the SEQ region.

Chapter 3

Traveston Crossing Dam and Wyaralong Dam

3.1 The majority of evidence received during this inquiry related to the proposed Traveston Crossing Dam. The Wyaralong Dam proposal was the subject of much discussion during public hearings and was also raised in some submissions. This chapter provides a description of each of these proposals including evidence received relating to the decision making process, the technical aspects of the dams, such as site suitability, and the cost of the dams.

3.2 Chapter 4 discusses the social impacts of these two proposals and chapter 5 discusses the environmental issues relating to both dam proposals.

Proposed Traveston Crossing Dam

3.3 The proposed Traveston Crossing Dam is located 16 kilometres south of Gympie in the Mary River catchment and will be completed in two stages. Stage 1 is due for completion in 2011 and plans to deliver an additional 70,000 megalitres of water a year. The project will only proceed to Stage 2 if the additional water storage capacity is required to meet expected demand for water based on rainfall and usage patterns. The Queensland Government established a company, Queensland Water Infrastructure Pty Ltd (QWI) to develop the dam and obtain the approvals required.

Stages of the proposal

3.4 The Queensland Government proposes to develop water infrastructure in the Mary River catchment in three phases to provide 150,000 ML/a by 2035. The three phases are:

- construction of Stage 1 of the Traveston Crossing Dam by the end of 2011;
- raising the existing Borumba Dam by a maximum of 30 metres by 2025; and
- construction of Stage 2 of the Traveston Crossing Dam by 2035, as required by demand.

3.5 The Queensland Government provided the statistics for the Traveston Crossing Dam which are detailed in Table 3.1 below:

Table 3.1 – Traveston Crossing Dam – Statistics for Stage 1 and Stage 2

	Stage 1	Stage 2
Anticipated annual yield	70,000 ML	110,000-150,000 ML (includes 70,000 from Stage 1)
Elevation above sea level	71 metres	79.5 metres
Water depth at dam wall	24 metres	32.5 metres

Average depth (in river channel)	12 metres	16.25 metres
Average depth	5 metres	8 metres
Full supply area	3,000 ha	7,135 ha (includes Stage 1 area)
Total capacity	153,000 ML	570,000 ML (includes Stage 1 capacity)
Length of Mary River inundated	36.5 km	50.7 km
Properties affected	332	597 (includes 332 from Stage 1)
Houses required for dams and roads	76	204 (includes 76 from Stage 1)
Highway relocation	11.94 km	-
Road relocation	37.29 km	69.63 km (includes 37.29 from Stage 1)
Rail relocation	-	3.99 km
Scheduled completion	2011	2035 (subject to SEQ demand)

Source: Queensland Government, *Submission* 166, p. 121.

The decision and announcement

3.6 The Queensland Government stated that the initial announcement made by Premier Beattie on 27 April 2006 nominated the Traveston Crossing Dam as a preferred site subject to further investigation, not as a confirmed site at that time. The announcement which confirmed the Traveston Crossing Dam as a preferred site occurred on 5 July 2006.

> The Traveston Crossing Dam proposal stood out as being vastly superior to all other options in terms of hydrological performance and ability to generate additional water supplies. Consequently, the Queensland Government announced on 5 July 2006 that Traveston Crossing Dam was the preferred site for construction of a dam in the Mary Valley.[1]

3.7 The basis for the decision to consider the Traveston Crossing Dam proposal was the report titled *SEQ Regional Water Supply Strategy - Desk Top Review of Identified Dam and Weir Sites* (the GHD Report), written by GHD Pty Ltd, commissioned by the Queensland Government as part of the South East Queensland Regional Water Supply Strategy.[2] The GHD Report was a desk top review which considered existing reports and data available on dam and weir sites that had previously been identified in the South East Queensland (SEQ) region. The report

1 *Submission* 166, pp 116–117 and p. 124.

2 GHD Pty Ltd. (June 2006) *South East Queensland Regional Water Supply Strategy - Desktop Review of Identified Dam and Weir Sites.*

included 'detailed estimated costs to construct dams for a selected number of sites based on information in earlier reports and estimated indicative costs based on conceptual designs for a number of other sites or alternative development levels'.[3] The report then ranked potential development options in terms of potential yield and unit cost of the dam per megalitre of water delivered.

3.8 The GHD Report identified eighty dam and weir site options which had been studied in the past. Short listed options were then identified for further consideration and were reviewed in more detail. The Traveston Crossing Dam ranked first in terms of potential yield (and storage capacity) being more than 2.5 times greater than the second rating dam and ranked fourth in relation to the unit cost per megalitre of delivered water.[4]

3.9 The Queensland Government explained why it considered the Traveston Crossing Dam was a logical source of supply:

> …potential yield is not the only factor which must be taken into consideration in making a final decision on dam location. However, the assessment of dam options undertaken by GHD showed that there were no other significantly sized storages other than Traveston Crossing Dam that could meet the identified requirements. As such Traveston Crossing Dam was identified as a logical single source to supply the amounts of water required once the other measures such as demand management initiatives and alternative sources were considered.[5]

3.10 The committee received some evidence questioning the information contained in the GHD Report relating to the Traveston Crossing Dam.[6] Mr Alan Sheridan, a professional civil engineer and Secretary of the Save the Mary River Coordinating Group, commented on the costing information included in the GHD Report and stated that the unit cost per megalitre detailed in the report is not accurate:

> …the table in that report is being referred to by the government as the justification. I have highlighted the proposed Traveston Dam on that table and it appears as No. 4 on that list. You will see that the yield listed on there is 215,000 megalitres. We know that it is 110,000. The cost is listed as $1 billion, we know it is $2.5 billion. When you combine those figures, the unit cost is $22,727 per megalitre of yield not $4,695, which is listed in that report. So the report is fundamentally flawed on two accounts, specifically in relation to the Traveston Dam and more generally in relation to the fact that it is just a report on dam sites, not a report on providing water. Using

3 Queensland Government, *Submission* 166, p. 74.

4 *Submission* 166, p. 110.

5 *Submission* 166, p. 111.

6 For example, see *Submission* 8; *Submission* 92; Mr Steve Burgess, *Committee Hansard*, 17 April 2007, p. 13.

> the correct figures, makes the proposed Traveston Crossing dam the most expensive of any of the dam options considered by the state government.[7]

3.11 The Queensland Government confirmed that the figures for the Traveston Crossing Dam contained in the GHD Report have since changed and commented:

> Storage wise, it is less; from yield it is actually smaller. So the GHD report, from a volumetric size, is smaller and the yield in the GHD report is less than the yield we are now taking. GHD was a desktop study and applied a historical no-failure type, as we have talked about before. We have now applied a yield from this dam using the new approach, which takes a stochastic analysis et cetera.[8]
>
> …
>
> Subsequently, more detailed survey information has indicated that the maximum capacity at the dam site is 570,000 ML. The costings for the proposed Traveston Crossing Dam provided in the "Water for South East Queensland: A long term solution" are based on a 660,000 ML dam.[9]

3.12 Many submissions received from the community questioned the basis of the decision to consider the Traveston Crossing Dam and indicated that it was purely a political decision. Ms Margaret Bunce commented:

> The decision to build this dam seems to be a political one; a grand gesture made quickly to cover up for lack of planning and proper research and the failure to implement suitable infrastructure to cope with a rapidly growing population. This is a problem that has been many years in the making but has been bought [sic] on by the failure of rainfall in the Wivenhoe catchment area.[10]

Concerns regarding site suitability

3.13 On 27 April 2006, the Queensland Government announced that the Traveston Crossing Dam was chosen as a site for further investigation. These further investigations were 'to be completed within two months and [were] to confirm that dams could be constructed at these sites and that there were no insurmountable technical issues'.[11] The Queensland Government stated that these investigations included:

- geological investigations;

---

7 *Committee Hansard*, 17 April 2007, p. 63.

8 Mr Barry Dennien, Queensland Water Commission, *Committee Hansard*, 18 April 2007, p. 117.

9 Queensland Government, answer to question on notice, 31 April 2007 (received 31 May 2007).

10 *Submission* 98, p. 1. For other examples, see *Submission* 58; *Submission* 96; *Submission* 113; *Submission* 114; *Submission* 117; *Submission* 121; *Submission* 134.

11 *Submission* 166, p. 112.

- a concept design for the Traveston Crossing Dam site;
- review of environmental factors;
- environmental comparison; and
- transport infrastructure assessment.

3.14 The committee received evidence from submitters on their inability to access technical reports and information on the analyses undertaken by the Queensland Government.[12] Ms Shirley Edward commented:

> To date, the Qld Govt has failed to provide sufficient information on geological and geotechnical conditions throughout the dam area. I have been trying to get information regarding these issues since the announcement was made.
>
> …
>
> The Queensland Government continues to reiterate that it has nothing to hide. I have repeatedly asked to be provided with a copy of the Golders Drilling Summary Report. Further, I wish to be provided with answer to questions that I asked about the geological and geotechnical investigations and planning processes for the proposed Traveston Crossing Dam.[13]

3.15 Evidence received during the inquiry, questioned the suitability of the Traveston Crossing Dam site. These questions appear to have been exacerbated by the unavailability of analysis information and technical reports. Dr David Williams detailed the ideal characteristics for selection of a dam site and indicated that you would want: an adequate catchment to supply the storage, a deep valley to minimize evaporation, a suitable location for the dam wall and a base of low permeability to minimise potential seepage beneath or under the dam walls.[14]

3.16 Submissions indicated the following concerns with the suitability of the site:

- the presence of arsenic cattle dips;
- the dam will be shallow and would have high evaporation;
- the alluvial floodplain would result in high seepage and permeability;
- whether there would be adequate catchment of supply given the variability of rainfall; and
- stability of the dam floor given the existence of fault lines.[15]

---

12 For example, see *Submission* 106; *Submission* 113; *Submission* 142; *Submission* 148; *Submission* 154.

13 *Submission* 142, pp 1 and 5.

14 *Committee Hansard*, 18 April 2007, pp 2–3; see also *Submission* 64, pp 1–2.

15 For example, see *Submission* 4; *Submission* 29; *Submission* 31; *Submission* 82; *Submission* 144; *Submission* 185.

Mr Alan Sheridan stated that:

> …Associate Professor David Williams, from the University of Queensland, who is the individual whom I believe SunWater uses to do their assessments of seepage and evaporation losses from water storages and who is very well respected in that field, publicly advised that the level of seepage from the proposed Traveston Dam, because it is on an alluvial flood plain, could be anywhere between 0.3 and three metres in depth per year. If the evaporation losses in that area are 1.4 metres and the dam is an average depth of five metres, it does not take much of a rocket scientist to work out that there is a very big risk for a shallow dam in this location.[16]

3.17 QWI requested that SunWater provide an assessment of the anticipated evaporation and seepage from the proposed Traveston Crossing Dam storage, and compare the net average evaporation with other storages. The report prepared by SunWater provided a comparison of net average annual seepage, this is detailed below as provided by the Queensland Government:

> To determine the nett [sic] average annual evaporation from a storage, the lake evaporation, seepage and rainfall on the storage must all be accounted for, using the following equation:
>
> Nett [sic] Evap = Pan Evap * Lake Factor + Seepage – Rainfall on Storage[17]
>
> This has been carried out for a number of storages in Queensland, using the closest recorded weather data only.

Table [detailing]: Nett [sic] storage loss

STORAGE	Evaporation	Rainfall	Nett [sic] Evap (mm/a)	Period
Hinze Dam	1493	1280	319	1995 - 2005
North Pine Dam	1522	1219	375	1972 - 2005
Traveston Dam	1448	1097	521	1975 - 2005
Borumba Dam	1448	1079	539	1976 - 2005
Wyaralong Dam	1287	843	574	1967 - 2005
Lenthalls' Dam	1448	944	674	1976 - 2005
Ross River Dam	2606	1044	950	1970 - 2005
Coolmunda Dam	1678	642	1052	1974 - 1984

16 *Committee Hansard*, 17 April 2007, p. 17.

17 Equation is based on the Water Budget Determination Method, as described in Linsley,J.R., Kohler,M.A., Paulus,J.L.H., *Hydrology for Engineers, Third edition.* Note: Seepage allowance is commonly 300 mm/year for large storages in Queensland, unless better local information is available.

Wivenhoe Dam	2045	740	1150	1993 - 2005
Burdekin Falls Dam	1825	573	1388	1994 - 2005
Beardmore Dam	2067	536	1480	1996 - 2006

Note: Care should be taken in comparing nett [sic] storage losses that have been derived with different periods of record.

Source: Queensland Government, answer to question on notice, 30 April 2007 (received 31 May 2007).

3.18 Mr Graeme Newton, CEO of QWI, commented on the evaporation figures for Traveston Crossing Dam and stated that the net evaporation figure is 520 millimetres per year and the pan evaporation figure is 1.4 metres and explained the difference between these two figures. The net evaporation figure 'takes into account the pan evaporation and the lake factor which is attributed to that and the seepage that is involved and then it includes the rainfall that actually falls on the impoundment itself. It is a method that has been used over 20 or 30 years for determination of evaporation under that term 'net evaporation''.[18]

3.19 Mr Phillip Moran, Vice-president of the National Aquatic Weed Management Group provided information on a range of aquatic weeds and specifically commented on water hyacinth and salvinia which are present in the Mary River and the risk of creating a river environment that would encourage the growth and spread of these weeds. Mr Moran commented:

> Aquatic weeds are most likely to occur in large slow moving or stationary water bodies. Areas with high nutrient input are especially susceptible. If the water is in full sun, and [r]elatively shallow, you are guaranteed to get aquatic weeds.[19]
>
> …
>
> Earlier today I heard some people talking about the average depth of this proposed water body and the evaporation rates, and they were quite scary. If you add a weed such as water hyacinth you can multiply that result by a minimum of three because it sucks out the water. It is like a pump.[20]

3.20 The fact that the site of the dam wall was moved after the original announcement caused concern in the community.[21] Dr David Williams, academic, stated '[t]he first location chosen to locate the dam wall turned out to be not a good site, and subsequent land investigations have continued at other potential sites. The first site had of the order of 30 metres of permeable alluvium overlying rock, which

18 Mr Graeme Newton, QWI, *Committee Hansard*, 18 April 2007, p. 101.

19 *Submission* 94, p. 3.

20 *Committee Hansard*, 17 April 2007, p. 79.

21 For example, see *Submission* 150.

would create all sorts of problems in trying to seal it off to stop seepage coming under the wall. The second site, I understand, is a much better site but still far from ideal'.[22]

3.21 The Queensland Government provided the following technical evidence addressing the concerns relating to the alluvial floodplain, an adequate solid rock foundation and the potential for seismic hazard:

> Based on extensive preliminary geotechnical investigations, the proposed site of the Traveston Crossing Dam is considered suitable for a design comprising a roller compacted concrete centre section, an earth embankment on the northern bank and concrete spillway on the southern bank (refer to Section 8.4 of this Submission). It is proposed that a fish passage device will also be incorporated into the dam design.[23]
>
> …
>
> In the vicinity of the site, the Mary River flows within a broad alluvial floodplain. Within the floodplain the river has a meandering habit although there are several straight sections that are interpreted to reflect bedrock structures. The straight northwest trending section immediately downstream at the damsite appears to be one such control. Alluvial terraces are well-developed along this section of the Mary River. At AMTD 207.6km three alluvial terraces are present across the left bank. The surrounding topography consists of dissected ridges with many gullies reflecting the dominant northeast structural trend.[24]
>
> …
>
> To date a total of seventy-six geotechnical boreholes have been drilled across the sites. This includes forty-six across the AMTD 207.6km alignment and nineteen across the AMTD 206.7km alignment. Eleven boreholes have been drilled to investigate the AMTD 207.6km groundwater hydrology. All drilling data are being incorporated with all available data to construct a comprehensive damsite geological model. Preliminary reports for forty-one of the boreholes have been completed and are attached in Appendix B. The remaining reports are in the process of being completed. The investigations completed to date, confirm the initial assessment that the foundations along the dam alignment are suitable for the proposed dam structure and that there are good rock foundations…[25]
>
> …
>
> A seismic hazard (Earthquake) assessment of the site has been carried out. This is a probabilistic assessment which employs a seismotectonic model

---

22 *Committee Hansard*, 18 April 2007, p. 2.

23 *Submission* 166, p. 121.

24 Queensland Government, answer to question on notice, 30 April 2007 (received 31 May 2007); Queensland Water Infrastructure Pty Ltd. (2007) *Traveston Crossing Dam Overview Geotechnical Investigations - As At 12 February 2007*, p. 3.

25 Queensland Government, answer to question on notice, 30 April 2007 (received 31 May 2007); *Traveston Crossing Dam Overview Geotechnical Investigations - As At 12 February 2007*, p. 4.

> that considers the seismology (earthquake activity) and geology of the area in order to estimate seismic activity and frequency. The seismotectonic model allows for calculations of expected ground motion recurrence at the site, including peak ground acceleration and response spectra. These parameters allow the stability of the dam to be checked under earthquake loading. The peak ground acceleration for the site has been calculated as being slightly above 0.05g for a return period of 500 years when considering earthquakes of Richter magnitude ML4 and above. This value is below average by Australian standards. With these peak ground accelerations earthquake loading will not be a concern to the dam. The seismic assessment has been reviewed by the Expert Peer Review panel who have concluded that earthquake loading should not be a concern to the dam or spillway structures.[26]

3.22 Many submitters and witnesses commented on the fact that the proposed dam area contains arsenic cattle dips and the potential exists for this to cause harm when the construction of the dam takes place and water is stored.[27] Mr Alan Sheridan commented:

> It is quite common knowledge that there are hundreds of arsenic cattle dips, and there were other sorts of chemicals used in them. Most of them would not be registered. The area has been a dairy industry area for well over 100 years. When the dam is impounded, the water will cause those chemicals to come to the top and they will end up in the dam. But I do not know whether, when diluted in that amount of water, that would have any impact. I just do not know.[28]

3.23 The committee received evidence of an incident on a property where five cattle died unexpectedly in an area in which drilling activity had been undertaken. Mr Newton discussed this incident and stated that they undertook testing of the soil and also commissioned a further study by Golder Associates who conducted sampling both upstream and downstream of the paddock where the cattle died.[29] Mr Newton provided the following comments regarding the soil testing of the site, the results of the testing and a payment of financial compensation to the owner of the cattle:

> We were focusing on what our activity had been on the site and whether we had brought anything on to it or created any environment that would have killed the cows. We were doing soil sampling and testing the drillers' mud, which is an inert substance. We tested the soil. We know for a fact that it is clear, because we have the documentation in relation to it. The testing was

---

26 Queensland Government, answer to question on notice, 30 April 2007 (received 31 May 2007); Queensland Water Infrastructure Pty Ltd. (2007) *Traveston Crossing Dam Overview Geotechnical Investigations - As At 12 February 2007*, p. 5.

27 For example see, *Submission* 4; *Submission* 15; *Submission* 29; *Submission* 31; *Submission* 51; *Submission* 62; *Submission* 144; *Submission* 152.

28 *Committee Hansard*, 17 April 2007, p. 66.

29 *Committee Hansard*, 18 April 2007, p. 107.

> done. It came back with similar results to those DPI obtained. We notified the landholder of those findings, saying that we had not found anything in the soils.[30]
>
> …
>
> Prior to the completion of the investigations, QWI worked towards a swift conclusion of financial compensation to the owner of the cattle to ensure their immediate financial welfare was considered. The settlement was based on a 'no admission liability' that was undertaken as a measure of goodwill. At no stage did QWI seek to restrict any public comment by the landholder or the owner of the cattle.
>
> The Golder & Associates investigations found that it was 'unlikely' that there was a link between livestock deaths and mineral accumulation.[31]

Cost of the dam

3.24 Many witnesses and submitters have questioned the true cost of the Traveston Crossing Dam and have asked for the Queensland Government to provide a cost/benefit analysis for the proposal.[32] The Queensland Government, in response to questions relating to the full cost of the proposal, has continually stated that the cost of Stage 1 of the Traveston Crossing Dam proposal will be $1.7 billion and the cost of Stage 2 is approximately $800 million. Table 3.2 below provides a breakdown of the estimated costs of the dam.

Table 3.2 – Traveston Crossing Dam Cost Estimates

	GHD Desktop Report	**Water for SEQ – A Long Term Solution**		
	Traveston Crossing Dam (EL 80m)	Traveston Crossing Dam Stage 1 (EL 71m)	Traveston Crossing Dam Stage 2 (EL 79.5m)	Traveston Crossing Dam – Total (EL 79.5m)
Dam	313.4	500	30	530
Land	416.4	660	290	950
Roads and rail relocation	74	460	20 (rail) - 480	480 - 940
Other (power, telecommunication etc)	55.5	80		80
TOTAL	**$ 859.3 M**	**$ 1,700 M**	**$ 800 M**	**$ 2,020 – 2,500 M**

Source: Queensland Government, answer to question on notice, 30 April 2007 (received 31 May 2007).

30 *Committee Hansard*, 18 April 2007, p. 108.

31 Queensland Government, answer to question on notice, 30 April 2007 (received 31 May 2007).

32 For example, see *Submission* 7; *Submission* 8D; *Submission* 29; *Submission* 95; *Submission* 97; *Submission* 175; *Submission* 185.

3.25 Mr Jeff Seeney, Leader of the Queensland Coalition, when asked by the committee if any estimations had been made in Parliament of the sorts of costs incurred in the replacement of roads, resumption of land and replacement of the railway line, responded 'we think that the $1.7 billion that they [the Queensland Government] talk about to build this dam will end up being closer to $3 billion before it is constructed, when all of those associated costs are taken into account'.[33]

3.26 The Queensland Government outlined the elements involved in Stage 1 and the stated cost of $1.7 billion:

> Stage 1 of the dam includes the construction of the infrastructure itself and the relocation of any associated infrastructure within the valley—powerlines, roads and so forth— and it includes the land purchasing associated with that. That is a very broad description.[34]

3.27 The Queensland Government confirmed that the cost of $1.7 billion does not include Stage 2 of the proposal, the Borumba Dam increase, the relocation of the railway line needed in Stage 2, the pipeline and the relocation of the Bruce Highway.[35]

3.28 The *Review of Water Supply-Demand Options for South East Queensland – Final Report* (the Review Report) estimated the additional cost of the delivery system for the Traveston Crossing Dam at approximately $900 million bringing the estimated cost to $2.6 billion. The Review Report stated:

> Costs for stage 1 of the dam are estimated to be $1.7 billion. This does not include the delivery system (pump stations, pipelines, and balancing storages) from the dam to the Pine Rivers area. The cost of this connection is estimated to be of the order of $900 million, giving a total cost for the stage 1 including delivery network of $2.6 billion.[36]

3.29 Mr Bob Fredman, Director of Engineering, Council of Mary River Mayors commented on the relative cost of the Traveston Crossing Dam:

> The relativity of cost is becoming a more and more difficult equation. If you look at the true cost—the full cost—of the Traveston Crossing dam water in Brisbane, it starts to mean that there are more options on the table that are of equal or lower cost, that we would not have looked at previously. There is no doubt, given the true cost of Traveston water in Brisbane, that indirect recycling and desalination come into their own all of a sudden. We have not had this situation in the past, but all those options are now on the

33 *Committee Hansard*, 18 April 2007, p. 76.

34 *Committee Hansard*, 18 April 2007, p. 111.

35 *Committee Hansard*, 18 April 2007, pp 111–115.

36 A.Turner, G.Hausler, N. Carrard, A. Kazaglis, S. White, A. Hughes, T. Johnson. (2007) *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February, p. 27.

> table and they are all necessary for the future. Basically, the dam answer is a dinosaur answer. It will be extinct within a short period of time.[37]

The economic impacts

3.30 The committee received many submissions commenting on the prime agricultural land that the dam will inundate.[38] Dairy farming represents the largest proportion of farming businesses, however ginger farming, fruit and vegetable farming and horticulture will also be affected. The Queensland Dairyfarmers Organisation confirmed that approximately 24 dairy farms will be inundated by the dam which represents approximately 5 per cent of Brisbane's milk supply.[39] Mr John Cherry, CEO of the Queensland Farmers' Federation (QFF) indicated that:

> Our estimate at this stage is that there is around $20 million of production that will be impacted on by the dam immediately in stages 1 and 2. Roughly half of that is in dairy…but there is also around $5 million in horticulture. We are not sure of the exact figure but there has been a lot of horticultural growth in the Mary Valley and that figure is probably an underestimate. There is also beef and some other industries in that area'.[40]

3.31 Mr Alan Kirkegard is involved in the grazing industry in Imbil commented:

> We are a clean green agricultural belt, we have rich soils, and we can grow anything and in large quantities. We are close enough to Brisbane to make transport costs economical.[41]

3.32 Growcom, the peak representative body for the fruit and vegetable growing industry in Queensland, requested that industry stakeholders be involved and consulted by the Queensland Government on issues affecting agricultural businesses and recommended that:

> Growers affected by any new water infrastructure developments must be fully compensated for any damage or loss to land, crop and business investments, water or earnings. In addition, the existing water supplies and reliability for growers outside the inundation area must not be impacted by the new dam.[42]

---

37 *Committee Hansard*, 17 April 2007, p. 55.

38 For example, see *Submission* 16; *Submission* 35; *Submission* 38; *Submission* 50; and *Submission* 177.

39 *Committee Hansard*, 18 April 2007, pp 48–49.

40 *Committee Hansard*, 18 April 2007, p. 47

41 *Submission* 38, p. 1.

42 *Submission* 91, pp 1–2.

3.33 The committee received some evidence expressing concern for irrigators and the impact of the dam on abilities to maintain access to water allocations.[43] Mr John Schroder and Mrs Rosalind Schroder, owner operators of a 280 acre dairy farm which is situated to the north of Gympie and the dam site, stated:

> As owners of a 100 megalitre water licence which allows us to pump from the Mary River (sourced from Borumba Dam), we have grave concerns about our continuity of water supply for irrigation purposes.[44]

3.34 The Tiaro Shire Council outlined their concerns:

> Tiaro and Woocoo, as mainly rural shires rely heavily on irrigated crop production. If the river is not allowed to flow, crop production will be drastically affected to the extent of making some properties economically unviable. Apparently, SunWater have assured some groups of irrigators that their water allocations will be fully maintained. Their allocations may well be maintained, but that does not mean that they will be able to use those allocations.[45]

Proposed Wyaralong Dam

3.35 The Wyaralong Dam is located on the Teviot Brook in the Boonah/Beaudesert region of South East Queensland (SEQ), approximately 14 kilometres north-west of Beaudesert within the Logan River Basin. Projects involving the Wyaralong Dam were first considered by the government of the day in 1990 and possible dates for construction have changed over time and include 2060, 2026 and 2015.[46] In April 2006, the Queensland Government announced the Wyaralong Dam as the 'second major dam project as part of the suite of measures to ensure a safe and sustainable water supply for the SEQ region'.[47]

3.36 The Queensland Government have appointed Queensland Water Infrastructure Pty Ltd (QWI) to progress the design and construction of the dam. QWI will undertake geotechnical investigations; assess likely environmental, social and economic opportunities; and potential impacts of the project, ahead of commencing the formal assessment and approval processes.[48] The Queensland Government stated:

> The Wyaralong Dam is an integral element of the storage system comprising the Cedar Grove Weir and the Bromelton Offstream Storage, and will be operated in conjunction with those assets. The Wyaralong Dam (in conjunction with the Cedar Grove Weir) will contribute 21,000 ML/a of

---

43 For example, see *Submission* 16; *Submission* 28; *Submission* 139; *Submission* 160; *Submission* 177 and *Submission* 185.

44 *Submission* 139, p. 1.

45 *Submission* 105, p. 2.

46 J. Taylor and C. Taylor, *Submission* 116, pp 1 and 3.

47 *Submission* 166, p. 148.

48 *Submission* 166, p. 148.

the projected additional need for SEQ region by 2051, and its construction is due for completion by 2011 at a cost of $500 million.[49]

3.37 The Queensland Government provided the statistics for the Wyaralong Dam, which are detailed in Table 3.3 below:

Table 3.3 – Wyaralong Dam – Statistics

	Completion
Anticipated annual yield:	21,000 ML in conjunction with Cedar Grove Weir
Elevation above sea level:	63.6 metres
Water depth at dam wall:	28 metres
Average depth: (in river channel)	14 metres
Average depth:	8.3 metres
FSL Area:	1,230 ha
Total capacity:	103,000 ML
Scheduled completion:	By Dec 2011
Total Project Cost:	$500 million
Properties affected:	18
Houses required:	Nil
Road relocation:	10.7km

Source: Queensland Government, *Submission* 166, p. 149.

3.38 The committee received a significant amount of evidence from Dr Bradd Witt, Ms Katherine Witt and Mr Andrew Taylor who state that they are primarily Wyaralong landholders with relevant experience in environmental management, environmental change and construction management.[50] All submissions received which commented on the proposed Wyaralong Dam questioned the value of the

49 *Submission* 166, p. 148.

50 Evidence includes *Submission* 155; *Submission* 155A; *Submission* 155B; *Submission* 170.

Wyaralong Dam in supplying water to SEQ in terms of proposed yield and the cost relative to the amount of megalitres supplied.[51]

The announcement and the decision making process

3.39 The committee received evidence suggesting that the government's announcement of their decision to proceed with the Wyaralong Dam was unexpected by members of the affected community who had thought that Tilley's Bridge Dam at Rathdowney was the likely choice for the dam site.[52] Claims were also made that requests to the Queensland Government for information have not been responded to:

> There has been a complete lack of transparency in the Government's decision making process and information which would clarify the situation, although having been requested on numerous occasions, has never been supplied. It has been impossible to find out details of the suitability factors which were used to determine the choice between the two sites Tilley's Bridge on the Logan River and Wyaralong on Teviot Brook as the preferred site for a dam.[53]

Concerns regarding site suitability

3.40 The Logan and Albert Rivers Catchment Association Inc (LARC) commented that the Wyaralong Dam proposal is based upon a modelled surplus of water in the Logan River basin at the Cedar Grove Weir and that 'the data used in the modelling…relies upon inaccurate data to make this assessment'. LARC put forward a number of relevant points on various assumptions that they have identified as flawed:

> The past 10 years of the rainfall record are significantly drier than at any time in the preceding 100 years of rainfall data. The modelling uses data preceding this period and has not run scenarios based on the recent climate change influences.
>
> The current Maroon Dam has been unable to supply irrigators with their current allocation. The water resource plan cannot possibly deliver over and above what has been coming down the river for the past 3 years without further restrictions upon existing water users.
>
> The hundreds of unsupplemented licence holders do not have meters and they have not been monitoring their use and there is no checking of dam licence provisions to assess the level of water use by unsupplemented irrigators. The model uses rates of application approximately 60% of the locally estimated actual use rates.

---

51 For example, see *Submission* 116; *Submission* 136; *Submissions* 155, 155A and 155B; *Submission* 162; *Submission* 170.

52 Mrs Christine Taylor, *Committee Hansard*, 18 April 2007, p. 20.

53 J. Taylor and C. Taylor. *Submission* 116, p. 5. See also, *Committee Hansard*, 18 April 2007, pp 20–21; *Submission* 162.

> The groundwater data used for the modelling does not takes into account the significant increase in the use of groundwater bores across the catchment. There has been no systematic audit of the number, depth and volume of bores in the catchment.[54]

3.41 Dr Bradd Witt summarised the reasons why he believes the Wyaralong Dam 'is not a solution; it is a problem':

> First, Wyaralong Dam is not viable or efficient, either economically or from a water supply point of view; second, the decision to construct a dam at Wyaralong was fundamentally flawed due to the use of inaccurate, inconsistent and outdated data, regardless of the politics; and, third, there are numerous vastly cheaper, more flexible and efficient alternatives to the Wyaralong Dam.[55]

3.42 The committee received some evidence questioning the yield of the Wyaralong Dam.[56] Mr Newton, stated that the 'Wyaralong will operate in conjunction with the Cedar Grove Weir and basically the yield of the system is 21,000 megalitres at the Cedar Grove Weir, when the two are operated as a system'. Mr Newton indicated that the basis for the system yield of 21,000 megalitres is:

> …hydraulic modelling that has been undertaken. This hydrograph shows basically the performance of Wyaralong, this being the storage capacity and basically the performance of the dam during that time, using a reliability and yield of what we are talking about—so a draw of 21,000 megalitres at Cedar Grove Weir.[57]

3.43 The Queensland Government provided the following evidence confirming the suitability of the site for the Wyaralong Dam:

> Extensive geotechnical investigations have identified the existence of solid rock foundations on both abutments and in the river channel. These foundations are suitable for all types of dam construction.[58]

Cost of the dam

3.44 The Queensland Government has projected that the cost of the Wyaralong Dam is $500 million and includes costs for infrastructure relocation and land acquisition. Mr Newton stated that this does not include any cost associated with the construction of Cedar Weir Grove.[59] Dr Bradd Witt commented on the cost of the project:

---

54 *Submission* 136, p. 1.

55 *Committee Hansard*, 18 April 2007, p. 13.

56 For example, see *Submission* 170, pp 3–5.

57 *Committee Hansard*, 18 April 2007, pp 99–100.

58 *Submission* 166, p. 152.

59 *Committee Hansard*, 18 April 2007, p. 134.

> By way of comparison, everyone acknowledges the expense associated with Traveston Crossing dam, at $2.5 billion for about 70,000 megalitres per year. However, Wyaralong dam's woeful contribution of 10,000 megalitres per year, at a cost of half a billion dollars, is 1½ times more expensive per unit of water than Traveston.[60]

Alternatives to the Wyaralong Dam

3.45 Ms Prudence Firth, a Wyaralong landholder, outlined some alternatives to the Wyaralong Dam:

> There are many options for replacing the small yield of the Wyaralong Dam (something under 17,000-18,000 ML/a): more demand management initiatives, recycling, catching stormwater, off-stream storages, water harvesting into existing dams, desalination, allowing Maroon Dam to fill to capacity, building Glendower Dam. All of these are more cost-effective than building the Wyaralong Dam, and they do not have the major social impacts that it has.[61]

3.46 Dr Bradd Witt, Ms Katherine Witt and Mr Andrew Taylor provided the committee with a report titled *Alternative supply options to the proposed Wyaralong Dam*, which identified potential supply options to achieve the contribution identified by the proposed dam at lower social, economic and environment cost.[62] The options identified included:

> Option 1: Potential increase in the operational full storage level of Maroon Dam (up to 76,000ML)
>
> Option 2: Recycled water diverted to Cedar Grove weir or Logan River via wetland or stored and reused for industry in addition to rain and storm water capture
>
> Option 3: Intermittent supplementary utilization of water via the 'water grid' from either Hinze Dam and/or the proposed Gold Coast desalination plant
>
> Option 4: Water harvesting from the upper Teviot Brook at times of high flow into Moogerah Dam
>
> Option 5: Intermittent use of ground water
>
> Option 6: A reduced scale Glendower Dam on the Albert River to provide 10,500ML/yr

---

60 *Committee Hansard*, 18 April 2007, pp 12–13.

61 *Submission* 162, pp 4–5.

62 Witt, G. B. Witt, K. J. and Taylor, A. (2007). *Alternative supply options to the proposed Wyaralong Dam: Preliminary analysis and presentation of potential supply options to achieve the proposed Wyaralong Dam contribution (to the proposed Cedar Grove weir) at lower social, economic and environmental cost.* Report prepared for the Deputy Premier of Queensland and Minister for Infrastructure Anna Bligh.

Option 7: A reduced scale Wyaralong Dam[63]

Conclusion

3.47 The committee received substantial evidence relating to the Traveston Crossing Dam from members of the communities, farmers, landholders, business owners and other interested groups, professionals and individuals. Concerns were raised on a number of issues relating to the dam including the basis for the decision, the technical aspects of the dam site and the cost of the dam. The evidence relating to Wyaralong mainly concentrated on the ability of the dam to provide the stated yield and the modelling data used in making the decision to proceed with the dam. The social and environmental impacts of both dams are discussed in chapters 4 and 5.

63 Dr B. Witt, Ms K. Witt, Mr A. Taylor, *Submission* 155, Attachment, p. 11. For other alternatives, see *Submission* 170, pp 6–12.

Chapter 4

Social impacts

4.1 This chapter discusses the evidence received during the inquiry relating to the social impacts of the proposed Traveston Crossing Dam and the proposed Wyaralong Dam. It is inevitable that the construction of a dam will have a direct impact on the people living within the area of the dam. Even so, the committee notes that a significant number of the submissions lodged during this inquiry raised concerns in relation to the social impact of the proposed dam at Traveston Crossing. The main concerns raised in submissions included:

- community consultation and engagement;
- support for the community;
- the acquisition of properties; and
- the impact on local business.

4.2 In evidence to the committee, Mr Ken Smith, Director General, Department of Infrastructure, Queensland, stated that:

> The government recognises that, for those affected people, the decision to progress the dam has had a significant social impact as well as potentially financial impacts. As a result the government has put in place a range of measures that attempt to mitigate those potential negative impacts. Those include acquisition, voluntarily, of the affected land…attempts to put in place a detailed consultation process with affected communities and the establishment of the Community Futures Task Force, headed by former governor Major General Peter Arnison.[1]

4.3 Details of the implementation of measures to engage and consult with the community are set out in chapter 12 of the Queensland Government's submission to the inquiry.[2] The committee notes that this is an ongoing process.

4.4 Queensland Water Infrastructure Pty Ltd (QWI) engaged an external communications consultancy, Three Plus, to implement and conduct the community engagement and consultation process. This process has included:

- briefings between Three Plus and stakeholders to explain the process and opportunities for community involvement;
- community information days;
- the publication of fact sheets on the QWI website;
- consultation with agencies;

---

1 *Committee Hansard*, 18 April 2007, p. 87.

2 *Submission* 166, pp 185–206.

- consultation with indigenous stakeholders; and
- establishment of the Community Futures Task Force.

Community engagement and consultation

Community Futures Task Force

4.5 The Queensland Government established the Community Futures Task Force (CFTF) on 7 July 2006.[3] The CFTF is chaired by Major General Peter Arnison and comprises the Mayors of communities affected by the proposed dams and the Directors-General of twelve Queensland Government departments.[4] The role of the CFTF is to address the immediate effects of the decision to build the dams and develop strategies and approaches in relation to health, social issues, property resumptions, business impacts and industry adjustment.[5] Initiatives to be undertaken by the CFTF include:

- undertaking community needs assessment to identify social, economic and land use implications;
- shop front access to provide advice and support for individuals and the community;
- generating a case management approach for affected individuals, businesses and communities;
- establishing community reference groups;
- identifying opportunities for regional employment and business continuity;
- developing industry adjustment initiatives;
- identifying longer term employment opportunities;
- implementing skills and training programs;
- identifying land use planning scheme options;
- identifying social infrastructure and lifestyle needs required to rebuild communities;
- identifying access to rural water use; and

3 Premier of Queensland, The Hon Peter Beattie, *Former Governor to head new dams taskforce, Queensland Government*, Ministerial Media Statement, 7 July 2006, http://www.cabinet.qld.gov.au/MMS/StatementDisplaySingle.aspx?id=47086 (accessed 2 July 2007).

4 *Submission 166*, p. 195.

5 Queensland Government, Community Futures Taskforce website, http://www.communityfutures.qld.gov.au/ (accessed 26 July 2007)

- rural futures planning.[6]

4.6 The CFTF is also facilitating community access to a range of assistance programs including:

- the Community Futures Fund Grants Program, designed to help community groups continue to provide services and to alleviate concerns around decreasing membership and funding following the announcement of the dams;[7]
- the Business Adjustment Scheme administered by the Queensland Rural Adjustment Authority;[8] and
- the Worker Assistance Program administered by the Department of State Development and Trade.[9]

4.7 The CFTF provides information to affected communities via its website, newsletters and meetings and via a help line. The work of the CFTF will continue until mid 2009.[10]

4.8 The work of the CFTF is independent of the assessment of social and economic issues within the Environmental Impact Statement (EIS) for each of the proposed dams. However it is the Queensland Government's intention that relevant issues and mitigation strategies identified via the CFTF work program and related stakeholder consultation will be used to inform the EIS process for each dam.[11]

Community consultation

4.9 The committee received evidence from a number of submitters stating that to date the public consultation process in relation to both the Traveston Crossing Dam and the Wyaralong Dam had been poor.[12] While most of these submissions related to

---

6 Premier of Queensland, The Hon Peter Beattie, *Former Governor to head new dams taskforce, Queensland Government*, Ministerial Media Statement, 7 July 2006, http://www.cabinet.qld.gov.au/MMS/StatementDisplaySingle.aspx?id=47086 (accessed 2 July 2007).

7 Community Futures Task Force Newsletter, Issue 9, May 2007.

8 Community Futures Task Force Newsletter, Issue 5, December 2006.

9 Community Futures Task Force Newsletter, Issue 5, December 2006.

10 The Queensland Government, *Submission* 166, p. 201.

11 Queensland Government, The Coordinator-General, Wyaralong Dam Project, Teviot Brook, Queensland, Terms of Reference for an Environmental Impact Statement, May 2007, p 62; Queensland Government, The Coordinator-General, Traveston Crossing Dam Project Stage 1, Mary River, Queensland, Draft Terms of Reference for an Environmental Impact Statement, December 2006, p. 58.

12 For example, see *Submission* 19; *Submission* 40; *Submissions* 69 and 69A; *Submission* 70; *Submission* 85; *Submission* 89; *Submission* 109; *Submission* 112; *Submission* 154; *Submission* 163; and Mr Robert Hales, *Committee Hansard*, 18 April 2007, p. 30 and p. 34.

the communities affected by the Traveston Crossing Dam, the committee notes that similar issues were raised in relation to the community consultation process for both dams.[13] Many submitters commented on the lack of consultation with local stakeholders prior to the announcement of the Traveston Crossing Dam proposal in April 2006.[14] The Mary Catchment Coordination Association (MCCA) advised the committee that there had been no mention of the proposed Traveston Crossing Dam during the consultation phase for the draft Mary Basin Water Resource Plan (WRP) which was released for public comment in November 2005. The MCCA commented:

> In this draft document there was no mention of Traveston Crossing Dam, and this dam was never foreshadowed in any of the SRG [Sector Representation Groups] or CRP [Community Reference Panel] meetings held. There was mention of a small regulating weir at Coles Crossing. The draft WRP did make mention of a 'strategic reserve' but there was no figure attached to this reserve of unallocated water from the Mary basin. [15]

4.10 Mr Ken Campbell, a Lifeline counsellor at the Kandanga One-Stop-Shop told the committee that as there had been no previous discussion or consultation with the community about the proposal prior to the announcement in April 2006, the announcement had been 'like a bombshell falling on them'.[16] Mr Robert Hales, an associate lecturer at Griffith University undertaking a PhD on public involvement in the Traveston Crossing Dam proposal, told the committee that:

> ...the community development projects that have been implemented by the Community Futures Task Force, which are looking to the future beyond the dam construction, have been ramped up very quickly. What have not been ramped up are the democratic processes and rights of citizens to be involved and react against this dam.[17]

4.11 Mr Hales provided the committee with a copy of his report, *A Discussion Paper on the QLD Government's Assessment and Management of the Social Impacts of the Proposed Dam on the Mary River*, which rated the Queensland Government's performance in a social impact assessment of the Traveston Crossing Dam against internationally recognised social impact principles.[18] In Mr Hale's view:

> The report card results of QLD Government's handling of social impacts were found to be substandard. …Firstly, the Queensland Government has failed to acknowledge accepted goals of social impact assessment and management. The goal for any social impact assessment and management is

---

13 For example, see *Submission* 116; *Submission* 136; *Submission* 148; *Submission* 155; *Submission* 155A; *Submission* 162; *Submission* 70.

14 For example, see *Submission* 121; *Submission* 127; *Submission* 134; *Submission* 154; *Submission* 156.

15 *Submission* 154, p. 8.

16 *Committee Hansard*, 17 April 2007, p. 36.

17 *Committee Hansard*, 18 April 2007, p. 30.

18 Mr Robert Hales, *Submission* 69, Attachment B.

> to ensure that not only are the living standards of the people affected maintained but the well being of the people affected should be improved through project implementation. The Queensland Governments actions have not achieved this goal … within the timeframe of this study. Secondly, the report card demonstrates that the Queensland State Government has failed to adequately recognise the scale and depth of social impacts resulting from a proposed Mega dam on the Mary River.[19]

4.12 Mr Hales also told the committee that:

> … the affected people in the Mary River Valley have experienced impacts in excess of what would normally be expected if robust democratic and administrative processes had been implemented. The key factor in this conclusion is the uncertainty experienced by almost all people in the impacted area.[20]

4.13 A number of other submitters expressed concern at the availability, timeliness and consistency of information about the dam proposal following the announcement.[21] Submitters told the committee that there was a significant delay between the initial announcement of the proposal and the convening of the first public meeting, during which time potentially affected landholders found it difficult to obtain details of the impact of the proposal.[22] In particular, a number of submitters commented on the confusion and uncertainty experienced as a result of the changes to the boundaries of the proposed inundation areas.[23]

> Numerous maps were issued and re-issued by the government with changing boundary lines. Information about water levels and flooding contradicted the community knowledge about the river and flooding patterns. Many people could not figure out whether there [sic] properties were even in the dam footprint.[24]

> There is still confusion about stage 1 and stage 2 and the buffer zones. There was right from the start. They could not confirm exactly who was in and who was out.[25]

4.14 As well as the uncertainty of knowing whether particular properties were within the inundation area, the committee was told of concerns at the impact on

---

19 *Submission* 69, pp 1–2.

20 *Submission* 69, p. 2.

21 For example, see, *Submission* 63; *Submission* 70; *Submissions* 108 and 108A; *Submission* 134; *Committee Hansard* 18 April, p. 90; *Submission* 137; *Submission* 167, Mr Alan Sheridan, *Committee Hansard*, 17 April 2007, p 26.

22 For example, see *Submission* 32; *Submission* 150.

23 For example, see *Submission* 42; *Submission* 63; *Submission* 86; *Submission* 107.

24 Kandanga Information Centre, *Submission* 137, p. 2.

25 Mr Ken Campbell, *Committee Hansard*, 17 April 2007, p. 36.

individuals and communities as a result of relocation of arterial roads.[26] Mr Campbell told the committee that:

> There was no concept of road relocations in the months following the announcement. So where people had confirmation that they were not in the dam site but were on the border of it, they became very concerned: 'How am I going to get to the places I normally go to; how will I get from A to B; where are the roads going to be; is that going to impact on my life and on my family and on my farm and on my property?' There were all those sorts of questions in their minds. The continuation of the unknown factor and the disempowerment from all of that was building stress in their minds.[27]

4.15 The committee also received evidence that many people affected by the dam had experienced difficulty and frustration in gaining access to more detailed information about the project and its impact on their own situation.[28] The committee was told there were significant delays in the provision of answers to questions taken on notice at public meetings and that many of the questions remain unanswered or were answered unsatisfactorily.[29] A number of submitters told the committee that their requests for clarification of the impact of the proposal and access to specific technical and scientific data and other government documents had been largely unsuccessful, or had met with significant delays. The committee noted that both the Save the Mary River Coordinating Group and the Mary River Council of Mayors sought copies of documents to assist in their assessment of the proposal. Both groups told the committee that the Queensland Government's response to requests for documents had frustrated the efforts of many people to undertake independent analysis of the proposal and assess its impact on them.[30]

4.16 The committee received submissions expressing concern at the economic and social impact of the Traveston Crossing Dam on communities downstream of the proposed dam wall.[31] Submitters also expressed concern that downstream residents wished to be included in the community engagement process and did not believe that they had received information which would enable them to assess the impact of the dam on them. The committee was told that:

> Neither the Government, not [sic] Queensland Water Infrastructure have provided any information to downstream residents regarding future access to water allocations, future impacts on the river ecosystem or future impacts on important local industries. In addition there has been no discussion of

---

26 For example, see *Submission* 125; *Submission* 129; *Submission* 188.

27 Mr Ken Campbell, *Committee Hansard*, 17 April 2007, p. 36.

28 For example, see *Submission* 120; *Submission* 134; *Submission* 137; *Submission* 142; *Submission* 148.

29 For example, see Mr Victor Hill, *Submission* 32; Mr Kevin Ingersole, *Committee Hansard*, 17 April 2007 pp 26-27.

30 For example, see *Submission* 117; *Submission* 120; *Submission* 150.

31 For example, see *Submission* 28; *Submission* 85; *Submission* 105; *Submission* 176.

> compensation for these impacts or offers of support forthcoming from the Queensland Government.
>
> …
>
> The sugar industry is one important industry that will be affected by the proposed Dam. Recently I talked with two key representatives of the sugar industry in Maryborough and they both indicated that they are concerned about the impact of the dam, but that no-one has given them information about what the impacts of the dam would be.[32]

4.17 Mr Hales told the committee that the process and timelines for public consultation for the Traveston Crossing Dam project appear to be significantly different to those for other dam projects in South East Queensland. Mr Hales identified three key stages for social impact management and public consultation in the process of building large dams:

- the feasibility stage – in which documents assessing the feasibility of the project are made public by relevant government agencies;
- stage 1 – during which time project details are finalised and an accurate estimate of area needed for land acquisition can be made; and
- stage 2 – the land acquisition stage where affected residents usually voluntarily accept to relocate.[33]

4.18 The following table provided by Mr Hales suggests that the timelines for the Traveston Crossing Dam project appear to be significantly shorter than those applied in other projects. Table 4.1 details the comparative consultation timelines for various dams in SEQ.

Table 4.1 – Timelines of consultation and construction for selected dams in SEQ

Dam	Feasibility stage (pre dam announcement)	Stage 1 (decision to dam to land acquisition)	Stage 2 (Land acquisition stage)	Total Time (Announcement to completion)
Wivenhoe	7 years	1.25 years	> 6 years	14 years
North Pine Dam	> 4 years	5 years [1]	12 years	22 years
Burdekin Falls Dam	> 3 years	4 years [1]	3 years	7 years
Paradise Dam	1 year approx [2]	1.5 years	3 years	5 years
Traveston Crossing	0 3	11 days 4	Current (44% properties resumed in 11months)	(6 years?)

Source: *Submission* 69A, p. 2.

32 Ms Tanzi Smith, *Submission* 176, p. 3.

33 *Submission* 69A, p. 1.

4.19 Mr Hales observed that:

> The world history of public consultation and managing social impacts in the process of building dams is poor. If present processes continue the Traveston Crossing dam will also rate very poorly in terms of social impact management and public participation.[34]

4.20 The evidence received by the committee in relation to the proposal to build the Wyaralong Dam raised very similar concerns about the handling of the announcement, the transparency of the public consultation process and the ability to gain access to information and data. In this case, the proposal to construct a dam on the Teviot Brook appears to have been mooted in 1990, however the committee was told that landholders were advised by the South East Queensland Water Board in July 1992 that land for a dam would not be required until approximately 2060.[35]

4.21 Submitters told the committee that the announcement to proceed with the dam had come as a shock and the manner in which affected landholders were kept informed in the days leading up to the announcement appears to have compounded the stress and anxiety of those concerned.

> Numerous Sate [sic] water planning documents identify the Glendower site as scheduled for 2015. Wyaralong landholder' concerns about timelines for the proposed dam have always been placated by the relevant government agents who have steadfastly confirmed that the Glendower site was scheduled for construction long before Wyaralong (2060). Even in the referral for Federal government consideration under the EPBC Act, the Queensland Government only indicated that a dam at Wyaralong **may** be considered in the future, "possibly in 2060".[36]

4.22 The limited availability of information from the time of the initial announcement in 1990 through until the announcement on 4 July 2006 has clearly been a source of annoyance and frustration to affected landholders.[37] The committee notes that there is a strong perception that the community engagement process has lacked transparency, that the decision to proceed with the dam is based on incomplete studies and unduly optimistic data and that the consultation timelines, particularly for the EIS process, have been needlessly compressed.[38]

4.23 As appears to have been the case with the Traveston Crossing Dam announcement, the inability of QWI to confirm the boundaries of the inundation area of the dam early in the community engagement process appears to have contributed to

---

34 *Submission* 69A, p. 3.

35 For example, see *Submission* 116; *Submission* 162.

36 Dr Bradd Witt, Ms Katherine Witt, Mr Andrew Taylor, *Submission* 155, p. 9.

37 For example, see *Submission* 136; *Submission* 148; *Submission* 155; *Submission* 162.

38 Dr Bradd Witt, Ms Katherine Witt, Mr Andrew Taylor, *Submission* 155.

the anxiety and stress of landholders potentially affected by the Wyaralong dam.[39] Submitters expressed concern that the potential dislocation of properties as a result of the relocation of roads and the impact on several historic properties, none of which are currently listed on State or National Heritage registers, does not appear to have been fully considered.[40]

Support for the community

4.24 After the announcement of the proposed dam, the Queensland Department of Communities established a range of support strategies, including the engagement of Lifeline counselling services and the establishment of a One-Stop-Shop at Kandanga, in the Traveston catchment. The Lifeline Community Care counselling service has operated from the One-Stop-Shop in Kandanga since June 2006. It is staffed by a coordinator of counselling, a social support worker and an administration support person. The Kandanga service can also access specialist counselling staff via the services available in Maroochydore and Gympie. The service offers face-to-face counselling at the One-Stop-Shop and undertakes outreach work at homes and farms. The service is also providing referral information, advocacy and liaison support in relation to the government services operating from the One-Stop-Shop.[41]

4.25 The committee received a number of submissions which spoke of the stress and uncertainty individuals felt following the announcement.[42] Mr Campbell told the committee that 150 people have contacted Lifeline between June 2006 and March 2007. Some of those people were seeking information and advice while others were experiencing extreme stress and depression.

> There is evidence of a growing trend for clients to be accessing GPs for related disorders including anxiety and depression. Stress levels due to the dam are creating relationship issues for otherwise stable relationships.
>
> …
>
> There are suicidal ideations reflections, reflected by expressions of concern in relation to having suicidal thoughts. …Lifeline are actively pursuing training programs and working with the community to try to reinforce coping skill areas for that sort of thing. …There is also the financial crisis brought on by the loss of employment and the decline in social capital.[43]

---

39 For example, see *Submission* 162.

40 Dr Bradd Witt, Ms Katherine Witt, *Submission* 155A.

41 Mr Ken Campbell, *Committee Hansard* 17 April 2007, p. 35.

42 For example, see *Submission* 15; *Submission* 18; *Submission* 32; *Submission* 34; *Submission* 77; *Submission* 83; *Submission* 86; *Submission* 95; *Submission* 96; *Submission* 133; *Submission* 135; *Submission* 177; *Submission* 187.

43 Mr Ken Campbell, *Committee Hansard,* 17 April 2007, p. 38.

4.26 A number of submitters expressed concern about the impact of the dam on community networks, support structures and schools. The committee received evidence of community structures struggling in the regions affected by the dam.[44]

> For long-term residents of the valley, there will be a loss of community, loss of lifestyle, loss of family tradition and history, loss of connection with the land and regret that their children will not be able to access what they have enjoyed.
>
> …
>
> There are others engaged in community activities. There will be a loss of enthusiasm for the operation of community organisations, sporting and recreational clubs, the loss of members and finances due to people leaving the valley, and the frustration and anger about the loss of social fabric.[45]

4.27 The committee notes that prior to the establishment of the Kandanga One-Stop-Shop and the provision of counselling services, the Save the Mary River Coordinating Group had independently established the Kandanga Information Centre. The Centre is staffed by volunteers and relies on donations from visitors and the community. 'The Centre was established to help the people in the community cope with the emotional trauma of the announcement and to provide information and education to the community'.[46] Ms Sue Smith, the Manager of the Kandanga Information Centre, told the committee that while the One-Stop-Shop and the Community Futures Task Force were initially seen as positive steps toward addressing the social impact of the dam, there is a perception within the community that these initiatives were poorly planned and implemented and do not fully meet the needs of the community.[47]

4.28 The committee notes that a similar range of community support mechanisms has been established for the communities affected by the Wyaralong Dam project. The committee received limited evidence in relation to the impact of these mechanisms within these communities, but notes that as in the Mary Valley, there appears to have been an unfortunate delay in establishing some of the services.

> Also on Wednesday 5 July we started receiving our letters from the Premier assuring us of fair and just compensation. Included in his letter was a 1300 number for a 24-hour counselling service. One of my cousins rang the number saying she had concerns about the Wyaralong dam. "would that be Traveston or Tilley's Bridge?" was the response. The counsellor had not heard of Wyaralong.[48]

---

44 For example, see *Submission* 61; *Submission* 126; *Submission* 187; *Submission* 205.

45 Mr Ken Campbell, *Committee Hansard,* 17 April 2007, pp 36–37.

46 Kandanga Information Centre, *Submission* 137, p. 1.

47 Kandanga Information Centre, *Submission* 137, pp 1–2.

48 Ms Prudence Firth, *Submission* 162, pp 3–4.

Land acquisition

4.29 Stage 1 of the proposed Traveston Crossing Dam will affect 332 properties, including 76 houses. Stage 2 will affect a further 265 properties, including 128 houses.[49] Following the announcement of the dam proposal, the Queensland government communicated that it would negotiate to purchase the properties of affected landowners who voluntarily wished to sell. Management of the purchase of land for the dam was initially managed by the Department of National Resources and Water (DNRW) and is now managed by QWI.[50]

4.30 Mr Graeme Newton, CEO of QWI, advised the committee that when QWI took over the process information packages were sent to landholders. The package included details of the purchasing process, the purchasing policy and the proposed lease back arrangements which apply to properties affected by Stage 1 and Stage 2.

> This [information package] went to every landholder. It also went to other landholders that were on the periphery who, under previous mapping, were identified as possibly being affected. We sent letters and information to them confirming that they were no longer affected. It went to every one of those. About 1,200 letters were sent out with information packs for those landholders either affected or not affected.[51]

4.31 However, the committee was told that not all landholders received information packages and that some landholders adjacent to the proposed inundation areas received very little information about the land acquisition process.

> We tend to forget about residents on the fringe of the dam. There are a lot of them right on the very edge of this dam and they face the prospect of living for many years with social and environmental upheaval. They cannot sell to QWI because QWI will not buy properties outside the dam, even on compassionate grounds.[52]

4.32 As at 29 March 2006, QWI had reached voluntary agreements in respect of 121 properties affected in Stage 1 and 144 properties affected in Stage 2.[53] As at 18 April 2007, QWI had undertaken 467 valuations and had reached agreements with 279 properties. On 4 June 2007 Mr Newton advised the committee that a further 32 agreements had been reached.[54]

4.33 The Committee notes that there has not been any determination by the Queensland Government to proceed with Stage 2 of the project. The committee was

---

49 Queensland Government, *Submission* 166, p. 201.

50 For further information, see *Committee Hansard,* 18 April 2007, p. 93.

51 For further information, see *Committee Hansard*, 18 April 2007, p. 94.

52 Mr Ken Campbell, *Committee Hansard*, 17 April 2007, p. 37.

53 Queensland Government, *Submission* 166, p. 202.

54 *Committee Hansard*, 4 June 2007, p. 109.

advised that 'QWI's decision to stand in the market and now acquire properties which may be required for Stage 2 has been taken to provide as much certainty as possible to landholders that may be affected by Stage 2, if Stage 2 proceeds. This approach was adopted by QWI as a result of feedback from the local community'.[55]

4.34 Under the agreements, QWI will meet all reasonable costs incurred by landowners in agreeing to a sale.[56] Mr Newton advised the committee:

> The components of it really are land valuation. There is the cost of transaction if you like: legal costs, valuation and so forth. We cover all the professional fees. In some cases there are accounting fees and so forth. There is also the stamp duty for purchase of another property. We pay the stamp duty up-front, based on the property. There is also the disturbance figure you were talking about.[57]

4.35 Mr Newton and Mr Dave Stewart, Deputy Coordinator-General, Department of Infrastructure, also advised the committee that QWI was working toward offering capital gains tax roll over on acquired properties. Mr Newton said

> Basically, it provides scope for them to buy another property and roll over the capital gains deferral, if you like, that they had for their current property to the new property.[58]

4.36 The committee was advised that all acquisitions of land to date have been voluntary purchases initiated by the landholder following receipt of a letter from QWI.[59] Mr Newton told the committee that the purchasing policy sets out the process by which land will be purchased and that such purchases will be undertaken under the auspices of the *Acquisition of Land Act 1967* (Qld) and that, consistent with other major infrastructure projects, a fair market value would be applied.[60] Under the land purchasing policy, land purchased by QWI may be leased back to the original owners at a concessional rent until it is required for the dam. Where only part of the property is required for the dam, but QWI agrees to purchase the entire property, the land that is not needed for the dam may be leased back to the previous owner. Under the leasing arrangements such land is subject to usage controls to protect the long-term quality of the water.[61]

4.37 Mr Newton explained the basis for the determination of the monetary value of leaseback:

---

55 Queensland Government, answer to question on notice, 30 April 2007 (received 31 May 2007).

56 Queensland Government, *Submission* 166, p. 28.

57 *Committee Hansard*, 18 April 2007, p. 95.

58 Mr Graeme Newton, *Committee Hansard*, 18 April 2007, p.97.

59 Mr Graeme Newton, *Committee Hansard*, 18 April 2007, p. 94.

60 *Committee Hansard*, 18 April 2007, p. 94.

61 Queensland Government, *Submission* 166, p. 205.

> Normally a leaseback is done at a market rate. In this circumstance, if it is a stage one impacted property, the leaseback is done at $1,000 per year or $29 per week or, if it is a stage two impacted property, it is 25 per cent of market price value until 2035.[62]

4.38 As at 18 April 2007, all properties purchased are subject to lease back arrangements. The majority of properties are available for lease back until 2011, but some may be required prior to this. Those properties not required until 2035 are also available for leaseback.

4.39 The Queensland Government indicated that there would be no compulsory acquisition of properties until the EIS process has been completed.[63] In the event that QWI and landholders cannot agree on a fair and reasonable purchase price, QWI would request the Coordinator General to initiate procedures for compulsory acquisition of the relevant land for a water storage and access easement under the provisions of the *State Development and Public Works Organisation Act 1971* (Qld).

4.40 In its submission to the inquiry, the Queensland Government clearly acknowledged the need to treat affected people with respect and compassion.[64] However, the committee received evidence from a number of individuals and organisations which questioned the extent to which this stated commitment has translated to the actions of those QWI staff involved in negotiating with landholders considering voluntary acquisition. [65] Mr Campbell told the committee:

> Those who are selling feel the pressure to be so great that they have to sell. They are not voluntarily selling ―there is a big difference.
>
> These people are up against a negotiating team that has negotiated, if that is correct, some 300 or 400 different settlements and yet they are trying to negotiate for the first time. They are so disadvantaged it does not even need mentioning, I suppose. There is a lack of compassion from government and QWI and from the negotiators in particular, who are so tuned in to the professional process of getting a property for the minimum price that when it comes down to compassion and understanding for the people they are negotiating with there is no room for negotiation―it is a hard-ball game.
>
> …
>
> There is a sense of being bullied and dictated to by QWI. QWI might say that is not the case, but I can assure you that, as I mentioned, just the very fact of a person walking into a room and trying to deal with an authoritative force like that is intimidating and, to them, it represents bullying. Then, of course, the ongoing language substantiates that, on the basis that you realise

62 *Committee Hansard*, 18 April 2007, p. 94.

63 Mr Graeme Newton, *Committee Hansard*, 18 April 2007, p. 94.

64 *Submission* 166, p. 186.

65 For example, *Submission* 33; *Submission* 35; *Submission* 58*; Submission* 83; *Submission* 95; *Submission* 113; *Submissio*n 117; Submission 169.

> that if you do not go along with this then you know your property will eventually be resumed.[66]

4.41 Mr Newton refuted claims of unprofessional and intimidating behaviour by QWI staff.

> I stand by my staff and their professionalism. I guess the follow up that we have is that I have regular dialogue, and so do my two senior managers who are involved in the land purchasing, with the solicitors acting for landholders—these solicitors have no vested interest in telling us what we want to hear—to get feedback about my staff who are operating on the ground. They will give opinions on how different negotiations have gone, but, on the whole, they have all come back and said that the staff have acted professionally. We acknowledge that it is a very difficult circumstance in which they are operating and they are continually reminded of that situation. I stand by the staff and their professional behaviour.[67]

4.42 Some submitters expressed concern at the difference between QWI land valuations and private land valuations.[68] Mr Newton advised that committee that:

> In relation to the valuations that we have undertaken and the assessment that I did earlier, we have found that the variation between the landholder's valuation and our valuation was approximately 13 per cent, on average. Some were more than ours and some were less than ours. The average settlement price reached was in the order of an eight per cent difference between the landholder's original valuation and ours.[69]

4.43 The committee notes that there appears to have been some confusion regarding the acquisition of affected properties within the inundation area of the Wyaralong Dam. The committee was told that some of the land acquired to date may not be required for the dam.

> The Government through the Queensland Water Infrastructure Co. Pty Ltd has constantly 'suggested' to landowners that they consider selling their properties but at no stage have they provided the certainty that the project has reached any real finality in its planning stages. Had we sold the part of our property required for the dam last year we would now have no prospect for the future at all as in the interim period, the buffer zone area has been reduced and land which we would not have been able to retain then is now not going to be affected at all.
>
> Despite frequent claims to the contrary, only a small percentage of the land required for the proposed Wyaralong Dam has actually been acquired by the Government to date and it was recently acknowledged that much of that

---

66 *Committee Hansard,* 17 April 2007, p. 37.

67 *Committee Hansard,* 18 April 2007, p. 97

68 For example, see *Submission* 9, *Submission* 58; *Submission* 59.

69 *Committee Hansard*, 18 April 2007, p. 96.

> land would now no longer be required for the dam and that there is the possibility of it being offered back to the original owners or for sale.[70]

4.44 The committee also notes that there appears to be a perception among some affected landholders in the Wyaralong inundation area that they are not eligible for compensation in the same way as landholders affected by the Traveston Crossing Dam. The committee was told that:

> The decision to build a dam at Wyaralong therefore came as a shock, even though it was claimed that we "have known about it for 15 years". Subsequently, Wyaralong landholders were not eligible for a $50M 'special circumstances' compensation package that was available only to landholders affected by the Traveston Crossing and Tilley's Bridge dams.[71]

Kandanga

4.45 The committee noted that the proposed inundation area of the Traveston Crossing Dam would significantly affect the amenity of the township of Kandanga. On its site visit the committee was shown that the inundation area for Stage 2 of the project would effectively split the town in two. The committee also noted that only those residents directly affected by the inundation would be able to voluntarily relinquish their property under the land acquisition policy.

4.46 Mr Newton, QWI, advised the committee that under Stage 1, the water in the dam at full supply level would be confined within the bed and banks of the creek. He noted that there would be some increase in flooding in the town. Mr Newton said that the offer to purchase properties in the township related to the Stage 2 boundary of the dam and had been made 'to try and give that capacity for certainty and planning in the future'.[72]

4.47 In addition to the offer of land acquisition, the Office of Urban Management, together with the CFTF, has engaged with the community to consider future planning of the area.[73] Mr Ken Smith told the committee that:

> I think the environmental and social impact will need to look at the impacts of the dam on communities such as Kandanga. Obviously the purpose of that report is to look at whether there should be some mitigating circumstances or responses…[74]

4.48 The committee noted the stress and uncertainty expressed by Kandanga residents with regard to key community facilities and, in particular, the Kandanga

---

70 Mr John Taylor and Mrs Christine Taylor, *Submission* 116, p. 7.

71 Dr Bradd Witt, *Submission* 155, p. 9; see also Ms Prudence Firth, *Submission* 162.

72 *Committee Hansard*, 18 April 2007, p. 87.

73 Mr Graeme Newton, QWI, *Committee Hansard*, 18 April 2007, p. 88.

74 *Committee Hansard*, 18 April 2007, p. 88.

cemetery. The committee notes that the CFTF is examining options for the future of the cemetery in consultation with people who have loved ones buried in the cemetery.[75]

4.49 The Queensland Government considered the impact on the Kandanga community and advised the committee that:

> Keeping the township of Kandanga connected as a whole is a priority of the Queensland Government through the work of the Community Futures Task Force. Consultation with the community has indicated that keeping the township together and retaining as much of the current amenity and character of the township as possible, is the wish of the people of Kandanga.
>
> Rather than offer an exit package to all members of the township, the State Government is working with the community to plan for a future which maximises retention of existing aspects of Kandanga including the current population level, businesses, community facilities, and other infrastructure.
>
> The Queensland Government is undertaking an extensive public consultation process to inform land use planning and infrastructure studies for all Mary Valley communities affected by the proposed Traveston Crossing Dam. On 29 May 2007, the people of Kandanga were presented with draft concept plans outlining options for the zoning of new residential, commercial and community areas on vacant lands clear of the proposed inundation areas and adjacent to areas of the township that will not be affected by inundation. Community feedback on these plans will inform development of further options for public comment.[76]

4.50 The Queensland Government provided the committee with details of plans to replace or improve existing community infrastructures in Kandanga including:

- the replacement of the septic system;
- provision of a new water system including a new treatment plant;
- maintenance or improvement of current road and rail facilities;
- relocation of specific community and sporting facilities;
- co-funding of a new public amenities block;
- provision of accommodation for establishment of a Kandanga Information Centre; and

75 Queensland Government, 'Do you have a relative or friend buried in Kandanga cemetery?', *Weekend Australian*, June 16–17 2007; See also, Additional Information, Mr Ken Smith, Coordinator General, Director General, Department of Infrastructure, 20 June 2007.

76 Additional Information, Mr Ken Smith, Coordinator General, Director General, Department of Infrastructure, 20 June 2007.

- funding a Business Expansion and Retention Program for the Mary Valley.[77]

4.51 Mr Smith advised the committee that a full time Community Development Officer based at the Government's One-Stop-Shop at Kandanga is supporting local initiatives to maintain and strengthen the connections between the people of Kandanga. The Community Development Officer is also assisting local community and sporting organisations to access the Community Futures Fund, which has been established by the CFTF to assist community groups affected by the proposed dams to remain viable.[78]

Impact on business

4.52 In its submission, the Queensland Government states that, based on a report prepared by ACIL Tasman, *The Scoping Economic Futures - Traveston Crossing Region future economic and business development scenarios* (the ACIL Tasman Report), the proposed Traveston Crossing Dam project has the potential to reinvigorate the region's economy. According to that report, the Traveston Crossing Dam project presents a major opportunity for the Cooloola region to attract new investment, attract and retain a new workforce and to reinvigorate existing agricultural production.[79]

4.53 The ACIL Tasman Report states:

> In addition to the wider regional changes, there will be specific stimuli from the dam –
>
> - the new workforce engaged for the dam,
> - the capital injected into farms and businesses, as part of the lease-back arrangements, to compensate them for losses and disturbance,
> - the recreational and tourism activities associated with the dam,
> - new local water allocations, and
> - changes to infrastructure, in particular improved roads and access associated with the dam.
>
> These stimuli will create opportunities to engage some new entrants in the local economy, to restructure some traditional activities and promote some new ones.
>
> …

77 Additional Information, Mr Ken Smith, Coordinator General, Director General, Department of Infrastructure, 20 June 2007.

78 Additional Information, Mr Ken Smith, Coordinator General, Director General, Department of Infrastructure, 20 June 2007.

79 ACIL Tasman, *Scoping Economic Futures – Traveston Crossing Region, Future economic and business development scenarios, A Report for the Queensland Governmen*t, Department of State Development and Trade, February 2007, p. 1.

> … the Traveston Crossing region will be able to use the considerable business and entrepreneurial experience of those farmers and business people who are offered lease-back arrangements to drive better agricultural and business practices in the vicinity. [80]

4.54 The ACIL Tasman Report notes that around 500 employees will be needed in the construction of the dam and suggests that based on the percentage of locally sourced workforce for the Paradise Dam project on the Burnett River, 150 jobs could be sourced locally for the construction of the dam.[81] The committee also notes that the ACIL Tasman Report cautions that:

> A key issue is to keep potential participants in the economy informed of the progress of the project. Uncertainty is a powerful impediment to investment, and accurate information will support the take up of economic opportunities.[82]

4.55 The Queensland Government is facilitating access to financial assistance programs through the CFTF. Under the Business Adjustment Scheme administered by the Queensland Rural Adjustment Authority, eligible businesses can seek Business Advice Assistance to assess whether the business has the ability to restructure and be viable in the changed economy. Business Restructure Assistance is available to enable eligible businesses to develop and implement business strategies to improve the ongoing viability of their business. Where restructuring is not possible and the only realistic option is to exit the business, eligible businesses can seek Business Exit Assistance.[83] The CFTF, in conjunction with the Department of State Development and Trade, have held business training workshops and have briefed banks and local financial institutions on the assistance available to affected businesses.[84]

4.56 The committee received submissions from a number of business owners concerned at the adverse impact of the Traveston Crossing Dam on their business.[85] Some business owners expressed concern that work associated with the dam project was not going to local businesses.[86]

---

80 *Scoping Economic Futures – Traveston Crossing Region, Future economic and business development scenarios, A Report for the Queensland Government*, pp 1–2.

81 *Scoping Economic Futures – Traveston Crossing Region, Future economic and business development scenarios, A Report for the Queensland Government,* p. 8.

82 *Scoping Economic Futures – Traveston Crossing Region, Future economic and business development scenarios, A Report for the Queensland Government*, p. 2.

83 Community Futures Task Force Newsletter, Issue 5, December 2006.

84 Community Futures Task Force Newsletter, Issue 6, January 2007 and Issue 7, February 2007.

85 For example, see *Submission* 34; *Submission* 35; *Submission* 46; *Submission* 47; *Submission* 55; *Submission* 56; *Submission* 69; *Submission* 74; *Submission* 82; *Submission* 84; *Submission* 91; *Submission* 152; *Submission* 159.

86 For example, see *Submission* 47; *Submission* 84.

> Immediately after the announcement my business started to suffer. My company has lost in excess of $733,000.00 in commissions payable from land listed for sale in the proposed dam area. We have continued to lose income due to lack of confidence in the Mary Valley market. Government policy is that they do not have to deal with real estate offices and they do not compensate businesses.
>
> …
>
> Because of franchise agreements I am land locked and can not increase my selling area. My company does not have exclusivity in the lease back arrangements with QWI, and they have called for expressions of interest from other Real Estate agents from outside of the area to manage these properties. This has flat lined my business not allowing for projected growth.[87]

4.57 Others expressed concern that there was no compensation for loss of earnings for those businesses experiencing a negative impact as a result of the proposal, but who wish to stay in business.[88] Mr Gregory Wicks, a fencing contractor, told the committee:

> They did an independent value of the business and they want to buy the business at what it was valued at after the announcement of the dam. There is not compensation for loss of work or anything of that nature.[89]

4.58 Mr Wick's partner, Ms Hazel Schoen, told the committee of the initial uncertainty regarding assistance and compensation experienced by business owners and the delays experienced in progressing applications for financial assistance.

> When the dam was announced, it was only landowners directly affected who were going to have their land purchased by the government and be compensated by the government. No business was going to get any compensation whatsoever. It was not until we rallied and wrote letters that it was legislated in parliament in November last year that they were going to give some sort of compensation to businesses. … so businesses were not even thought of by the government.
>
> …
>
> We wrote them a letter on 22 June [2006] telling them of the circumstances our business was in. We did not get an answer from them until the following month that they were looking into it. Then it was legislated in cabinet in November. It was the middle of December when we put our application in for an exit plan. That had to go to a committee, and it followed through from there. We are now at a stage where we have done a valuation on our business, the government has done a valuation of their

87 Raine and Horne Mary Valley, *Submission* 47, p. 1.

88 For example, see Mr and Mrs R Worth, *Submission* 46.

89 *Committee Hansard*, 17 April 2007, p. 7.

> business, and we are that far apart it is not funny. So it is now negotiation time. They have ruined our business totally.[90]

Conclusion

4.59 The committee is concerned by the evidence it received in relation to the Queensland Government's management of community engagement in relation to the announcement of the Traveston and Wyaralong Dams. In the committee's opinion a great deal of the anxiety and stress experienced by affected landholders and communities could have been alleviated if a more open and transparent engagement process had been adopted from the outset. It is particularly regrettable that members of the communities affected experienced difficulty gaining access to relevant information immediately following the announcements. The committee is also concerned to note the strong perception within the affected communities that QWI employees have not dealt with landholders professionally and compassionately.

4.60 The committee notes the Queensland Government's acknowledgement that the decision to progress the Traveston Crossing Dam in particular has caused a high degree of local anxiety. The committee also notes the Queensland Government's stated commitment to treat affected parties with respect and compassion.[91] The committee also notes that once implemented, measures to mitigate the potential negative impacts of the dams have addressed identified social needs within the communities concerned. The committee notes that the process of community engagement and support is ongoing and hopes that important lessons can be learnt from the evidence submitted to this inquiry.

90 *Committee Hansard*, Tuesday 17 April 2007, pp 8–9.

91 Queensland Government, *Submission* 166, p. 185.

Chapter 5

Environmental Issues

5.1 In addition to the social and economic impact of the proposed Traveston Crossing Dam and Wyaralong Dam, a significant number of submissions warned of the negative impact these projects would have on the environment, particularly in relation to the native flora and fauna of the regions. This chapter outlines the main environmental issues that were raised in evidence and includes:

- the assessment and approval of 'controlled actions' under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act);[1]
- the impact on flora and fauna, including threatened species, World Heritage properties and Ramsar wetlands; and
- bilateral agreements relating to water quality, salinity, biodiversity and climate change.

The assessment and approval process under the EPBC Act

5.2 The EPBC Act commenced in July 2000 and is the Commonwealth's principal piece of environmental legislation. A number of the Queensland Government initiatives to supply water, including the Traveston Crossing Dam and the Wyaralong Dam, require the approval of the Commonwealth Minister for Environment and Water Resources (the Minister) under the EPBC Act.

5.3 Under the legislation, a proposed action, 'including projects, developments, activities, or alteration of these things, likely to have a significant impact on a matter protected by the EPBC Act' should be referred to the Minister for a decision on whether the action constitutes a 'controlled action'.[2] If the Minister determines that the action is a 'controlled action' then an approval is required and the proposed action will proceed through the assessment and approval processes. The Commonwealth does not have the power to intervene in development proposals which are not likely to have a significant impact on matters of national environmental significance. The EPBC Act environment referral and assessment processes are detailed in Appendix 5.

5.4 The significance of the environmental impact of the Queensland Government's initiatives, combined with the Commonwealth's role as the final arbiter

---

1 'An action that a person proposes to take is a ***controlled action*** if the taking of the action by the person without the approval under Part 9 [Approval of actions] for the purposes of a provision of Part 3 [Requirements for environmental approvals] would be prohibited by the provision. The provision is a ***controlling provision*** for the action'. See EPBC Act No. 88, 2003, p. 109.

2 Department of the Environment and Water Resources, Factsheet, *EPBC Act – Environment Assessment Process*, February 2007, p. 1.

of initiatives which are 'controlled actions', was highlighted throughout the inquiry. The EPBC Act establishes an environmental assessment and approval system that is separate and distinct from state systems; however it does not affect the validity or conduct of state-based environmental and development assessments and approvals.[3]

5.5 The EPBC Act is designed to specifically protect Australia's native species and ecological communities and provides for:

- the identification and listing of species and ecological communities as threatened;
- the development of conservation advice and recovery plans for listed species and ecological communities;
- the development of a register of critical habitat;
- the recognition of key threatening processes; and
- where appropriate, reducing the impacts of these processes through threat abatement plans.[4]

5.6 The EPBC Act also provides for the protection of specific defined matters of national environmental significance (NES) which include:

- World Heritage properties;
- National Heritage places;
- wetlands of international importance (Ramsar wetlands);
- listed threatened species and ecological communities;
- listed migratory species;
- nuclear actions; and
- marine environment (Commonwealth marine areas).[5]

The assessment process under the EPBC Act

5.7 Bilateral agreements between the Commonwealth and a state or territory are an integral feature of the EPBC Act. The Commonwealth Department of Environment and Water Resources defines a bilateral agreement as 'an agreement between the Commonwealth and a [s]tate or self-governing [t]erritory for the purpose of protecting the environment, promoting conservation and ecologically sustainable use of natural resources, increasing the efficiency of environmental [a]ssessments and [a]pprovals,

3 Tasmanian Department of Primary Industries and Water website: www.dpiw.tas.gov.au/inter.nsf/ (accessed 19 June 2007).

4 Department of the Environment and Water Resources website: www.environment.gov.au/biodiversity/threatened (accessed 19 June 2007).

5 Tasmanian Department of Primary Industries and Water website: www.dpiw.tas.gov.au/inter.nsf/ (accessed 19 June 2007).

reducing duplication in environmental assessment and approval, or some combination of these'.[6]

5.8 An assessment bilateral agreement allows the Minister to recognise the assessment processes of a state or self-governing territory, for a certain class of actions. In relation to the approval of the Traveston Crossing Dam and Wyaralong Dam projects, this means that the Queensland Government's assessment process can be used for the purposes of the EPBC Act. The Queensland Government will undertake the assessment process, which includes the development of Terms of Reference and an Environmental Impact Statement (EIS), and will provide an assessment report to the Minister. The Commonwealth Minister remains responsible for approving actions even if the assessment is undertaken by a state or territory.[7]

5.9 The Commonwealth Department of Environment and Water Resources explained the process once the Queensland Government completes the assessment:

> When that concludes, the assessment report is provided to the Commonwealth minister and the Commonwealth minister then must decide whether or not to approve it. The minister then, if he does not believe that there is enough information to make an informed decision, can make other inquiries. He can ask the Queensland government for more information. He can ask the proponent for more information et cetera. So, basically, once the assessment report is received by the Commonwealth, it is the standard EPBC process whereby the minister then really has to take into account economic and social considerations and is able to make whatever inquiries he thinks are required in order to make the proper decision.[8]

5.10 In considering whether a 'controlled action' should be approved, and whether any conditions should be imposed, the Minister must take into account:

- the principles of ecologically sustainable development;
- the outcomes of the assessment of the impacts of the proposed action;
- referral documentation;
- community and stakeholder comments;
- any other relevant information available on the impacts of the proposed action; and

---

6 Department of the Environment and Water Resources website: http://www.environment.gov.au/epbc/assessmentsapprovals/bilateral/index.html (accessed 2 July 2007).

7 Department of the Environment and Water Resources website: http://www.environment.gov.au/epbc/assessmentsapprovals/bilateral/index.html (accessed 2 July 2007).

8 Mr Gerard Early, Commonwealth Department of Environment and Water Resources, *Committee Hansard*, 11 May 2007, p. 4.

- relevant comments from other Commonwealth and state and territory government ministers (such as information on social and economic factors).[9]

5.11 The Minister may also take into account the environmental history of the individual or company proposing to take the action. This can include the environmental history of the executive officers of companies, as well as parent companies and their executive officers.[10]

5.12 The Commonwealth Department of Environment and Water Resources stated that the Minister, when making a decision to approve a project, is not restricted to considering only matters of environmental significance and can also take into account social and economic factors:

> Those matters of national environmental significance are the subject of the assessment but, when it comes to the approval stage of the process, the minister may—in fact, he is required to—take into account economic and social matters in reaching his decision. He is also required to consult other Commonwealth ministers who may have administrative responsibility.[11]

5.13 Following the Minister's assessment of a proposal, the EPBC Act allows for the Minister to:

- approve the action;
- approve the action subject to constraints (by placing conditions on the action); or
- not approve the action.[12]

5.14 Conditions the Minister may attach to the approval of a project can include bonds or other securities, independent environmental auditing and compliance monitoring.[13]

The Traveston Crossing Dam proposal

5.15 On 29 November 2006, the then Federal Minister for Environment and Heritage, Senator the Hon. Ian Campbell, announced that the proposal to construct Stage 1 of the Traveston Crossing Dam on the Mary River in South East Queensland

---

9 Department of the Environment and Water Resources, Factsheet, *EPBC Act – Environment Assessment Process*, February 2007, p. 4.

10 Department of the Environment and Water Resources, Factsheet, *EPBC Act – Environment Assessment Process*, February 2007, p. 4.

11 Mr Gerard Early, Commonwealth Department of Environment and Water Resources, *Committee Hansard*, 11 May 2007, p. 6.

12 Department of the Environment and Water Resources, Factsheet, *EPBC Act – Environment Assessment Process*, February 2007, p. 6.

13 Department of the Environment and Water Resources, Factsheet, *EPBC Act – Environment Assessment Process*, February 2007, p. 6.

constituted a 'controlled action' under the EPBC Act due to the likely impacts on matters of national environmental significance.[14]

5.16 The Commonwealth Department of Environment and Water Resources indicated that the 'relevant matters of national environment significance are World Heritage, Ramsar listed wetlands, listed threatened species in ecological communities and listed migratory species'.[15] The controlling provisions under the EPBC Act are:

- sections 12 and 15A (World Heritage);
- sections 16 and 17B (Ramsar wetlands);
- sections 18 and 18A (Listed threatened species and communities); and
- sections 20 and 20A (Listed migratory species).

5.17 Minister Campbell's announcement also noted that construction of Stage 2 of the Traveston Crossing Dam proposal was not expected to commence until 2035 and that a proposal for Stage 2 would be referred separately under the EPBC Act at that time.[16] The committee received evidence questioning whether it was appropriate for Stage 1 and Stage 2 of the Traveston Crossing Dam proposal to be separated under the approval process of the EPBC Act.[17]

5.18 Mr Robert Farnham and Mrs Rahima Farnham, residents of Carters Ridge, a few kilometres away from the proposed dam site, commented:

> After considerable opposition to the initial proposal, the project was Split [sic] into 2 phases in a failed attempt to reduce hostility, however, the Government has only referred Stage 1 of the proposed dam under the EPBC Act but is proposing to build the dam wall to its full height as part of Stage 1 and is in the process of acquiring all the land for both stages 1 and 2. As a result, the referral is fundamentally flawed in that the Queensland Government has only submitted Stage 1 of the proposed dam for assessment EIS [sic], when it is clear that the proposal must be assessed in terms of its total and ultimate impact.[18]

5.19 The Commonwealth Department of Environment and Water Resources discussed the separation of Stages 1 and 2 and commented that the Minister for Environment and Water Resources was considering the matter:

---

14 Senator the Hon. Ian Campbell, Minister for Environment and Heritage, 'Mary River dam proposal to be assessed under EPBC Act', Media Release, 29 November 2006.

15 Mr Early, Commonwealth Department of Environment and Water Resources, *Committee Hansard*, 11 May 2007, p. 2.

16 Senator the Hon. Ian Campbell, Minister for Environment and Heritage, 'Mary River dam proposal to be assessed under EPBC Act', Media Release, 29 November 2006.

17 For example, see *Submission* 111; *Submission* 134; *Submission* 175; *Submission* 177.

18 *Submission* 134, p. 2.

> In the original proposal, the referral was stage 1, as you know, with a commitment to refer stage 2 at some later time. We have since been provided with a lot of information about what is happening and what commitments the Queensland government have made and so forth. Our minister has recently written to the Queensland Deputy Premier to get some clarification about what is happening with stage 2. So there is a possibility, depending on what sort of answers are given, that we might be seeking to roll them up into the one assessment.[19]

5.20 QWI provided the committee with a copy of correspondence it wrote to the Commonwealth Minister for Environment and Water Resources in response to the Minister's queries relating to the decision not to refer Stage 2 of the Traveston Crossing Dam project simultaneously with Stage 1. QWI confirmed that it intends to proceed with only Stage 1 at the present time and provided these comments in the correspondence to the Minister:

> As QWI understands that no decision for the future requirement for Stage 2 has yet been made by the Queensland Government, QWI considers that there is no substantial new information or substantial change in circumstances that would require you to reconsider the original referral decision or require a combined referral and assessment of both Stages 1 and 2.[20]

5.21 Mr Gerard Early, Acting Deputy Secretary, Commonwealth Department of Environment and Water Resources, provided the committee with information regarding the Minister's decision on the separation of referrals for Stage 1 and Stage 2 of the proposed Traveston Crossing Dam.

> …the Queensland Deputy Premier has now confirmed that the environmental impact statement to be accredited under the EPBC Act will consider the potential impacts of stage two of the proposed dam, including the impacts on matters protected under the EPBC Act, to the extent possible during the assessment of stage one of the dam. The Queensland Deputy Premier has agreed to consolidate the information related to a possible stage two into a separate chapter of the environmental impact statement.
>
> Both the Deputy Premier and the proponent have advised the Minister that no decision has been made on whether stage two of the Traveston Crossing Dam will go ahead and that any decision will not be made until closer to 2035. The proponent has also advised that, if stage one is approved, the dam would only be able to operate at stage one level because of technical constraints such as the size of the gates regulating water flow and the regulatory conditions governing dam operations.

---

19 Mr Early, Commonwealth Department of Environment and Water Resources, *Committee Hansard*, 11 May 2007, p. 9.

20 Additional Information, Mr Graeme Newton, Chief Executive Officer, Queensland Water Infrastructure Pty Ltd, 12 July 2007.

> Given this, Mr Turnbull has decided that stage two of the Traveston Crossing Dam does not at this stage require a separate referral and assessment under the EPBC Act. However, Mr Turnbull has noted the commitment by the Queensland Government that, if it makes a decision to progress stage two at some time in the future, that proposed action will be referred for consideration by the Commonwealth in accordance with the provisions of the EPBC Act.[21]

Environmental Impact Statement process

5.22 Under the *State Development and Public Works Organisation Act 1971* (Qld) and the bilateral agreement between the Commonwealth and Queensland Governments, the Minister accredited the EIS to be conducted by the State of Queensland on behalf of Commonwealth. The Queensland Government's Coordinator General will coordinate the EIS process for the project and the EIS will be conducted by QWI.[22]

5.23 QWI indicated that the EIS process will consider the likely impact of the Traveston Crossing Dam on:

- listed threatened Australian species such as the vulnerable Australian Lungfish, the endangered Mary River Cod and Mary River Tortoise;
- listed migratory species including migratory shorebirds, the Green Turtle and the Dugong;
- the Great Sandy Strait wetland; and
- the World Heritage values of Fraser Island.[23]

5.24 Submitters and witnesses expressed concern that it is the proponent for the Traveston Crossing Dam who will complete the assessment which will be given to the Commonwealth for the approval process.[24] Dr Lyndon DeVantier, a Queensland ecologist, made the following comments:

> …the proponent, Queensland Water Infrastructure Pty Ltd (QWIPL) and the Queensland State Government appear, to all intents and purposes, to be one and the same. As I understand the situation, QWIPL has been granted powers to advance the proposal, while the Queensland Coordinator-General will be the main arbiter of the EIS. This would appear to have a high potential for conflict of interest in respect of an objective assessment of the environmental (in its broadest sense, encompassing biodiversity, climate

---

21 Additional information, Mr Gerard Early, Acting Deputy Secretary, Commonwealth Department of Environment and Water Resources, 14 August 2007.

22 *Submission*, 166, pp 170 – 171.

23 Queensland Government, The Coordinator-General, Traveston Crossing Dam Project Stage 1, Mary River, Queensland, Draft Terms of Reference for an Environmental Impact Statement, December 2006, pp 34 – 36.

24 For example, see *Submission* 78; *Submission* 134; *Submission* 143.

> change – hydrology and socio-economic) impacts of the proposed dam…In short, the Queensland Government should not be the assessor of the 'environmental impacts' (in the broadest sense) of a proposal for which it is also (effectively) the proponent. This in turn suggests the need for a thorough review of the entire State – Federal bilateral agreement process.[25]

5.25 The Australian Conservation Foundation further commented:

> The Queensland government EIS assessments take place under the state [sic] Development and Public Works Organisation Act 1971, under which they have to assess the proposal in line with the guidelines outlined in the EPBC Act, where relevant matters of national environment significance must be considered. While the purpose of the bilateral is to avoid duplication, it is questionable whether these are the best arrangements in cases where the state government is the project proponent as well as the assessor of the proposed project's environmental impact, and we ask the committee to look carefully at this issue in its recommendations.[26]

5.26 The draft Terms of Reference for the EIS, which were prepared by Queensland's Coordinator General, were released for comment on 9 December 2006. Interested stakeholders, community groups, advisory bodies and individuals were invited to provide submissions by 19 February 2007. The Queensland Government estimated that QWI will conduct the EIS and produce a report for the Commonwealth Department of Environment and Water Resources by October 2007.[27]

The Wyaralong Dam proposal

5.27 On 13 December 2006, the Commonwealth Minister for the Department of Environment and Heritage decided that the Wyaralong Dam project constituted a 'controlled action' under the EPBC Act due to the likely potential impacts on matters of national environmental significance. The Commonwealth Department of Environment and Water Resources indicated that the 'relevant matters of national environment significance are Ramsar listed wetlands, listed threatened species in ecological communities and listed migratory species'.[28] The controlling provisions under the EPBC Act are:

- sections 16 and 17B (Ramsar wetlands);
- sections 18 and 18A (Listed threatened species and communities); and
- sections 20 and 20A (Listed migratory species).

---

25 *Submission* 78, pp 2–3.

26 *Committee Hansard*, 4 June 2007, p. 4.

27 Mr Ken Smith, Department of Infrastructure, Queensland, *Committee Hansard,* 18 April 2007, p. 109.

28 Mr Gerard Early, Commonwealth Department of Environment and Water Resources, *Committee Hansard*, 11 May 2007, p. 2.

Interconnectivity with the Cedar Grove Weir

5.28 The committee received evidence which stated that the interconnectivity between the Wyaralong Dam and the Cedar Grove Weir was not made clear in documents provided to the Commonwealth for the assessment and approval processes through the EPBC Act.[29] Dr Bradd Witt stated:

> Cedar Grove Weir was always intended to operate as a pumping station for either Wyaralong Dam or perhaps Tilley's Bridge dam…The two are interconnected…But it is interesting that, yes, the Commonwealth government's referral regarding Cedar Grove just last year…stated that Cedar Grove Weir is a stand-alone project, viable in its own right and not dependent on any other infrastructure, and that they might consider building a dam in 2060 at Wyaralong if it were deemed necessary. It is interesting then that three months later…the state government announced a dam at Wyaralong on Teviot Brook. In December last year a referral went in about Wyaralong Dam, claiming that it was an independent, stand-alone and viable in its own right piece of infrastructure that may operate in conjunction with the weir but that was viable in its own right.[30]

5.29 The Queensland Government stated that the Cedar Grove Weir had prior approval and is currently under construction. Its response to concerns on the referral issue, was as follows:

> It is also fair to say that, in the referral document, there is a very clear statement about Cedar Grove and its relationship with Wyaralong. That was part of the referral that happened in March 2006.[31]
>
> …
>
> In the referral for Wyaralong Dam and in all the other documentation, it makes reference to the offtake being at Cedar Grove Weir. It is no different to any other system where you nominate where your offtake is going to come out. The hydraulic IQQM [Integrated Quantity and Quality Modelling] modelling that is done is provided to the approval authorities to review and assess the accuracy of the stream flows. They go through an assessment process. They have competent, trained people who can pull the model apart and look at the components that are inside it. That is how it is done. The issue about assessment: Cedar Grove is already being built and with Wyaralong it is included, referenced, in the documentation, so it is not as though the one is not referring to the other. As I talked about at the last hearing, in the Cedar Grove Weir approval process, it did foreshadow a future Wyaralong Dam on the Teviot.[32]

---

29 For more information on this process, see Appendix 5.

30 *Committee Hansard*, 18 April 2007, p. 18.

31 Mr Dave Stewart, Department of Infrastructure, Queensland, *Committee Hansard*, 18 April 2007, p. 132.

32 Mr Graeme Newton, QWI, *Committee Hansard*, 4 June 2007, p. 107.

5.30 The Commonwealth Department of Environment and Water Resources commented on the issue of interconnectivity and stated:

> Sometimes it is a difficult issue for us—and I'm talking in generalities now because, for example, it can apply to roads and all sorts of things—but I suppose the test we apply is: if nothing else happens in this whatever, if the proposal were to go ahead, would it go ahead on its own? And if we make the conclusion that it would, then we accept it as a single referral, even though it may be part of a broader context. It is when it could not go ahead without the other things that we start to think that it is part of the broader action. So it is often a difficult call for us, but we just have to make the best judgement we can.[33]

Key environmental issues

5.31 The committee received a considerable amount of evidence expressing concerns about the impact the proposed Traveston Crossing Dam would have the flora and fauna native to the regions as well as downstream impacts on the Great Sandy Strait and Fraser Island. Submitters identified a large number of species which were likely to be threatened by the proposals, including the Australian Lungfish, Mary River Cod, Mary River Turtle, Giant Barred Frog, Cascade Tree Frog, Tusked Frog, Coxen's Fig Parrot, Richmond Birdwing Butterfly, Honey Blue Eye (fish), Southern Snapping Turtle, Giant Spiny Crayfish, Spotted Tail Quoll as well as migratory shorebirds, platypus, barramundi, dugong and the green turtle.[34]

5.32 However, scientists, local community groups, environmental groups and individuals expressed particular concern for three species that were identified as being under specific threat from the damming of the Mary River.[35] These three species are:

- the Australian Lungfish *(Neoceratodus foresti)* which is currently listed as vulnerable;
- the Mary River Turtle *(Elusor macrurus)* which is currently listed as endangered; and
- the Mary River Cod *(Macullochella peelii mariensis)* which is currently listed as endangered.[36]

---

33 Mr Gerard Early, Department of Environment and Water Resources, *Committee Hansard*, 11 May 2007, p. 13.

34 For example, see *Submission* 37*; Submission* 101*; Submission* 143*; Submission* 146*; Submission* 156*; Submission* 171*; Submission* 176*; Submission* 177*; Submission* 198.

35 For example, see *Submission* 11*; Submission* 28*; Submission* 41 *Submission* 56*; Submission* 65*; Submission* 71; *Submission* 85*; Submission* 97*; Submission* 111*; Submission* 140*; Submission* 144*; Submission* 154; *Submission* 165; *Submission* 175; *Submission* 179*; Submission* 190.

36 See Appendix 6 for definitions in relation to Listed Threatened Species.

Australian Lungfish

5.33 The Australian Lungfish (the lungfish) is a long, heavy-bodied freshwater fish, which can grow to more than 1.5 metres in length and weigh up to 40 kilograms. The lungfish is the sole Australian survivor of a family of fishes that have been around since the dinosaurs. Fossil remains of this species have been found in New South Wales, and dated from more than 100 million years ago.[37]

5.34 The lungfish is restricted to South East Queensland, with its natural distribution being the Mary, Burnett and possibly Brisbane and North Pine Rivers. Research suggests that in recent years only small numbers of young lungfish are growing into adult fish. In addition, changes to the quality and extent of breeding habitat appear to be reducing the likelihood of successful spawning. Two of the key problems affecting the lungfish are the flooding of suitable spawning sites and physical barriers that block the movement of adult lungfish to the remaining breeding sites. While the waters of dams and weirs provide feeding habitat for the species, they rarely provide the shallow water and dense cover of plants like ribbonweed which the lungfish need for successful spawning. In addition, dams and weirs do not provide suitable nursery habitat for the species as the young also require a cover of water plants.

5.35 In addition to being listed as a nationally threatened species under the EPBC Act, the Lungfish is protected from fishing under the *Queensland Fisheries Act 1994*. The Lungfish is also listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and strict conditions apply to its export under the EPBC Act.

5.36 The committee received evidence from Professor Jean Joss, a professor of biological sciences at Macquarie University, who is considered to be a world expert on the Australian Lungfish. Professor Joss argued that damming the river will disrupt the ecology of the entire Mary River valley, and have a major impact on the Mary River Turtle and the Mary River Cod.[38] However, Professor Joss drew particular attention to the significance of the lungfish – a species she has been studying for approximately 20 years. Professor Joss described the lungfish as 'scientifically invaluable', particularly as only three kinds of lungfish currently exist in the world.[39] Professor Joss argued that the Australian Lungfish differed considerably from both the South American and African species which made it particularly important to scientific research:

---

37 Information sheet titled *Australian Lungfish (Neoceratodus forsteri), Nationally Threatened Species Ecological Communities Information Sheet*, Department of Environment and Water Resources, http://www.environment.gov.au/biodiversity/threatened/publications/lungfish.html (accessed 1 May 2007).

38 *Submission* 67, p. 2.

39 *Submission* 67, p. 1.

> With the Australian lungfish we can study the whole living organism: genes, development, physiology, anatomy, behaviour, the lot. Because of this it is very valuable to scientists who study fossils of the earliest land animals and their fish ancestors: it provides a living model that helps palaeontologists to understand the anatomy of the fossils, and allows them to answer questions about, for example, the genetic basis of some of these structures.[40]

5.37 Professor Joss expressed her concerns about the impact damming the Mary River would have on the limited habitat of the lungfish, which only occurs naturally in two rivers in Queensland – the Burnett and the Mary. In her submission, the Professor explained that lungfish need shallow areas of slow water flow and lots of vegetation to breed. Unfortunately, these areas disappear in dams because the fluctuations in water levels are too great. Further downstream of the dam, reduced water flow also causes established breeding areas to dry out. Lungfish are very loyal to their old breeding sites, and will cease to breed if their old sites are lost. If they cannot breed, the population will eventually die out. This may take several decades however, as lungfish have a similar life-span to humans.[41]

5.38 The Professor also told the committee that she had been involved in the process to have the lungfish listed as vulnerable under the EPBC Act and argued that:

> The fish were listed because it was estimated by the committee at the time that 26 per cent of the lungfish spawning habitat had already been lost to water impoundments across their very small habitat, which was just those two little rivers, the Mary and the Burnett. They were listed as vulnerable with that 26 per cent loss. But the Paradise Dam has been listed as taking an extra 13 per cent off that, which raises it to almost 40 per cent with Paradise Dam. So to put another dam in there that is quite a large dam – maybe not quite as large as Paradise – and on the only other river, which is their normal habitat, you are running a huge risk of pushing them from vulnerable to at least endangered if not critically endangered, and I find that a bizarre use of the act.[42]

5.39 Professor Joss also argued that one of the strategies intended to mitigate the impact of the dam on the lungfish would do nothing to address the negative impact on the survival of the lungfish:

> Proposed state-of-the-art fish elevators to allow lungfish past the dam will do nothing to redress the loss of spawning/nursery areas, and are thus unlikely to halt the slide toward extinction if the Mary River dam is built.[43]

---

40 *Submission* 67, p. 1.

41 *Submission* 67, p. 1.

42 *Committee Hansard*, 11 May 2007, pp 34–35.

43 *Submission* 67, pp 1–2.

5.40 Dr Eve Fesl, an elder of the Gubbi Gubbi People, also expressed concern about the Traveston Crossing Dam and the impact it would have on the lungfish. Dr Fesl told the committee that the lungfish – or 'Dala' – has always been recognised as unique and sacred by the Gubbi Gubbi People:

> For over thousands of years the duty of our people has been to care for this creature. As small children we were taught not to kill or eat it and to protect it and its breeding places from harm. This has been part of our cultural duty. … It is my people's concern that the building of the Traveston dam will condemn to extinction this creature which has been on the earth for 380 million years and for which our people have cared for many thousands of years. Its only viable habitat in the world is the Mary River (called 'Mumabulla' by us).[44]

5.41 Dr Fesl shared Professor Joss' views regarding the way in which a reduction in flow to waters below the dam would affect the species' habitat and its breeding cycle. She also shared Professor Joss' concerns about the appropriateness of a proposed fish ladder:

> The lungfish is 1.5 metres long. The fish lift was designed for salmon, which spring up and down. It is not very suitable for a lungfish, which is a long, gliding creature.
>
> …
>
> The fish ladders are no good to the Dala. If they were useful I would not be here today.[45]

5.42 At the committee's public hearing in Gympie, Dr Fesl quoted the South East Queensland Regional Plan (2005), which states that the government would 'recognise, protect and conserve Aboriginal cultural values in land, water and natural resources', and argued that the state government would be abrogating its responsibilities should it allow the lungfish to be impacted.[46] Dr Fesl further argued that the breeding places of Dala are natural resources which are of value to the region's indigenous people, and that the Commonwealth Government should:

> …declare these Dala breeding places to be national heritage areas. The government cannot declare a living thing to be part of our national heritage but it can declare the breeding places of the Dala to be heritage places.[47]

Mary River Cod

5.43 The Mary River Cod was described as a subspecies (and recognised as distinct from the Eastern Cod and the Murray River Cod) in 1993. It has been reported that cod between 23-38 kilograms had been caught in the past, however, cod larger than 5

---

44 *Submission* 60, p. 1.

45 *Committee Hansard*, 17 April 2007, p. 74.

46 *Committee Hansard*, 17 April 2007, p. 73.

47 *Committee Hansard*, 17 April 2007, p. 74.

kilograms and 70 cm in length are uncommon today. The population of the Mary River Cod has declined since the early 1900's, when it was common in the Mary River system. At the present time, the total number of Mary River Cod in Tinana-Coondoo Creek, Six Mile Creek and Obi Obi Creek is estimated to be approximately 600 individuals.[48]

5.44 Research indicates that the movement of Mary River Cod is limited by large dams, including the Borumba Dam and Lake Macdonald; weirs such as the Gympie, Teddington and Tallegalla and tidal barrages on the Mary River and Tinana Creek. The Mary River Cod is territorial, and it has been found not to move within 15 kilometres of barriers such as dams and weirs.

5.45 Dr Lyndon DeVantier, a Queensland ecologist, told the committee that 18 species in the catchment area in which the dam is to be built are listed on the Australian register of threatened species, and some of those are also included on international registers. Among these is the Mary River Cod, which is listed as endangered in Australia and critically endangered globally under the IUCN[49] red list.

5.46 Dr DeVantier confirmed that the current estimate of Mary River Cod left in the wild is 600 and the population is limited to three tributaries of the Mary River – the Coondoo tributary, Six Mile Creek and Obi Obi Creek. Dr DeVantier also told the committee that one of these subpopulations is effectively isolated from the other two already because of an existing weir, and argued that:

> If we put in a dam between the other two populations we will basically split what is already an endangered species on our national register, and listed as critically endangered on the global register, into three tiny remaining populations. The chance that any of those three can continue indefinitely in terms of viability is extremely open to question. I hope that this environmental impact study that the state government intends to do actually looks at this issue, because if they do I think they will discover that, for the Mary River cod, there is virtually no chance of survival if its population is fragmented to that degree.[50]

Mary River Turtle

5.47 The Mary River Turtle (also known as the Mary River Tortoise) was initially known only in relation to the pet trade. Eggs were sold to pet shops under the name *Elseya latisternum* (the common Saw-shelled Turtle) and hatchlings were commonly referred to as the 'Penny Turtle'. The species was not formally described as a new

---

48 Information in this section obtained from information sheet titled *Maccullochella peelii mariensis – Mary River Cod*, Department of Environment and Water Resources, http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=64680 (accessed 1 May 2007).

49 IUCN (International Union for Conservation of Nature and Natural Resources).

50 Dr Lyndon DeVantier, *Committee Hansard*, 17 April 2007, p. 78.

genus and species until 1994, because pet traders refused to reveal the source of their supply. In Queensland, legal trade in turtles ceased in 1974, and researchers continued to search for the turtle in the wild until the species was discovered at a property on the Mary River in late 1990 by Sydney turtle researcher Mr John Cann.[51]

5.48 The Mary River Turtle is endemic to the Mary River in South East Queensland. Between 1970 and 2000 the population of breeding females dropped by approximately 95 per cent. Research indicates that in the 1960's and 1970's hundreds of females nested near Tiaro, whilst only ten individuals nested on the same banks in 1998 and 1999.

5.49 Female Mary River Turtles tend to move between a small number of nesting sites (sand banks) and pools where they reside during the non-breeding season. Males tend to stay in one core area in a particular pool. The home ranges of males and females in the wild tend not to overlap and it is reported that captive Mary River Turtles are aggressively territorial.

5.50 In its submission to the inquiry, the Australian Freshwater Turtle Conservation and Research Association (AFTCRA) provided evidence regarding the impacts of dams on freshwater turtles. The AFTCRA argued that studies undertaken in the Burnett, Mary, Fitzroy and Kolan River catchments on the effects of water infrastructure on the ecology of turtles identified a number of problems, including:

- life cycle factors shared by Mary River Turtles and the Elseya species suggest they are detrimentally affected by impoundments due to the loss of riffle habitats and the disappearance of food items such as aquatic plants, windfall fruits from riparian vegetation and some aquatic invertebrates;
- due to the specific physiology and late maturation – often 20 years plus – of the Mary River Turtle and the Southern Snapping Turtle, these species are the most susceptible to disturbances associated with water management practices;
- essential microhabitats used by turtles are lost in water impoundments, including dams, weirs and barrages;
- turtles that rely on cloacal respiration (including the Mary River Turtle) are disadvantaged in the stratified, low-oxygenated, turbid water in impoundments; and
- large impoundments have a greater impact on turtle biodiversity than smaller impoundments.[52]

51 Information contained in this section obtained from information sheet titled *Elusor macrurus – Mary River Turtle, Mary River Tortoise,* Department of Environment and Water Resources, http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=64389 (accessed 1 May 2007).

52 *Submission* 104, pp 1–2.

5.51 The AFTCRA also expressed concerns about the physical impacts of impoundments on freshwater turtles. The AFTCRA provided a summary of a survey conducted by project staff who investigated the incidence of turtle damage at other weirs and dams within the Burnett catchment. The project team found that the incidence of severely fractured and dead turtles corresponded with major or sudden water release from the weirs or overtopping of the weir walls, and that this was particularly common for structures with a 'stepped design', for example, the Bucca Weir.[53]

5.52 The World Wide Fund for Nature (WWF-Australia) expressed concern about the effective protection of critical habitat to ensure the future viability of protected species and commented on the Mary River Turtle:

> The Mary Basin draft water resource plan Environmental Flow Assessment Framework and Scenario Implications indicates significant effects from large water storage on threatened species including the Mary River Turtle. The draft plan states:
>
> *"The other vertebrate fauna of this part of the river would also be affected by flow regime changes associated with scenario case R. A key issue is the impact of reduced sediment transport and increased vegetation encroachment on the sand banks that provide critical habitat for turtle nesting, including the endangered Mary River turtle. Loss of exposed sand is critical as loose sandy substrate (rather than finer material such as silt) is specifically required by the turtles."*[54]

5.53 In summary, the AFTCRA argued that long-term comparison studies and monitoring needs to be undertaken in order to understand the full impacts of water infrastructure on freshwater turtles. In addition, it was argued that stepped wall designs should be avoided in future dam construction and any impact mitigation techniques need to be carefully planned and designed:

> …to ensure they do not compound the physical injuries received by the turtles within the storage and adjacent areas. It is essential that any future structures incorporate a 'turtleway' to mitigate population fragmentation and if designed properly would be the safest and most effective way to allow turtle movement up and down stream.[55]

Great Sandy Strait (including Sandy Strait, Tin Can Bay and Tin Can Inlet)

5.54 The Convention on Wetlands was signed by representatives of eighteen nations in Ramsar, Iran, in 1971. The Ramsar Convention, as it has become more widely known, was the first intergovernmental treaty between nations for the conservation of natural resources and Australia was one of the first signatories to the

---

53 *Submission* 104, p. 3.

54 *Submission* 190, p. 6.

55 *Submission* 104, p. 4.

Convention. There are now more than 135 contracting parties to the Convention, who have designated more than 1200 wetland sites throughout the world to the Ramsar List of Wetlands of International Importance.[56]

5.55 In addition to designating at least one site that meets the Ramsar criteria for inclusion in the List of Wetlands of International Importance, contracting parties make a commitment to protect the ecological character of listed sites, include wetland conservation within national land-use planning, and establish nature reserves on wetlands. The Convention also aims to ensure that activities which might affect wetlands will not lead to the loss of biodiversity or diminish the many ecological, hydrological, cultural or social values of the wetlands.

5.56 The Great Sandy Strait is a sand passage estuary between the Queensland coast and the World Heritage-listed Fraser Island. It is a listed Ramsar Wetland that spreads over parts of the cities of Hervey Bay and the shires of Tiaro and Cooloola. The area is of international significance for migratory shorebirds, supports significant numbers of waterbirds and harbours populations of endangered butterflies. The seagrass beds of southern Hervey Bay and Great Sandy Strait support a significant population of dugong and at least two species of dolphin. Great Sandy Strait and southern Hervey Bay also provide feeding grounds for four species of sea turtle – the green, loggerhead, hawksbill and flatback.[57]

5.57 The committee received significant evidence from individuals, environmental and community groups regarding the negative impact the Traveston Crossing Dam project would have on the ecology of areas downstream of the proposed dam. Concerns were raised regarding the impact of the project on the Great Sandy Strait (a Ramsar-listed wetland) and Fraser Island (which is World Heritage listed).[58]

5.58 A representative of the Wildlife Preservation Society of Queensland (WPSQ), Mr Des Boyland, told the committee that the WPSQ had major concerns about the proposed Traveston Crossing Dam being an appropriate component of any long-term solution to the water crisis facing South East Queensland. The WPSQ also told the committee that the impact of the dam would be severe on riverine and in-stream habitats as well as the flora and fauna they support. Mr Boyland argued that:

---

56 Information contained in this section obtained from information sheet titled *The Convention on Wetlands*, Department of Environment and Water Resources, http://www.environment.gov.au/water/environmental/wetlands/ramsar/index.html (accessed 3 May 2007).

57 Information in this section obtained from *Information Sheet on Ramsar Wetlands (RIS)*, Department of Environment and Water Resources, www.environment.gov.au/cgi-bin/wetlands/report.pl (accessed 8 May 2007).

58 For example, see *Submission* 29*; Submission* 35; *Submission* 100; *Submission* 112*; Submission* 143*; Submission* 146; *Submission* 154*; Submission* 156*; Submission* 165*; Submission* 168*; Submission* 174*; Submission* 175*; Submission* 176; *Submission* 179; *Submission* 181.

> It is estimated that some 500 hectares of endangered regional ecosystems will be destroyed. In addition, changes to environmental flows may have significant downstream impacts on the great sandy park and associated wetlands. One can only contemplate that salinity problems will escalate.[59]

5.59 The Hervey Bay City Council (the Council), commented specifically on the ways in which the Traveston Crossing Dam was likely to impact on the Great Sandy Strait.[60] The Council argued that the unique ecological values of the area would be severely compromised by the construction of a dam on the Mary River, particularly as environmental flows, from both the Mary River and Fraser Island play a central role in sustaining the marine ecosystems of the site. The Council cites a study on hypersalinity in Hervey Bay conducted by Dr Joachim Ribbe (2006), which revealed that:

> …the lack of freshwater flows from both the Burnett and Mary Rivers is a contributing factor to the cumulative impacts. For the period 1980-2004 it shows freshwater discharges were mostly well below the minimum evaporation rate in June which in turn would lead to persistent hypersaline conditions throughout most of the period.[61]

5.60 The Council further argued that this type of preliminary research may be revealing the first impacts on the Ramsar wetlands from infrastructure-related flow reductions to the Great Sandy Strait. The Council also suggested that the findings:

> …raise serious questions as to what effect further reductions in freshwater flows, under the Mary River Water Resource Plan and the Traveston Crossing Dam proposal would have on Matters of National Environmental Significance within the Great Sandy Strait.[62]

5.61 The Council's submission described the Ramsar-listed wetland as one of Australia's most important nesting sites for migratory trans-equatorial shorebirds, and suggested that it is the beauty and unique ecology of the area which attracts thousands of tourists to the area annually, and that any further reduction in environmental flows would be:

> ...devastating for the Strait. Disrupting the natural equilibrium between fresh and saline water would spell disaster for threatened marine species, and along with the, the nature-based tourism industries of the region. This would undermine the basis of the economy and threaten the future of communities in the region.[63]

---

59 *Committee Hansard*, 18 April 2007, p. 36.

60 *Submission* 149.

61 *Submission* 149, p. 6.

62 *Submission* 149, p. 6.

63 *Submission* 149, p. 1.

5.62 The Fraser Island Defenders Organisation (FIDO) argued that the marine ecosystem of the Great Sandy Strait depends on a steady flow of nutrients and silt as well as water. It is also argued that:

- the Great Sandy Strait ecosystem relies on regular flushing of fresh water;
- the dramatic reduction of environmental flow into this most significant estuary will heavily impact on the very sensitive aspects of marine ecology; and
- significant reduction of the flow from the Mary River will necessarily impact on the salinity and pH of Great Sandy Strait.[64]

The Wyaralong Dam proposal

5.63 The committee received some evidence expressing concerns about the impact the Wyaralong Dam would have on environmental flows, endangered ecosystems and threatened species. The Logan and Albert Rivers Catchment Association Inc (LARC) expressed concern about the maintenance of environmental flows as a result of the proposed Wyaralong Dam:

> The Queensland Government through their water supply corporation Sunwater have to date demonstrated a very poor record of the management of environmental flows from the existing Maroon Dam…Assuming a similar commercial arrangement and the lack of accountability, the purported 'environmental flows' from the proposed Wyaralong Dam will have similar devastating results upon the lower parts of the Logan River, instead of the desired intent under the Water Act 2000 and national guidelines of assisting in the maintenance of the ecological function of the river system.[65]

5.64 LARC also expressed concern about the impact of the dam on the endangered regional ecosystem and identified the presence of the Australian Lungfish and the Mary River Cod:

> The Wyaralong Dam will flood approximately 1230ha much of which is Endangered Regional Ecosystem 12.3.3 (Eucalyptus tereticornis woodland to open forest on alluvial plains). It is endangered because it has less than 10% of its pre-European extent remaining and this regional ecosystem is under extreme pressure from remnant decline and clearing in the Logan and Albert catchment. The Regional Ecosystem mapping program methodology of the Queensland Herbarium does not map linear regional ecosystems well and more of this endangered ecosystem will be flooded than is identified on the published maps. The Upper Teviot Brook has a recently observed population of the endangered Queensland Lungfish and the Logan River

64 *Submission* 97, p. 2.

65 *Submission* 136, pp 3–4.

> has been restocked over recent years with the endangered Mary River Cod.[66]

5.65 Dr Bradd Witt and Ms Katherine Witt commented on the impact the Wyaralong Dam will have on stream, riparian and terrestrial ecosystems along the Teviot Brook:

> Construction of the Wyaralong dam will inundate and destroy at least 32kms1 of stream, riparian and dependent terrestrial ecosystems along the Teviot Brook. The associated Cedar Grove weir at the confluence of the Teviot Brook and Logan River will cause the destruction of a further 3.5kms of the Teviot Brook and 10kms of the Logan River riparian ecosystems. Recent environmental investigations of the section of Teviot Brook from Wyaralong dam site to the Logan River recorded only minor change from a reference 'natural' state (Logan Basin Technical Advisory Panel, 2006). There are very few waterways in south east Queensland that remain close to a natural state. These are precious and deserve protecting.[67]

Natural Resource Management in Burnett-Mary Region

5.66 The Burnett-Mary region covers an area of approximately 88,000 square kilometres and supports a population of over 257,000 people. The main population centres are Bundaberg, Maryborough, Gympie and Kingaroy. The primary catchments in the region include Baffle Creek and the Kolan, Burrum, Burnett and Mary Rivers. The area is home to waterfowl, seabirds, marine fish, crustaceans, oysters, dugong, sea turtles and dolphins. There are also six nationally important wetlands in the region – the Burrum Coast, Bustard Bay Wetlands, Fraser Island, the Wide Bay Military Training Area and the tip of the Noosa River Wetlands.[68]

5.67 In addition to the problems associated with maintaining the area's unique biodiversity, the key environmental issues identified in the region include weeds and pests, water quality and supply, dryland salinity, population pressure, coastal development, land and soil management as well as natural and cultural heritage.

5.68 The Burnett-Mary Queensland Report Card prepared by the Commonwealth identified the following environmental issues in the region:

- the National Land and Water Resources Audit 2000 predicted that by 2050, approximately 180,837 hectares of the Burnett catchment will be affected by dryland salinity under current land use conditions;

---

66 *Submission* 136, p. 5.

67 *Submission* 155A, p. 15.

68 Information in this section obtained from *Burnett-Mary Queensland Report Card,* Australian Government, June 2004, www.nrm.gov.au/state/qld/burnett-mary/publications/report-card/index.html (accessed 4 May 2007).

- pollution and contamination from herbicides, pesticides, fertilisers and sewerage/stormwater effluent in the Mary River currently pose a moderate threat to the Ramsar wetland;
- erosion in the Mary River catchment contributes to turbidity and siltation in the Great Sandy Strait;
- groundwater supplies in areas of the region are also significantly over-allocated. Significant seawater intrusion into the aquifer has also commenced along the coastal interface of the aquifer;
- there are concerns over the increasing level of nutrient and wastewater contamination in the shallow groundwater aquifers of the coastal Burnett catchment; and
- the present levels of water use and the interruption of river flows within the region are having a significant effect on the Ramsar wetland as well as other significant conservation sites and species such as the Mary River Cod and the lungfish.[69]

5.69 In order to address these identified environmental issues, the Commonwealth and the Queensland Government have provided joint funding through the National Heritage Trust and a number of Commonwealth and state bilateral agreements.

Bilateral agreements

5.70 The committee received evidence suggesting that the proposed Traveston Crossing Dam would contravene a number of bilateral agreements between the Commonwealth and the Queensland Government relating to water quality, salinity, biodiversity and climate change.[70] Mr Des Boyland, WPSQ, commented:

> Queensland's lack of compliance with other agreements such as the National Action Plan for Salinity and Water Quality, the National Biodiversity and Climate Change Action Plan and the National Water Initiative should all be considered. The outcomes that would arise from the construction of the dam appear to conflict with the very purpose and objects of many of these agreements.[71]

National Action Plan for Salinity and Water Quality

5.71 In November 2000, the Council of Australian Governments (COAG) acknowledged the critical nature of Australia's salinity and water quality problems, and endorsed the National Action Plan for Salinity and Water Quality (NAPSWQ).

---

69 *Burnett-Mary Queensland Report Card*, Australian Government, June 2004, www.nrm.gov.au/state/qld/burnett-mary/publications/report-card/index.html (accessed 4 May 2007).

70 For example, see *Submission* 1; *Submission* 10; *Submission* 21; *Submission* 75; *Submission* 140; *Submission* 136; *Submission* 175; *Submission* 190.

71 *Committee Hansard*, 18 April 2007, p. 36.

The NAPSWQ involves a joint commitment of $1.4 billion over seven years (to June 2008) between Commonwealth, state and territory governments to develop regional solutions to salinity and water quality problems.

5.72 The NAPSWQ provides support for targeted action to regional communities and landholders in highly affected catchments or regions. Twenty-one Australian regions, called NAPSWQ Priority Regions, are targeted which are most affected by salinity and water quality problems. These areas were defined as priority regions by state and territory agencies, with their assessment based on dry land salinity or hazard assessments undertaken during the first phase of the Natural Heritage Trust (NHT).

5.73 The stated goal of the NAPSWQ is to motivate and enable regional communities to use coordinated and targeted action to:

- prevent, stabilise and reverse trends in dryland salinity affecting the sustainability of production, the conservation of biological diversity and the viability of our infrastructure; and
- improve water quality and secure reliable allocations for human uses, industry and the environment.[72]

5.74 The NAPSWQ also notes that land clearing in salinity risk areas is a primary cause of dryland salinity. Effective controls on land clearing are necessary in each jurisdiction, and that as a result any Commonwealth investment in catchment or region plans would be contingent upon land clearing being prohibited in areas where it would lead to unacceptable land or water degradation.[73]

5.75 The Lockyer-Burnett-Mary region was identified as a NAPSWQ Priority Region, and as at June 2005, $4.01 million in funding had been approved to the Burnett Mary region (under the NAPSWQ and the NHT) to manage its environmental and natural resource management issues.[74]

5.76 The Save the Mary River Coordinating Group stated that the actions of the Queensland Government are in direct conflict with the NAPSWQ:

> The Mary River Basin is specifically identified as a priority under this agreement [NAPSWQ]. The action of the Queensland Government thus far is in direct conflict with the "Statement of Intent in Signing" the National Action Plan.
>
> *"The active involvement and participation of rural and regional communities is the cornerstone of this Plan. Through this Agreement we seek to enable communities to take responsibility for planning and implementing natural resource management strategies, in partnership with*

72 *National Action Plan for Salinity and Water Quality*, COAG, 3 November 2000, p. 5.

73 *National Action Plan for Salinity and Water Quality*, COAG, 3 November 2000, p. 9.

74 Regional Programs Report 2004–05, Regional Summary 4.03, Burnett-Mary Region, Queensland, p. 4.

> *all levels of government, that meet their priorities for sustainable development and ongoing viability."*[75]

5.77 Ms Leander Mayer, a long term resident of Maryborough, commented on the potential impact of the Traveston Dam on the Great Sandy Strait and the NAPSWQ:

> The dam will artificially produce a constant drought for the Great Sandy Strait resulting in a huge loss of fish spawning and native sea grass beds. The impact on the flora and fauna of the area will be devastating, directly contravening the NAPSWQ agreement.[76]

National Biodiversity and Climate Change Action Plan

5.78 In 2003, the Commonwealth, state and territory governments (through the Natural Resource Management Ministerial Council) agreed to develop a National Biodiversity and Climate Change Action Plan (NBCCAP). The NBCCAP sets out specific objectives, strategies and actions that governments will take to:

- reduce the impacts of climate change on Australia's native aquatic, semi-aquatic, marine, estuarine, coastal and terrestrial ecosystems; and
- minimise the effect of alien invasive species on biodiversity in future climates.[77]

5.79 The actions proposed in the NBCCAP encourage the reduction of the impact of climate change on the range of ecosystems and promote 'in situ' conservation of species and ecological communities, rather than 'the use of high-cost interventions such as translocation and captive breeding'.[78] The key strategies include:

- promoting ecological connectivity to aid migration and dispersal of species;
- protecting refuges ; and
- creating specific management zones around important habitats.[79]

5.80 Mr Jeff Burns, a resident of Gympie, commented that the impact of the Traveston Crossing Dam proposal seems to be in direct opposition to the NBCCAP:

> In catchments identified in the NAPSWQ, there is an obligation under the NBCCAP to specifically examine the effects of development projects on the ability of species and communities to move and respond to climate change. There is an added obligation to incorporate climate change modelling into the planning of water resource management in these

---

75 *Submission* 156, p. 10.

76 *Submission* 21, p. 1.

77 *National Biodiversity and Climate Change Action Plan 2004-2007*, Natural Resource Management Ministerial Council, 2004, p. 7.

78 *National Biodiversity and Climate Change Action Plan 2004-2007*, p. 7.

79 *National Biodiversity and Climate Change Action Plan 2004-2007*, p. 7.

> catchments. The principal effect of climate change in the Mary system is likely to be the effect on stream flow regimes. The hydrological modelling used to investigate the impacts of the Traveston Crossing Proposal to date has specifically ignored the impact of climate change on streamflows. The impact of the proposal on biodiversity in the catchment is much greater in a climate change scenario.[80]

National Agriculture and Climate Change Action Plan

5.81 The National Agricultural and Climate Change Action Plan 2006-09 (NACCAP) is an agreement between Commonwealth and state governments which is intended to develop a more coordinated approach to climate change policy in agriculture and 'contribute to the development of a sustainable, competitive and profitable Australian agriculture sector into the future'.[81]

5.82 The objectives, strategies and actions presented in the NACCAP have been endorsed by the Natural Resource Management Ministerial Council. The NACCAP also complements the NBCCAP, and identifies four key areas which will assist in the management of the risks to sustainable agriculture in an environment of climate change:

- adaptation strategies to build resilience into agricultural systems;
- mitigation strategies to reduce greenhouse gas emissions;
- research and development to enhance the agricultural sector's capacity to respond to climate change; and
- awareness and communication to inform decision making by primary producers and rural communities.[82]

5.83 The Save the Mary River Coordinating Group, in their submission relating to the Draft Terms of Reference (ToR) for the EIS dated December 2006, stated:

> There is a clear obligation under the national climate change action plans for biodiversity and agriculture to investigate the performance and impacts of the project in a climate change scenario. The Final WRP constantly uses the term “in the simulation period”. The simulation period is approximately 110 years – from 1890 until 1999. A suitable, and feasible analysis would be to use the last 10 years of climate data to model the storage and it’s hydrological impacts on the river, similar to the approach suggested in the Marsden Jacobs discussion paper on urban water supply planning, (Marsden & Pickering 2006). On the Mary, this period conveniently includes a major high intensity flood event (1999) and a period of drought.

---

80 *Submission* 1, pp 2–3.

81 *National Agriculture and Climate Change Action Plan 2006-2009*, National Resource Management Ministerial Council, 2006, p. 1.

82 National Resource Management Ministerial Council, *National Agriculture and Climate Change Action Plan 2006-2009*, p. 1.

> The results from this should be used to assess the yields, benefits and costs of the project in comparison with other water supply options, and assess the impacts on downstream flows.[83]

National Water Initiative

5.84 The National Water Initiative (NWI) was agreed to and signed at the 25 June 2004 meeting of the Council of Australian Governments (COAG).[84] The NWI builds on COAG's 1994 water reform framework and initiatives which recognised that the improved management of Australia's water resources is a national issue.[85] The NWI recognises that Australia's limited water resources are vital to social, economic and environmental wellbeing, and that there is a need for continued improvement in productivity and efficiency of water use. The NWI also stresses the importance of maintaining healthy river and groundwater systems.

5.85 The NWI agreement outlines objectives and agreed actions to be undertaken by all state and territory governments. All parties signed a joint commitment to:

- the continuing national imperative to increase the productivity and efficiency of Australia's water use;
- the need to service rural and urban communities; and
- ensuring the health of river and groundwater systems, including by establishing clear pathways to return all systems to environmentally sustainable levels of extraction.[86]

5.86 The Logan and Albert Rivers Catchment Association Inc (LARC) stated that the Wyaralong Dam proposal is in direct opposition to the NWI:

> The Wyaralong dam proposal and the other water infrastructure proposed for the catchment can only result in the significant further over-allocation of the system and severe degradation of environmental values within the catchment. When there are significantly more cost-effective means of providing a similar level of water security to SE Qld, this outcome is in direct opposition to the objectives of the NWI.[87]

5.87 Mr Jeff Burns, a resident of Gympie, also commented that the Traveston Crossing Dam is in direct opposition to the NWI:

---

83 *Submission* 156, Attachment, p. 26.

84 The NWI Agreement was signed by all governments with the exception of Tasmania which signed the Agreement on 3 June 2005 and Western Australia which signed the Agreement on 6 April 2006.

85 Council of Australian Governments *Intergovernmental Agreement on a National Water Initiative*, 25 June 2004, p. 1.

86 Council of Australian Governments *Intergovernmental Agreement on a National Water Initiative*, 25 June 2004, p. 1.

87 *Submission* 136, p. 7.

> The Traveston Crossing Dam proposal can only result in the significant further over-allocation of the system and severe degradation of environmental values within the catchment. When there are significantly more cost-effective means of providing a similar level of water security to SE Qld, this outcome is in direct opposition to the objectives of the NWI.[88]

Paradise Dam and the approval process

5.88 The committee notes that through the assessment and approval processes under the EPBC Act, the Minister for Environment and Water Resources will have the power to approve, not approve or approve subject to conditions, the Traveston Crossing Dam and Wyaralong Dam proposals. The committee received significant evidence highlighting a past dam development in Queensland, the Paradise Dam, which opened in late 2005. The committee received submissions and heard evidence which claimed that many of the conditions imposed by the Commonwealth on the Queensland Government for the approval of the Paradise Dam project under the EPBC Act were not met.[89] Ms Tricia Roth, a resident of Kandanga, stated:

> One only has to look to the Paradise Dam on the Burnett River to see that these same effects are happening right here in Queensland. Named by the world Wildlife Fund as one of the 10 worst dams in the world in its 5 year review of new dam construction compliance with the principles of the World Commission on Dams, the Paradise has created a weed and algae filled disaster that has destroyed nesting sites for both the lungfish and turtles without fulfilling any of its promises in terms of economic growth for the region. It is frightening to think that the same individuals responsible for Paradise are heading the proposed Traveston team.[90]

5.89 Ms Glenda Pickersgill, a representative from the environmental section of the Save the Mary River Coordinating Group, further commented:

> We have grave concerns about them [state government] being able to meet the commitments of mitigation that could be proposed here. I will highlight three examples. One would be the example of Paradise Dam being used as a model for the fish passage. We are aware that they are not meeting the EPBC requirements there and would encourage that there be an environmental compliance audit on the meeting of their requirements. There are a number of issues that we are aware they are not meeting. There are environmental offsets. The plantings have died, there is certainly not any confidence in mitigating the risks with the fish passage for the lungfish and the turtle hatchery is not functioning as was planned. There are the costs associated with all of that.[91]

---

88 *Submission* 1, p. 2.

89 For example, see *Submission* 56; *Submission* 78; *Submission* 108; *Submission* 123; *Submission* 130; *Submission* 134; *Submission* 163; *Submission* 177; *Submission* 181.

90 *Submission* 56, p. 2.

91 *Committee Hansard*, 17 April 2007, p. 16

5.90 Many of the submitters who commented on the Paradise Dam, called for an audit of the Queensland Government's compliance with the approval conditions under the EPBC Act. The Commonwealth Department of Environment and Water Resources replied to questions regarding an audit and stated that 'we have been constrained in terms of our audit and compliance activities in the past. That was remedied in this budget…We have a proposed audit of the Paradise Dam coming up in the next few months and we will be establishing a compliance and enforcement branch within the department'.[92]

5.91 The committee received some evidence expressing concerns that representatives of QWI, the proponent for the Traveston Crossing Dam and the Wyaralong Dam proposals, were responsible for the Paradise Dam project.[93] Mr Graeme Newton, CEO of QWI, was previously the head of Burnett River Water, which built the Paradise Dam.

> We asked Senator Campbell to seriously consider whether these proponents would be capable of assessing Traveston and looking after the species, based on the fact that their previous environmental record for Paradise was very questionable.[94]
>
> …
>
> The TOR should include an assessment of the proponent on basis of track record of staff, directors and contractors. Key staff, directors and contractors associated with QWI were responsible for the Paradise Dam. The environmental performance of that project should be assessed to determine whether the proponent is capable of performing to a satisfactory standard on this project. Under the EPBC, the Federal Minister can take into account a person's environmental history in determining whether to approve a controlled action.[95]

5.92 The committee sought opinions from some of the witnesses who appeared at the public hearings on whether they had confidence in the assessment and approval process under the EPBC Act. Responses received were mixed, and a few examples are detailed below:

> We would be quite happy if Minister Turnbull had a very thorough look at the proposed audit of the Paradise Dam and the issues. If the decision is not made until after that paperwork is in, and it can be clearly demonstrated that there are serious issues, we would be happy that at least the minister would

92 Mr Gerard Early, Commonwealth Department of Environment and Water Resources, *Committee Hansard*, 11 May 2007, p. 5.

93 For example, see Ms Glenda Pickersgill, *Committee Hansard*, 17 April 2007, p. 16; *Submission* 56; *Submission* 75 and *Submission* 177.

94 Mr Roger Currie, *Committee Hansard*, 11 May 2007, p. 47.

95 Mrs Jan Mulholland, *Submission* 177, p. 8.

> have had the capacity to consider whether the proponents are actually capable of delivering a better outcome.[96]
>
> …
>
> It seems that there are concerns about the capacity within EPBC [Commonwealth Department of Environment and Water Resources], particularly given the bilateral agreement and that most of the work is going to be done in the state with the state Coordinator-General doing the bulk of the assessment of this environmental impact statement. I also know that the EPBC has an enormous workload…This will be one of maybe 20 major assessment projects coming across EPBC's desk. I think they might have something of the order of eight project officers in total. I am not certain about that but there are serious concerns about the capacity. Obviously, the way to do this is to make sure the study is done properly in the first place.[97]
>
> …
>
> I would like to think that it is all going to be presented in a way that will deliver the true effects of the environmental impacts, which will be huge. I think there will have been plenty of people addressing this committee who will have told you that the environmental impact should stop the dam on its own.[98]

Conclusion

5.93 Environmental issues resulting from the proposed Traveston Crossing Dam received significant discussion from both submitters and witnesses who appeared before the committee. The environmental impacts related to threatened species, the maintenance of environmental flows for river health and the downstream impacts of the damming of the Mary River on the Great Sandy Strait and Fraser Island. Of particular concern was the potential impact on the Australian Lungfish.

5.94 The assessment and approval process under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) also received much attention in evidence, particularly given the fact that the Commonwealth Minister for Environment and Water Resources will be the final arbiter for both the Traveston Crossing Dam and the Wyaralong Dam projects. The committee notes that this

---

96 Mr Roger Currie, *Committee Hansard*, 11 May 2007, p. 48.

97 Dr Lyndon DeVantier, *Committee Hansard*, 17 April 2007, p. 88.

98 Mr Selwyn Cochrane, Queensland Dairyfarmers Organisation, *Committee Hansard*, 18 April 2007, p. 58.

approval process is ongoing and will not be completed prior to the conclusion of this inquiry. However, the majority of the committee expresses concern on the evidence it received regarding the Paradise Dam development and the adherence to conditions applied to its approval under the EPBC Act. The committee awaits the results of the Commonwealth's audit into this dam and hopes that the Minister for Environment and Water Resources will allow relevant evidence gathered as part of this inquiry to inform the approval process.

Chapter 6

Other Alternatives

6.1 This chapter will detail the evidence discussed at length during the inquiry on alternatives other than the proposed Traveston Crossing Dam and the Wyaralong Dam. The alternatives include the raising of the Borumba Dam, the proposal of transporting water from the Northern Rivers area of New South Wales to South East Queensland and other supply alternatives such as rainwater tanks and recycled water.

The need for a new source of water supply

6.2 Questions were raised during the inquiry around whether a new water supply source was necessary given the challenges facing the State of Queensland, namely the high levels of population growth in South East Queensland (SEQ), low capacity levels in major catchments and a continuing drought. The committee sought evidence on whether a combination of initiatives including demand management, water efficiency systems and other technology such as desalination, recycled water and stormwater harvesting, once on-line, would be sufficient to meet projected demand and secure the future water supply of SEQ.

6.3 The *Review of Water Supply-Demand Options for South East Queensland – Final Report* (the Review Report) analysed the supply and demand situation in SEQ and concluded that the Traveston Crossing Dam was not necessary and that existing initiatives undertaken by the Queensland Government would secure supply until 2030:[1]

> If the suite of demand and supply-side options currently being implemented to address the current drought, excluding the Traveston Crossing scheme is implemented, this will mean that the medium to long-term supply-demand balance will be met until approximately 2030. This provides significant time to determine the most appropriate strategy to meet the supply-demand balance in the longer term with lower cost and more risk averse options using an adaptive management approach.[2]

6.4 The Review Report also recommended that another new supply source, the proposed Wyaralong Dam, be further investigated and compared against a new suite of demand and supply-side options to see if it is an appropriate supply alternative.[3]

---

1 A.Turner, G.Hausler, N. Carrard, A. Kazaglis, S. White, A. Hughes, T. Johnson, *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February 2007.

2 *Review of Water Supply-Demand Options for South East Queensland*, p. 71.

3 *Review of Water Supply-Demand Options for South East Queensland*, p. 72.

6.5 Many witnesses commented that constructing new dams should not be the solution to the water supply issues in SEQ.[4] The Australian Water Association commented that there is general agreement among their members that 'dams, generally, are no longer the obvious water supply solution they once were. They are now regarded as one of many solutions'.[5] Witnesses and submitters suggested the need for a non-rainfall dependent solution as rainfall patterns in the affected areas of Traveston Crossing and Wyaralong had changed considerably over time in both volume and variability. Mr Kevin Ingersole, Chairman of the Save the Mary River Coordinating Group stated 'I would seriously investigate non-rainfall-dependent solutions. I think there is plenty of scope to provide the water for south-eastern Queensland on a go forward basis without any problem'.[6]

6.6 Professor Stuart White, one of the authors of the Review Report, when asked if there was a need for a new primary source of water responded '[n]o, we do not. That is a very clear conclusion of our work. Not only is it not necessary it would be quite dangerous to buy, particularly at this point, a single large source of water which is rain fed. That would not be the right strategy. It is not needed and it is quite risky'.[7]

6.7 Mr Jeff Seeney, Leader of the Queensland Coalition, commented that 'there is a need for a new primary water source' and that if the Queensland Coalition were in government, the new sources would include 'dam sites that have been planned since the abandonment of the Wolffdene dam site…a series of smaller dams–the Wyaralong Dam, the Glendower Dam…the raising of the Borumba Dam and the construction of the Amamoor Creek Dam…'.[8] Dr David Williams, academic, also stated that a new water source was needed:

> The population will go up. We will need other primary sources of water…Including dams; we will need to look at that…It is almost based on common sense. The population of South-East Queensland is predicted to go up by a factor of about 2½ by the year 2050, I think, to a population of about five million. Clearly, we will need other sources of water.[9]

6.8 The majority of evidence received during the inquiry requested that the Queensland Government consider alternatives other than the proposed new dams at Traveston Crossing and Wyaralong. Many submitters listed alternatives which

4 For example, see *Submission* 45; *Submission* 118; *Submission* 145; *Submission* 183.

5 *Submission* 103, p. 2.

6 *Committee Hansard*, 17 April 2007, p. 29.

7 *Committee Hansard*, 17 April 2007, p. 53.

8 *Committee Hansard*, 18 April 2007, p. 71.

9 *Committee Hansard*, 18 April 2007, p. 8.

included rainwater tanks, water recycling, storm water harvesting, desalination and continued demand management and efficiency strategies.[10]

Raising the Borumba Dam

6.9 The Queensland Government includes the raising of the Borumba Dam as part of a three phase development of water infrastructure in the Mary River catchment. The three phases include Stage 1 and Stage 2 of the Traveston Crossing Dam and the raising of the Borumba Dam. The Borumba Dam proposal includes the intention to raise the full supply level (FSL) to approximately 163.7 metres (an increase of approximately 30 metres) which will provide a capacity of approximately 350,000 megalitres.[11]

6.10 The committee received evidence from submitters calling for the immediate raising of Borumba Dam and many asked for the dam to be raised to a higher level than proposed by the Queensland Government.[12] Mr Ronald McMah commented that for a long time the Borumba Dam has not been utilised to its full potential and if it was, it would provide a significant contribution to South East Queensland's water demand. Mr McMah suggested the following proposal:

> …to build a new dam wall approximately 300 metres in front of the existing dam wall at Borumba and make it as high as possible. My advice is that it would be able to go high enough to obtain or get very close to 2 million Mlgs with the inclusion of two small saddle dam walls. The second part of my plan is that one or two opening boom gate weirs be built on the Mary River at suitable locations ie. Coles Creek, Moy Pocket. If further water is required then these boom gates could be closed when the river is flowing in abundance and water be pumped from them to Borumba via a pipline and pumping station. The third part is that a pipeline be built from Somerset dam and its partner Wivenhoe, to Borumba Dam.[13]

6.11 Mr Alan Sheridan, a professional civil engineer and Secretary of the Save the Mary River Coordinating Group stated:

> It should be noted that the GHD desk top study report of identified dam and weir sites actually states that additional yield from Borumba might be possible with a higher dam wall. While the catchment area is fairly limited (460 sq km), there is no doubt that when it does rain heavily in this area, the runoff is enormous. The State Government has produced performance curves which clearly show that a 1,000,000 ML capacity dam at Borumba could have safely provided 70,000 ML/a yield for the last 50 years. A dam at Borumba could also be supplemented with water harvesting from the

10 For example, see *Submission* 20; *Submission* 22; *Submission* 33; *Submission* 55; *Submission* 75; *Submission* 114; *Submission* 138; *Submission* 146; *Submission* 160; *Submission* 167.

11 Queensland Government, *Submission* 166, p. 105.

12 For example, see *Submission* 41; *Submission* 49.

13 *Submission* 79, p. 1.

> Mary River during times of high flows by using a system of weirs and high volume pumps.[14]

6.12 The Queensland Government conducted a preliminary hydrological assessment of harvesting flood flows from the Mary River and storing these flows in a raised Borumba Dam. The proposal considered that as an upper limit Borumba Dam could be raised from its current size of 46,000 megalitres to 2,000,000 megalitres. The Queensland Government stated:

> In terms of being able to deliver yields similar to that produced by Traveston Crossing Dam Stage 1, it was found there was the need to have a very large pumping capacity to take water from the Mary River to make the most of the flood flow in the Mary River. It was also found that there would be the need to raise of Borumba Dam to a level larger than that contemplated in Stage 3 raising of Borumba Dam. In addition to the very large pumping capacity it was found that Borumba Dam would need to be raised to a size larger than 1,500,000 ML to deliver yields similar to that from Stage 2 Traveston Dam.
>
> Further hydrologic-based statistical analysis found that the water harvesting proposal would be significantly more vulnerable in the short to medium term due to:
>
> • much greater dependency on large flows needed to sustain significant pumped transfers to Borumba Dam; and
>
> • failure during protracted periods when such high flow conditions did not occur.[15]

Transferring water from the NSW Northern Rivers region

6.13 In November last year, the National Water Commission commissioned a desktop feasibility study of the interstate transfer of water from northern NSW catchments (including the Clarence River and Tweed River catchments) to SEQ. The Snowy Mountains Engineering Corporation Australia (SMEC), through a competitive bidding process, undertook the study and published the report titled *Integrated Water Supply Options for north east New South Wales and SEQ* (the SMEC Report).

6.14 Mr Amir Deen representing SMEC, appeared before the committee and advised that the 'study was undertaken at a desktop level—that is, basically on information already available and not undertaking more detailed studies on the ground, and by using and synthesising and collecting and synthesising available information to develop our requirements'. Mr Deen then explained the objectives of the study:

> In its broadest terms, the questions that were raised in this investigation were: what were the urban water requirements of north-east New South

14 *Submission* 68, p. 2.

15 *Submission* 166, pp 118–119.

> Wales and south-east Queensland currently and to about 2050; what were the water utilities in north-east New South Wales and south-east Queensland doing about meeting these requirements; and was there any water available in the rivers of north-east New South Wales that could be utilised for urban water supplies and how much would it cost to get that waster [sic] across to south-east Queensland and north-east New South Wales. We were also asked to comment on any issues in relation to economic, environmental and social issues that could arise from our proposals.[16]

6.15 The SMEC Report identified five options for further investigation which were considered viable from hydrologic, engineering and economic perspectives. However, the report clearly states that 'it should also be emphasised that all options proposed require further detailed environmental and social assessment in line with the NSW Government laws, regulations and policies, as they can be expected to have significant impact on the environment'.[17]

Table 6.1 – Five Options

Option	River	Description	Estimated Yield (ML/year)	Unit Cost of Bulk Water ($/kL)
TW7	Tweed	Dam on Oxley River. Pipeline from Brays Park Weir to Nerang River	20,000	$1.42
CL3b	Clarence	Dam on Clarence Upstream of Duck Creek. Pipeline to Logan River	100,000	$1.73
CL5b	Clarence	Dam on Tooloom Creek. Pipeline/tunnel to Logan River	20,000	$1.65
MA1	Clarence	Weir on Mann River. Pipeline to Logan River	50,000	$2.12
MA2	Clarence	Dam on Mann River. Pipeline to Logan River	100,000	$2.04

Source: SMEC. (2007) *Integrated Water Supply Options for north east New South Wales and south east Queensland*, p. 2.

6.16 The Review Report included commentary on the transfer of water from northern New South Wales' rivers. The report highlighted that the Tweed and Clarence catchments have '…significant runoff, and have relatively insignificant storage development. On hydrological grounds there appears to be significant

16 *Committee Hansard*, 11 May 2007, p. 63.

17 SMEC. (2007) *Integrated Water Supply Options for north east New South Wales and south east Queensland*, p. 1.

potential for further water resources development…'.[18] However, the Report indicates that there are a number of factors, which may limit the opportunities for short or long-term utilisation of these resources for urban use in SEQ. The limitations include:

> • Environmental impacts;
>
> • NSW State Government policies on granting additional allocation of water from these catchments;
>
> • NSW State Government legislation regarding interstate transfer of water from these catchments;
>
> • The distance of the potential sources from the demand centres in SEQ (the proposed Tugun Desalination Plant has the capacity to provide all of the urban demands for the southern part of the Gold Coast area, therefore any additional supply would need to be piped north as far as the areas south of Brisbane); and
>
> • The rugged topography separating the northern NSW catchments from the coastal SEQ catchments, which would mean high pumping heads and energy costs for the most direct routes.[19]

6.17 The committee sought clarification on the extent of assessments undertaken on possible social and environmental impacts of the five options. Mr Deen reiterated to the committee that the study was undertaken on available information and included very broad assessments:

> It is the next stage that would involve assessment of costs and benefits for these proposals.[20]
>
> …
>
> From our perspective we believe that a second stage is needed, where one would be looking at a full feasibility study of these options.[21]

6.18 Mr Robert Hales and Mr Adam Anderson provided a report to the committee which analysed the SMEC Report and concluded '[a] more comprehensive assessment is needed before any conclusions can be drawn concerning the viability of any of the options listed in the SMEC Report'. The Report identified the following concerns:

> 1) Climate change impacts have not been considered on yield estimates.
>
> 2) Climate change has not been factored into environmental flow and regulation issues.

---

18 A.Turner, G.Hausler, N. Carrard, A. Kazaglis, S. White, A. Hughes, T. Johnson, *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February 2007, p. 52.

19 *Review of Water Supply-Demand Options for South East Queensland*, pp 52–53.

20 *Committee Hansard*, 11 May 2007, p. 74.

21 *Committee Hansard*, 11 May 2007, p. 78.

3) Issues with climate change and methods of assessment lead to lower expected yields and therefore increase costs of water.

4) There remain serious questions over the methods of assessment of storage sizes, yields and regulation of all the selected preferred options.

5) The preferred options impacts on the nationally listed endangered Eastern River Cod and other fauna.

6) The preferred options will significantly impact National Parks.

7) It fails to acknowledge Indigenous Land Use Agreements.[22]

6.19 The costs detailed in the SMEC Report are made on a 'very conservative basis' and SMEC stated that they are 'fairly confident' of the numbers produced and assessed the cost based on their 'experience designing dams, building pipelines, pump stations et cetera. We have used the most recent information that we have available. We very recently developed a number of pipeline projects, and that information is also brought in'.[23]

6.20 The committee notes that 'NSW government agencies were invited to contribute to the SMEC Report but did not offer any assistance'.[24] The committee received a number of submissions from members of the communities affected by the five options identified in the SMEC Report. The major areas of concern identified include:

- the appropriateness of the information contained in the SMEC Report;[25]
- the failure to adequately address the economic, environmental and social impacts including indigenous issues for the five identified options;[26] and
- ability to maintain adequate environmental flows.[27]

Rainwater tanks

6.21 Many witnesses and submitters suggested that introducing water tanks to homes in Brisbane and SEQ would be a viable alternative to supply water to the region.[28] Mr Roger Currie, Water Resources Policy Officer, Wide Bay-Burnett Conservation Council Inc. commented:

---

22 *Submission* 69B, p. 1.

23 Mr Amir Deen, SMEC, *Committee Hansard*, 11 May 2007, p. 64.

24 SMEC. (2007) *Integrated Water Supply Options for north east New South Wales and south east Queensland*, p. 5.

25 For example, see *Submission* 214; *Submission* 217; *Submission* 222; *Submission* 232; *Submission* 233; *Submission* 239.

26 For example, see *Submission* 215; *Submission* 216; *Submission* 237; *Submission* 240; *Submission* 241; *Submission* 242; *Submission* 243.

27 For example see *Submission* 207; *Submission* 212; *Submission* 217; *Submission* 240.

28 For example, see *Submission* 22; *Submission* 31; *Submission* 65; *Submission* 123.

> It is cheaper for Beattie to buy tanks for everyone in Brisbane; it is cheaper for Beattie to recycle; it is cheaper for Beattie to desalinate. They are all cheaper than Traveston.
>
> …
>
> Mr Currie—We are saying that tanks, desalination and recycling are the key to the future.
>
> CHAIR—You are saying that we can put another 1.5 million people in there and do it on tanks?
>
> Mr Currie—Yes, providing that we can get Australians to come to their senses and stop wasting water.[29]

6.22 The Queensland Government has included the use of rainwater tanks in its urban demand initiatives. In June 2006, the government launched a series of rebate schemes to promote the take-up of water saving appliances and rebates of up to $1000 are available for water tanks.[30] Also, in addition to this rebate scheme, the Queensland Government has legislated that every new house in SEQ must supply 70,000 litres from a rainwater tank or other type of rainwater harvesting or local water recycling. Rainwater tank retrofits and recycled water applications will need to be considered on a case by case basis.[31]

6.23 Suggestions were made in evidence that the Queensland Government should be implementing further strategies to encourage residents to install and use rainwater tanks:

> Where a householder or business is willing and able to install larger tanks, the subsidy should be increased and new houses aught to be required to install larger tanks.[32]
>
> …
>
> Maybe it's the urgency of the situation but southeast Queenslanders are showing themselves more than willing to look at other options. Rainwater tank rebate schemes have proven enormously popular though work needs to be done to build in more encouragement to purchase larger tanks. Councils are at last seeing tanks as an asset, especially when the houses are in higher rainfall areas than their dam catchments. Tank installation is a labour-intensive industry which keeps pace with growth.[33]

6.24 The Australian Conservation Foundation (ACF) provided the committee with a report commissioned by the ACF, the Nature Conservation Council (NSW) and Environment Victoria titled *The economics of rainwater tanks and alternative water*

---

29 *Committee Hansard*, 11 May 2007, pp 53–54.

30 *Submission* 166, p. 15.

31 *Submission* 166, p. 49.

32 Ms Gillian Pechey, *Submission* 36, p. 1.

33 Mr Ian Mackay, *Submission* 75, p. 3.

supply options (the MJA Report).[34] This report was prepared by Marsden Jacob Associates (MJA) and conducted research into the potential rollout of rainwater tanks in Sydney, Melbourne and SEQ. The research undertaken included 'an analysis of the potential water savings, the energy savings from avoiding dams and desalination plants, and the cost of rolling out rainwater tanks on a massive scale'.[35]

6.25 The MJA Report concluded that if rainwater tanks were rolled out to five per cent of households each year, based on the SEQ demand scenario adopted by the Queensland Government, expenditure required in 2010 to cater for demand growth across the system (excluding emergency supply options) could potentially be delayed:

> - to around 2019 in SEQ if all potential housing (i.e. detached and semi-detached houses…78 per cent of SEQ dwellings) could install a rainwater tank.
>
> - to around…2018 in SEQ if only 50% of total dwellings could install a rainwater tank; and
>
> - to around…2013 in SEQ if only 10% of total dwellings could install a rainwater tank.[36]

6.26 The MJA Report also indicated that rainwater tanks are more than five times as energy efficient as desalination plants per kilolitre of water produced and estimated that the cost to roll out rainwater tanks to 5 per cent of households in SEQ would be approximately $140-$200 million per annum.[37]

6.27 The Review Report considered an extension of the rainwater tank program for existing households as a new demand-side option to reduce the demand for water. The Report states that:

> This program would require connection of the tank to outdoor and selected indoor end uses to optimise the rainwater tank savings. In some locations in (for example) Brisbane there are localised constraints experienced by the stormwater system or peak water supply. Rainwater tanks in such areas could reduce costs associated with upgrading stormwater or water reticulation systems (Turner et al, 2003). This is very area-specific and requires further research, but it can be assumed that such opportunities will reduce the unit cost of rainwater tank retrofits, which would otherwise be very high. It is assumed that a high uptake could be achieved in this option if it were linked to regulations that affect specific zones that would benefit from avoided stormwater infrastructure upgrading and mains upgrading

34 Marsden Jacob Associates, 2007. *The economics of rainwater tanks and alternative water supply options*. Prepared for the Australian Conservation Foundation, Nature Conservation Council (NSW) and Environment Victoria, April 2007.

35 ACF, Answer to question on notice, 4 June 2007 (received 14 June 2007).

36 *The economics of rainwater tanks and alternative water supply options*, p. 6.

37 *The economics of rainwater tanks and alternative water supply options*, p. 7.

> associated with fire fighting. Savings of 70 kL/household/a have been assumed (Coombes & Kuczera, 2003).[38]

Recycled Water

6.28 The Queensland Government is implementing the Western Corridor Recycled Water Project which will have the combined capacity to supply 210 megalitres per day of purified recycled water:

> This project is a bulk recycled water supply initiative linking Luggage Point on Brisbane's east to Caboonbah in the north-west. It is Australia's largest water recycling project, the 3rd largest advanced recycled water treatment project in the world and the 4th largest recycled water scheme in the world. This water will be used by power stations, industrial users and possibly for agriculture, as well as providing additional supplies into Wivenhoe Dam to supplement potable water supplies.[39]

6.29 The Western Corridor Recycled Water Project will involve the following stages:

> • Stage 1A: An advanced water treatment plant at Bundamba will treat water from existing wastewater treatment plants at Bundamba and Goodna to supply Swanbank power station by 31 August 2007;
>
> • Stage 1B: The advanced water treatment plant at Bundamba will be expanded to incorporate additional volumes of water from existing wastewater treatment plants at Oxley and Wacol. A pipeline will then link to Caboonbah for off-take to supply recycled water to Tarong power station. This stage is scheduled for completion in 30 June 2008; and
>
> • Stage 2: Two new advanced water treatment plants to be constructed alongside existing wastewater treatment plants at Luggage Point and Gibson Island will provide larger volumes of purified recycled water for delivery to Wivenhoe Dam scheduled for completion by 31 December 2008.[40]

6.30 Professor Don Bursill, former Chief Scientist with the South Australian Water Corporation and founding member of the Global Research Coalition, expressed caution about recycling wastewater to supplement potable water supplies. Professor Bursill commented that the necessary parts of the system must be followed properly and reliably to ensure a fail-safe operation:

> It is my view that this option for a public water supply should only be taken up if all other reasonable water sources and non-potable recycling options are already fully utilised or are unavailable. My reservations are not related

---

38 A.Turner, G.Hausler, N. Carrard, A. Kazaglis, S. White, A. Hughes, T. Johnson, *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February 2007, p. 38 and Appendix B.

39 Queensland Government, *Submission* 166, p. 18.

40 *Submission* 166, p. 18.

> to technical performance of the processes and technology involved but more because of what might happen in terms of a significant failure occurring in a system and its severe potential public health outcomes for the community served by the scheme.[41]

6.31 The committee heard evidence from Professor Paul Greenfield, Chair of the Queensland Water Commission Expert Advisory Panel on Purified Recycled Water who provided detailed explanations of the system being implemented by the Queensland Government. Professor Greenfield commented that traditional water treatment effectively uses a three-barrier process. However, the process being implemented in Queensland has '…seven barriers. The risk level at the end of those seven barriers is reduced to as low as or lower than the risk that we currently tolerate. I cannot promise you that it is absolutely lower but it is as low as'.[42]

6.32 Professor Peter Collignon, an infectious diseases physician and clinical microbiologist, talked about the use of an aquifer as an added safety factor and commented:

> If you need the water, I think that would be much better. That is my understanding of what happens in the US. They put it in an aquifer where it may take up to 10 years before it actually arrives at the point. So you have this added safety factor. The other thing is that, with your monitoring, if something should go wrong then you have more time to realise it. I think that a lot more monitoring needs to be done than is the current practice. We need to have better tests to look for viruses and to be able to detect more quickly if they are in the water that is being released, because currently that sort of technology does not seem to exist.[43]

6.33 The Review Report considered recycled water options and said that there are approximately 60 wastewater treatment plants in SEQ many of which are small capacity plants. The report lists a number of potential recycled water indirect potable reuse (IPR) schemes in Queensland which will offer significant recycled water supplies and commented that:

> The recycled component of each of the supply sources mentioned…is a time-averaged figure. The recycled component will increase during drought periods, and reduce during periods of high runoff and overflows.
>
> Some of the…IPR options may require upgrading of the downstream water treatment plants to include ozonation and BAC [Biologically Activated Carbon] filtration processes as additional measures of protection against possible failure of the advanced wastewater treatment plants due to such events as lightning strikes.

41 *Committee Hansard*, 4 June 2007, p. 52.

42 *Committee Hansard*, 4 June 2007, p. 72.

43 *Committee Hansard*, 11 May 2007, p. 28.

> IPR options will be affected by demand management initiatives. In future detailed modelling both the yield and costs of such options will need to take this into consideration.[44]

6.34 Mr Barry Dennien, Queensland Water Commission, confirmed that there was approximately 200 megalitres per day of recycled water still available and this latent capacity is distributed throughout a series of smaller councils. Mr Dennien emphasised that they were concentrating on the Western Corridor Project and would then consider other water recycling schemes in Queensland:

> Our focus has been to build one scheme, and it really tied back to Don Bursill's point: we wanted one very large scheme with single-point operation, well managed, well controlled; the gold standard of design. We want to make this work and be a showpiece of Australia. That was the plan and that is still the plan: to have our eggs in just one basket and get it right. Then, when our strategic plan is released in about three or four months time, we will showcase some of the other schemes that may come on line later as the scheme proves itself and, as and when they are required, we will bring on the other schemes.[45]

Conclusion

6.35 The Queensland Government has implemented a diverse strategy of both demand and supply side options to redress the challenges it faces in meeting the demand for water in their state. The committee received mixed evidence on whether a new source of water supply was needed. The majority of submitters and witnesses clearly called for the Queensland Government to explore options other than the Traveston Crossing Dam and the Wyaralong Dam. However, most submitters and witnesses did not suggest alternatives for bulk water supply.

---

44 A.Turner, G.Hausler, N. Carrard, A. Kazaglis, S. White, A. Hughes, T. Johnson, *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February 2007, p. 50.

45 *Committee Hansard*, 4 June 2007, p. 79.

Chapter 7

Committee comments

7.1 The committee undertook this inquiry, aware that its ability to affect change and influence the management of water resources in Queensland is significantly restricted. However, the committee recognises that an important outcome of the inquiry process has been to give a voice to many people, organisations and communities in South East Queensland affected by the proposals under consideration in this inquiry.

7.2 The committee heard from many different people during this inquiry and would like to thank those who took the time to prepare written submissions, attend public hearings and speak to members of the committee during site inspections. The fact that members of affected communities have been so forthcoming with details of their personal situations is very much appreciated by all committee members. The committee has, through this evidence, gained an insight into how communities are feeling, and in particular, the impact the proposed dams have had on community strength and spirit.

7.3 The Queensland Government has been very cooperative during the inquiry process and has attended public hearings and provided substantial amounts of information to the committee. The committee would like to express its appreciation to each of the government agencies and authorities in Queensland who contributed. The committee is also grateful for the opportunity to undertake a site visit to the Traveston Crossing Dam site and the Borumba Dam site which was organised by the Queensland Government.

7.4 The committee acknowledges the commitment of the Queensland Government to develop and implement solutions to the State's water crisis. It is widely predicted that South East Queensland will continue to experience a significantly high rate of population growth. It is imperative that strategies and initiatives are developed and implemented in the short, medium and long-term to meet the water demand requirements of the region. The government's current water supply strategies are diverse and include both demand management elements and supply source initiatives. The committee would particularly like to acknowledge the trend in urban water reduction levels indicating that Queensland residents are actively committed to water management solutions and reducing their demands on an already strained water supply.

7.5 Initiatives like the proposed transportation of water from the Northern Rivers area of New South Wales to South East Queensland remains a state government issue which can only be progressed with the cooperation of both state governments. The Commonwealth has no role in progressing this proposal and the committee notes that the NSW government did not contribute to the desktop study. The evidence received during this inquiry clearly indicates that there is significant work to be done on each

of the options identified in the desk-top study undertaken by SMEC. A detailed assessment of environmental, social and other impacts must be undertaken before any of the options could be given serious practical consideration.

7.6 The committee is concerned at the volume of evidence it received criticising the Queensland Government's engagement with the community in relation to both the Traveston Crossing Dam and the Wyaralong Dam projects. The committee notes that members of the affected communities felt poorly prepared for the announcement. This appears to be symptomatic of a politically expedient decision made in a tense political environment and in the face of burgeoning population growth and a reducing water supply. The committee received evidence suggesting that members of affected communities may have been able to reconcile themselves to this decision if the proposals had been supported from the outset by detailed scientific analysis. The Queensland Government's belated attempts to address this deficit appear to have done little to gain community support.

7.7 Significant concerns were raised about the lack of communication and information provided to communities and stakeholders from the initial announcement of the projects and through the early planning phases. It is clear that members of the communities affected by these projects do not feel that they were adequately prepared for the initial announcement or effectively included in the planning process. The poor level of community engagement and consultation appears to have been exacerbated by the fact that information, when sent out, was at times incorrect or misleading, and led to much confusion, uncertainty and stress within the community. The inability of the affected communities to access technical information such as drilling and hydrological studies further compounded an already tense situation.

7.8 However, the committee acknowledges that the Queensland Government has implemented many strategies intended to resolve these issues and assist members of the community to understand and engage with the process. Some of these initiatives include: the One-Stop-Shops, the Community Futures Taskforce, public meetings, newsletters and fact sheets. If these processes had been implemented soon after the announcement, the expectations and anxiety levels of the communities may have been better managed. The continued uncertainty and inability to access information over a long period of time has created much tension and anxiety in the affected communities.

7.9 The committee received a significant body of evidence expressing concern about the environmental impacts of the dams, particularly in relation to a number of threatened species. The Commonwealth Government does have a role to play in the assessment and approval processes of 'controlled actions' under the *Environment Protection and Biodiversity Conservation Act 1999*. The proposed Traveston Crossing and Wyaralong Dams have been determined as 'controlled actions', and as such will be subject to the approval of the Commonwealth Minister for Environment and Water Resources. The approval process was discussed at length during this inquiry. Evidence was received from members of the community, indigenous representatives, the Commonwealth Department of Environment and Water Resources, the Queensland Government, academics and other experts in the field.

7.10 The committee notes with concern the evidence received relating to the Paradise Dam and statements indicating that conditions placed on the approval of this initiative by the Commonwealth Minister have not been met by the Queensland Government. The committee is particularly concerned that mitigation strategies for endangered species do not appear to have been effectively implemented. The committee acknowledges that an audit of the approval conditions for Paradise Dam is being undertaken. While it is unfortunate that the results of this audit will not become available before this inquiry concludes, the committee remains concerned about this issue and will seek a briefing on the results of this audit when completed.

7.11 As stated previously, the committee is clearly aware of the limitations it faces in respect of this inquiry. The committee notes that the approval process for the Environmental Impact Statement through the Commonwealth Minister for Environment and Water Resources will not be finalised for a number of initiatives in South East Queensland before the conclusion of this inquiry. The committee hopes that the Minister will allow relevant evidence gathered as part of this inquiry to inform that approval process.

7.12 The committee makes the following recommendations:

Recommendation 1

7.13 The committee recommends that the Commonwealth Minister for Environment and Water Resources, when exercising authority under the EPBC Act, considers the evidence received on the potential environmental impact of the Traveston Dam on the Mary River and the species of the river. The committee also recommends that the Minister reviews the results of the audit on the Paradise Dam approval conditions to mitigate any potential effect on threatened species.

Recommendation 2

7.14 The committee recommends that the Queensland Government continues to:

- **instigate strategies that will inform, engage and consult with members of the affected communities;**
- **ensure that businesses affected by the proposed dams are adequately compensated and offered appropriate assistance; and**
- **where possible, facilitate the timely release of copies of reports and information to members of the community to achieve a transparent and open process.**

ADDITIONAL COMMENTS BY SENATORS IAN MACDONALD, RUSSELL TROOD, BARNABY JOYCE AND RON BOSWELL

1.1 The evidence given to the Inquiry by so many witnesses from a wide range of professional, community, social and economic backgrounds leaves us with very strong doubt that, either the Traveston Crossing Dam, or the Wyaralong Dam will be particularly useful exercises in contributing to the solution of the long term water needs for the growing south-east region of Queensland. The proposal to construct these dams suggests to us that the decision to build them was politically motivated and reached without sufficient scientific, social or economic analysis.

1.2 We thank the Queensland public servants for their assistance and willingness to give evidence to the Inquiry. They have found themselves in a difficult position having had to justify publicly and before a parliamentary committee, elements of a policy with which they were plainly uncomfortable. In all they acted responsibly and professionally and were a credit to the public service system they serve. Yet none of this overcomes what appeared to us an exercise in trying to defend the indefensible.

1.3 The report of the Committee highlights the many discrepancies in and challenges to the information of the Queensland Government, much of which seems to have been prepared ex post-facto the decision to construct the two dams.

1.4 With regard to the Traveston Crossing Dam, the cost in financial, economic, environmental and social terms of stages one and two of the dam will dwarf any intended benefit to residents of Southeast Queensland. The overall negative impact of the dam on the people of the Mary River Valley will be in many cases grievous.

1.5 Considering the evidence provided to the Committee we have a very real concern that Australian native fauna which is unique to the Mary River system will be in serious danger of extinction if the dam proceeds. The evidence along these lines appears to be overwhelming and very persuasive.

1.6 Our conclusions on the Traveston Crossing Dam are reinforced by the actions of the Queensland Government. In dealing with the people of the Mary River Valley, the experts engaged by them and the volunteers supporting them, the government has been frequently evasive and inattentive to their desire for information on the dam.

1.7 At the completion of the Inquiry we have been left with the very firm conclusion that the Traveston Crossing Dam in particular, is a political response to a serious problem, but is not one which will solve the problem.

1.8 We believe there are many other possible solutions to Southeast Queensland's obvious needs for a more reliable long term supply of water that would be more cost

effective and would have infinitely less economic and social impact on those affected by the proposed Traveston Crossing Dam.

1.9 We believe that no work should be undertaken on the construction of the Traveston Crossing Dam without these alternatives being properly and fully investigated.

1.10 We believe that the Queensland Government should further pursue:

- their already initiated water saving measures, including rain water tanks and demand reduction;

- further work on increasing the capacity of the Borumba and other dams;

- a serious assessment of additional desalination projects;

- with greater vigour, their existing proposals on water recycling; and

- the possible advantages of the new technology in increasing use of grey water for non-potable purposes.

1.11 While the federal Minister for the Environment and Water Resources is required to follow strict processes in assessing the Traveston Crossing Dam under the Environmental Protection and Biodiversity Conservation Act, we urge the Minister to:

- require the Queensland Government to apply for EPBC Act approval for both stages one and two. The two stages of the project are so integrally entwined that we see very little logic in the two stages being separated for environmental assessment, especially when the proposed dam wall is intended to be constructed to stage two height at the outset. We consider it highly unlikely that stage one will have much benefit without proceeding to stage two, and even then the proposal is deeply flawed as a way of meeting southeast Queensland's future water needs;

- pay close attention in his determination of the social and economic impact of the dam's construction as required by the EPBC Act;

- very seriously consider the overwhelming evidence on the danger to unique fauna species in the river system which the imposition of conditions will not overcome; and

- very seriously investigate the allegations of the failure by the Queensland Government to comply with conditions imposed on the Paradise Dam.

1.12 Although the proposal to build the Wyaralong dam received less attention during the inquiry, we consider the evidence tended to the Committee regarding its shortcomings to have been compelling. The Queensland government's case for constructing Wyaralong is far from convincing, especially in the light of the many apparently superior proposals for supply in the area. Before committing any further

resources to this project, we would urge the Queensland government to re-examine the alternatives more closely and reconsider its decision.

1.13 Many of the concerns we have expressed with regard to procedures and dealing with affected residents in relation to the Traveston Crossing dam apply equally to the management of the Wyaralong proposal.

The Hon. Ian Macdonald
Senator for Queensland

Russell Trood
Senator for Queensland

Barnaby Joyce
Senator for Queensland

The Hon. Ron Boswell
Senator for Queensland

ADDITIONAL COMMENTS BY THE AUSTRALIAN GREENS

1.1 The Australian Greens believe the proposed Traveston Dam should not proceed.

1.2 The proposed dam is not environmentally, socially and economically sustainable. As a broad and shallow dam on an alluvial floodplain it is also likely to be subject to unacceptably high levels of water loss due to evaporation and seepage.

1.3 While the Australian Greens in general support the analysis of the economic social and environmental shortcomings of the Traveston Dam proposal in the majority report, we believe it does not go far enough in its conclusions and recommendations.

1.4 The only conclusion we can reach from the evidence presented is that the proposed dam simply should not go ahead.

1.5 The dam would lead to the loss of at least three endangered species, has already caused and will continue to cause deep community distress and social dislocation, and would provide water at a greater cost than other alternatives. In addition, the dam is likely to prove ineffective due to climate change induced rainfall decline, high evaporation rates and high rates of seepage. It is therefore unlikely to meet predicted yields, will not meet environmental flow requirements, or address the needs of downstream water users.

1.6 The committee was presented with overwhelming evidence that this dam is a high-cost high-risk approach to sustainable water supply for South East Queensland

1.7 The Review of Water Supply-Demand Options for South East Queensland by the Institute for Sustainable Future and Cardno Australia found:

> "According to this assessment, Traveston Crossing Dam is neither necessary nor desirable as part of the suite of options for ensuring water security for South East Queensland."

1.8 Key findings of the review include:

- Responding to the current drought in South East Queensland, the Queensland Government has developed a program comprising options including groundwater abstraction, source renewal, desalination, indirect potable reuse and demand management. This is a well designed program capable of significantly deferring critical water scarcity for the likely duration of the drought.
- Beyond this time horizon, the current drought situation should not direct planning for ensuring the long term water security of South East Queensland. Traveston Dam, although facilitated by the Queensland Government's emergency drought response legislation, is *not* a drought response measure.

Water from Traveston will not be available until 2012 at the earliest, likely to be well after additional water is required for drought relief.

- In the longer term, when Traveston Dam would potentially be able to supply water, the additional water from Traveston will not be needed. Demand for water in South East Queensland can better be met by a combination of other measures with a particular focus on reducing demand for water, especially in new houses that drive the growth in demand.
- As part of the Review, various supply and demand reduction measures were assessed in terms of their potential to provide water security in the short, medium and long term and in terms of their unit cost in dollars per kilolitre. Traveston performs poorly on both of these counts. The cost of Traveston dam is likely to exceed **$3** per kilolitre. The cost of reducing demand for water is on average about **$1.15** per kilolitre.

Social Impacts

1.9 This proposal has already had significant adverse impact on the local community as were clearly outlined in the submissions to and the evidence received by the inquiry. The Australian Greens believe that, were it to proceed, the dam would continue to have unacceptable social impacts on the local community.

1.10 Mr Kenneth Campbell the Coordinating Counsellor of Kandanga Lifeline Sunshine Coast said at the hearing in Gympie:

> "There were a range of issues that we were being asked to deal with. Some were directly related to the frustrations of people who were trying to get information and advice about how they might go about getting it right, through to issues of extreme stress and depression….
>
> "There was no previous discussion or consultation with the community—that goes without saying because it was like a bombshell falling on them when they found out about it. In fact, from the time of the first announcement on 27 April through to the end of June, there was quite clearly a feeling in the community that this would not happen. There was a real expectation in the client base that I have talked to that when Peter Beattie came up in June he was going to tell them that it was not going to happen. So when that meeting happened there was a tremendous feeling that this was the end…..
>
> "There is evidence of a growing trend for clients to be accessing GPs for related disorders including anxiety and depression. Stress levels due to the dam are creating relationship issues for otherwise stable relationships. Couples are fighting over whether to stay in the valley or go because they are not at a level where they can cope with it anymore. Individuals are losing resources that form part of the normal toolbox of coping skills. With people leaving the valley, the resources they had have gone.

1.11 Robert Hales, Associate Lecturer Griffith Business School said in his submission to the inquiry:

> Lastly, the Queensland Government actions have contributed to excessive adverse impacts through failing to adhere to acceptable democratic and administrative processes. The construction of large dams will always have an adverse impact if there is a large population in the impacted area. However, the affected people in the Mary River Valley have experienced impacts in excess of what would normally be expected if robust democratic and administrative processes had been implemented. The key factor in this conclusion is the uncertainty experienced by almost all people in the impacted area. Many people in the Mary River Valley say that the Government has managed this aspect to achieve strategic advantage in implementation of the project. I would also make this conclusion. This conclusion is comparable to how financial, social and environmental risks associated with mega projects have been managed in other parts of the world.

1.12 It is clear that the procedural issues in the proposal have had an adverse social impact on the people in the affected area. These impacts are in excess of what would be expected if the dam were to follow 'normal' processes. Excessive impacts have come about because of a confusing and disempowering process of community consultation and engagement - with the Queensland Government moving in to purchase properties during the phase in which community consultation about the dam proposal should have been taking place. This very clearly sent the message that the consultation process and the EIS process were a sham and that irrespective of the findings of these inquiries the Government intended to proceed with the dam regardless.

1.13 The Greens accept the evidence that this has serious negative implications for people's psychology, health, their social capacity and economic prosperity.

1.14 In conclusion, The Australian Greens believe that proposed Traveston Dam will have unacceptable social impacts and recommend that the proposal be abandoned.

Environmental Impacts

1.15 This proposal will have unacceptable environmental impacts.

1.16 The Mary River catchment has significant conservation values. It is situated in a biogeographical transition zone between tropical and temperate environments, and as such contains a large number of plant and animal species of high conservation significance.

1.17 There are at least 38 resident species that are on the endangered list.

1.18 This includes a number of important species that are endemic to the Mary river catchment - the Mary River Cod *Macullochella peelii mariensis*, and the Mary River Turtle *Elusor macrurus*.

1.19 It also includes other threatened species that have restricted geographical ranges - including the Australian Lungfish *Neoceratodus foresti* (which is limited to the Mary and Burnett Rivers and is listed as nationally threatened under EPBC), the Grey headed Flying Fox (which is listed as vulnerable under EPBC), the Giant Barred frog and the spotted-tail Quoll (listed as endangered under EPBC).

1.20 It also includes a number of significant and threatened migratory species.

1.21 The area likely to be impacted by the Traveston dam also includes the great Sandy Strait wetland and the Fraser Island world heritage area.

1.22 Aquatic weeds pose a significant threat to the region, and damming the river, reducing river flows and increasing the surface area of still water behind the dam wall will greatly exacerbate the threat posed by aquatic weed species – including water hyacinth, *Salvinia molasta, Egeria densa* and *Cabomba caroliniana*.

1.23 In addition, The Australian Greens are concerned that the Queensland Government relied heavily in its discussion of its ability to mitigate the impacts of the proposed dam on reference to its assessment of the impacts of the Paradise dam. We believe that this is of major concern, particularly because there has been no audit conducted of the environmental conditions and the dam has not been functioning properly since it was built because it has remained largely empty. We are particularly concerned by its impacts on the Australian Lungfish, as there is compelling evidence that the fish lift is not properly functioning and is unlikely to mitigate the severe impacts of the dam on the breeding sites of the lungfish.

1.24 As a broad and shallow dam on a highly permeable alluvial floodplain it is likely to be subject to unacceptably high levels of water loss due to evaporation and seepage.

1.25 There are a number of other existing environmental concerns with the Mary river which will be greatly exacerbated by the dam.

- the river is over-allocated already;
- the water resource plan is flawed; and
- the river's water quality for dissolved oxygen and salinity is outside the Queensland guidelines for Water Quality for a large proportion of the time already.

1.26 In conclusion, The Australian Greens believe that proposed Traveston Dam will have unacceptable environmental impacts and recommend that the proposal be abandoned.

Northern NSW Rivers

1.27 The Australian Greens are also very concerned about the prospects for the Federal Government's intervention in Northern NSW to attempt to secure water supplies in the south east Queensland as raised by the release of the Snowy Mountains

Engineering Corporation report *'Integrated Water Supply Options for North East New South Wales and South East Queensland'*.

The report has a number of serious flaws including:

- The impacts of climate change where not considered;
- The impacts of reduced rainfall on yield estimates and environmental flows were not considered;
- Current allocations in the various catchments were not considered;
- Impact on catchment and other land uses were not considered;
- Costs of water will be substantially higher due to reduced yield and nature of supply;
- Impact on national parks will be unacceptable;
- Environmental impact is unacceptable; and
- There was no community consultation.

1.28 The Greens reject the use of rivers in northern New South Wales as a possible water supply option for south east Queensland.

Recommendation 1

1.29 The Traveston Dam should not go ahead.

Recommendation 2

1.30 The Queensland Government should pursue alternative water supplies such as demand and supply management, rainwater tanks and recycling.

Recommendation 3

1.31 The Queensland Government needs to ensure that population growth in the south east region of Queensland is sustainable. It should not be granting planning and development approvals unless proponents can demonstrate the necessary water is available and that planning processes address sustainable water supplies.

Rachel Siewert
Senator for Western Australia

ADDITIONAL COMMENTS BY SENATOR ANDREW BARTLETT

1.1 The level of public interest in this inquiry from south-east Queensland and northern New South Wales, as well as from people interested in water management and environment issues, is an indication of how valuable a Senate Inquiry can be.

1.2 The Committee's majority report gives a reasonable summary of the information the Committee received through the course of this Inquiry, but does not draw any major conclusions or recommendations from it. Whilst I appreciate water management issues are predominantly a matter for the Queensland government, and decisions made about the proposed dams in Queensland under the *Environment Protection and Biodiversity Conservation* (EPBC) *Act* are a matter for the federal Environment Minister, I believe it is appropriate for the Committee to make specific recommendations about these issues, if there is the evidence to back them up.

1.3 The assessment processes regarding the Traveston and Wyaralong dams will not be completed until after the federal election. It is therefore unknown who the federal Environment Minister will be at the time, and what party will be in government when the decisions needs to be made under the EPBC Act about whether these dams go ahead. It is inappropriate, under law, for a Minister or political party to indicate what decision they will make under the Act, in advance of seeing all the information on which they must base their decision. However, there is no doubt that the EPBC Act provides the federal Environment Minister with the power to stop both these dams if the projects are assessed as being in breach of the federal environment law.

1.4 It should be noted that, had the EPBC Act not been passed into law, in a significantly strengthened form, by the Democrats in 1999, the legal avenues for the federal government to stop the construction of the environmentally and socially destructive Traveston Dam would not exist. Despite the Democrats being accused at the time of *"the most disgusting sell-out of the Australian environment and laws to protect the Australian environment that this Senate chamber has ever seen*."[1], it is a simple fact that the power to stop dams such as this did not exist at federal level prior to the passage of the EPBC Act. Without straying too far outside the purview of this inquiry, while the EPBC Act could certainly have been better enforced and better resourced, it is only because of the existence of the EPBC Act that a number of other environmentally harmful proposals have been stopped or mitigated, including logging of native forests in Tasmania or the Nathan Dam in Queensland.

1.5 Whilst the legal process under the EPBC Act requires that all the evidence be assessed before a decision is made by the federal Environment Minister on whether to approve an action, the evidence provided to this inquiry makes a very strong *prima facie* case that the Traveston Dam will have a significant negative impact on matters of national environment significance as defined under the EPBC Act - in particular,

the impacts on key threatened species (most notably the Queensland lungfish), Ramsar listed wetlands and the World Heritage values of the Great Sandy Strait.

1.6 For example, the evidence by internationally acclaimed lungfish expert, Professor Jean Joss, was unequivocal. Her submission to the Committee stated that "*the completion of the Mary River dam would almost certainly push it to "critically endangered", and in the long term will lead to its extinction in the wild" an assessment reaffirmed at the public hearing*."

> **Senator BARTLETT**—Is that your scientifically based opinion?
>
> **Prof. Joss**—It is.[2]

1.7 Whilst a lot of focus has understandably been given to the communities and catchments upstream of the dam wall which will be inundated, the impacts on water quality and the adjoining lands should not be underestimated. Evidence provided at the public hearing Gympie by the Tiaro & District Landcare Group and the Mary River Riparian Landholders Group[3] was very valuable in giving an indication of how serious the environmental consequences have been from the construction of even a small barrage. It is clear that harm to the majestic wetlands and estuaries of the Great Sandy Strait from the Traveston Dam will be unavoidable and significant.

1.8 There has been much evidence provided to this inquiry, such as the material provided by Professor Stuart White on behalf of the Mary Council of Mayors[4], which shows that there are workable alternatives that can be achieved. The comprehensive evidence provided by Dr Bradd Witt, Katherine Witt and Andrew Taylor[5] not only demonstrated the serious flaws with the Wyaralong Dam proposal, but provided clear alternatives, scientifically derived from publicly available evidence. Their evidence was not substantially refuted by the Queensland government, and showed both that Wyaralong would be a very expensive and unreliable project, and that there are ranges of more reliable, less expensive alternatives.

1.9 The Australian government has the mandate and the responsibility to intervene in these projects. I believe the risk of south-east Queensland metropolis of running out of water and permanently degrading important environmental assets is so great that Federal intervention is justified in this case.

1.10 The Australian government responsibilities for EPBC as well as for implementation of the COAG's National Water Initiative require the Federal government to be satisfied about the environmental sustainability and economic viability of the proposal.

Environmental sustainability

1.11 The development of dams globally often causes dislocation of local people and environmental damage. Development plans also often fail to deliver on the promised outcomes relating to water quantity and quality. Over 60% of the world's 227 largest rivers have been fragmented by dams, which has led to the destruction of

wetlands, a decline in freshwater species - including fish, turtles and birds - and the forced displacement of many people.

1.12 It is time the outdated knee-jerk response of building more dams and water storages was confined to the history books. As evidence to this inquiry shows, many existing dams in south-east Queensland have totally failed to deliver reliable water supplies whilst causing immense environmental damage. To keep repeating the mistakes of the past is just plain crazy, particularly when they are such expensive and destructive mistakes. If anything, it if time to start looking at removing some of these failed water storages and restoring some of our waterways to health, rather than spending billions of dollars to stuff things up even more.

1.13 The Queensland's governments plans to dam the Mary River and Teviot Brook fail to recognise the need for transparent and cooperative planning, fail to meet the need for robust information to underpin predictions of water availability, and fail to thoroughly investigate the potential for alternative, decentralised sources of supply to meet the water needs of the urban areas of south-east Queensland.

1.14 The Committee has missed an opportunity to undertake a more in-depth analysis of the implications of stage one versus stage two of the Traveston project under the EPBC Act, and to encourage the Minister for the Environment and Water to keep this in mind when considering the referral of the project and its impacts on the 59 state and Commonwealth listed species potentially affected by the project.

1.15 Critical habitat protection is essential for species viability, and the Mary River provides critical habitat for the biologically irreplaceable and ancient Queensland lungfish.

1.16 The example set by the Paradise Dam – a Dam backed by both major parties in Queensland, but already widely acknowledged in evidence to this Inquiry as a disaster - should be closely explored by the Queensland government and by the Commonwealth Minister for the Environment. The impacts of that dam, including ecological and environmental effects, its current low volume and the lack of economic benefits for the people most closely affected, must be taken as a strong example of the likely outcome of plans to dam the Mary River.

1.17 This inquiry, like many before it, has made plain that issues relating to dams are not limited just to the design, construction and operation of dams themselves. Decision-making processes that consider dams must investigate and address the social and environmental impacts that follow from the re-allocation of a fundamental resource from one place to another.

1.18 The Committee heard evidence that questioned the appropriateness of bi-lateral arrangements under the EPBC Act where the State government performs the assessment function under the EPBC Act at the same time as being the proponent of the project under assessment. The Committee should recommendation that this situation is reviewed.

1.19 The Committee also heard evidence that in several proposed water infrastructure projects, the effects of climate change on river flows were not taken into account in the assessment of water supply.

Economic viability

1.20 The Queensland government must publish its comprehensive evaluation of viable alternatives clearly explaining costs and risks associated with each alternative compared with the costs and risks of the proposed Traveston and Wyaralong dams. To move any further down the planning and assessment processes for the project without giving the community the benefit of this wisdom can only further undermine the legitimacy of the proposals in the minds of the community and experts.

1.21 To ensure the economic viability of this project there should be a thorough investigation of alternatives including detailed assessment of storm-water harvesting such as rainwater tanks. It is possible past assessments of tanks have been outdated by the rising costs of building dams in less than ideal sites.

1.22 In quantifying the cost of the Traveston dam, the following types of costs should be included:

- Planning, feasibility and impact assessment
- Land acquisition
- Dam construction
- Diversion and reconstruction of the national highway and energy distribution infrastructure
- Distribution costs all the way back to Brisbane
- Management and maintenance costs of dams and distributions
- Carbon costs given an emission trading system will start by at least 2012
- “Offset” environmental costs
- “Upper bound” ROI capital costs required by the NWI
- Time value of money – expended now but revenues a long way down the track

1.23 The cost efficiency of the project can then be assessed when ranked by cost/megalitre, a calculation which is obviously influenced by yield assumptions. Yield can not be sold if the dam is empty. If you build the dam and the drought continues there will be a long wait (and more cost) until it pays back

1.24 Once the cost per megalitres has been calculated it is quite possible the dam is more expensive than many other alternatives. This conclusion may be consistent for the other dam proposals as well, in which case switching budgets currently assigned to the dam to the emergency fit out of rainwater tanks to large shopping centres, factories

and houses with in high and moderate rainfall and use areas, may provide more water sooner, safer and cheaper.

1.25 It is also apparent that south-east Queensland is moving towards reaching its population carrying capacity. Much more genuine, thoughtful consideration needs to be given to ways to reduce population growth pressures in south-east Queensland and provide incentives for settlement of people in other parts of the state. This does not mean 'fencing off the area' or 'keeping people out', it means doing some more considered long-term planning that does not just assume population growth as a given for a specific region, and puts balanced assessments about environmental and social impacts, and efficient investment in infrastructure ahead of the priorities of property developers.

1.26 These dams will not save Brisbane from drought. As has been regularly detailed in the *Courier-Mail*, existing dams may well run out well before Traveston can be built. It cannot be guaranteed that recycling or desalination projects will provide enough water in time. Yet faster, cheaper and more secure options exist. Traveston and Wyaralong repeat the folly of all dams - they fail in drought when water need is at its most severe. Some analysis has shown the both Traveston and Wyaralong would be bone dry by now even if it had been built in the nineties. This shows that neither Traveston nor Wyaralong would be a secure option. The example of Paradise Dam, currently at 9% capacity, is a useful one to keep in mind when considering this. Instead we must look to consistently using less water and re-using stormwater and waste water more.

1.27 Chronic wastage and excessive use continues in the suburbs of Brisbane. Rainfall close to the coast is much higher than the Wivenhoe or Traveston catchments. If the dams' massive budgets were spent on tanks, recycling and retrofit of water saving technologies, south-east Queensland would have a more secure future. Other dams such as the Borumba Dam raising could be even worse environmentally. This proposal poses all the same impacts on downstream threatened species, as well as drowning higher quality vegetation and just like other dams relies on rainfall - and will fail when needed most.

Recommendation 1

1.28 All political parties, and particularly the two major parties who are competing to form the next government, should give an unequivocal statement that they will use the powers in the EPBC Act to stop either or both of the Traveston and Wyaralong dams if the evidence clearly shows there will be a significant impact on a matter of national environmental significance.

Recommendation 2

1.29 Whilst there have been some positive projects developed by the Queensland government in recent times encouraging water tanks and other rainwater harvesting, there is far more that can be done and can be achieved in this area. Should the Queensland government continue in its refusal to adopt a

comprehensive evidence based, best practice approach to delivering sustainable and secure long-term water supplies for south-east Queensland, the federal government should use it powers and responsibilities under the National Water Initiative to ensure the large amounts of money being splashed around are properly applied.

Andrew Bartlett
Senator for Queensland

[1] Senator Bob Brown, Senate Hansard, 22 June 1999, page 5949
[2] Committee Hansard, 11 May 2007, page 41
[3] See Committee Hansard, 17 April 2007, page 90
[4] Submission 157
[5] see Submissions 155, 155A and 155B, plus Hansard of evidence to Committee, Brisbane 18 April 2007

Appendix 1

List of Submissions

1. Mr Jeff Burns

2. Cressbrook Creek Water Advisory Committee

3. Ms Gillian Crossley

3A. Ms Gillian Crossley

4. Ms Sian Beatty

5. Base Camp Adventure Company

6. Mr Rod Coomber

7. Mr S H Williams

8. Mr D Milligan

8A. Mr D Milligan

8B. Mr D Milligan

8C. Mr D Milligan

8D. Mr D Milligan

8E. Mr D Milligan

8F. Mr D Milligan

8G Mr D Milligan

8H Mr D Milligan

9. Mr Greg Wicks and Ms Hazel Schoen

10. Mrs Judith Calvert

11. Mr Marshall Ross Calvert

12. Ms Helga Hill

13. Ms Bernadette Wright

14. Dr Eugene G Merrill

15. Maryborough Family Heritage Institute Inc.

16. Mr Brian Hanson

17. Ms Daphne Gibbs

18. Ms Carol Pilcher

19. Mr John McHugh

20. Mr Lester and Ms Heather Hall

21. Ms Leanda Mayer

22. Mr Monty Woodbridge

23. Mr Colin Nahrung

24. Ms J Williams

25. D Weymiens

26. Ms D Pye

27. Mr Justin Pye

28. Mary River Riparian Landholders Group (Lower Catchment)

29. Mr Wilson Thomsen

30. S Weymiens

31. Ms Betty Langer

32. Mr Victor Hill

33. Mr Nat Wheatley

34. Dr Bronwyn Ahern – Hinterland Dental Group

35. Mr David and Ms Glenwyn Carson

36. Ms Gillian Pechey

37. Mr William Middleton

38. Mr Alan Kirkegard

39. Mr William Manning

40. The committee received form letters from: Cleve Jarrett, Patricia Poingdesire, Colin Henry Day, David Hammel, Julie Chapman, Peter Morrison, Douglas Harvey, Geoff Poingdestre and Gary and Desley Neilsen

41. Mr Niels K Madsen

42. Mr Donald Ross

43. Mr John and Ms Dianne Baker

44. Mr Keith Bedford

45. Mr Daniel Stewart

46. Mr and Mrs R Worth

47. Raine & Horne Mary Valley

48. Dr Ivan Molloy and Mrs Cate Molloy

49. Mary Valley Show Society Inc.

50. Mr E and Mrs R Kassulke

51. Mrs V D Burnett

52. Ms Jane Sullivan

53. Mr Eric Sorensen

54. Woocoo Shire Council

55. Long's Fuel Supplies Pty Ltd

56. Ms Tricia Roth

57. Wide Bay Burnett Conservation Council Inc.

58. Mr Courtney MacRae

59. Ms Madonna Hedberg

60. Dr Eve Mumewa Doreen Fesl

61. Mr Ross Pilcher

62. Mr Tony Wedlock and Ms Sue Wedlock

63. Mr Peter Brock and Ms Debra Brock and Ms Florence Payne

64. Dr David Williams

65. Mr Lex Gorrie and Ms Ann Gorrie

66. Mr Terence Tomsett

67. Professor Jean Joss

68. Mr Alan Sheridan

69. Mr Robert Hales – Griffith Business School

69A Mr Robert Hales – Griffith Business School, Griffith University

70. Ms Robyn Kerr and Ms Gai Lemon

71. Mary Valley State College P&C

72. Ms Helen Clatworthy

73. Mrs Beryl Sutcliffe

74. Mr Ian Harling

75. Mr Ian Mackay

76. Ms Patricia Ashton and Mr Jim Powell

77. Mary Valley RSL Sub Branch Inc.

78. Dr Lyndon DeVantier

79. Mr Ronald McMah

42. Mr Donald Ross

80. Mr Laurence Jones

81. Mr J S Laing

82. Ms Roz Molyneaux

83. Ms Gillian Boyer

84. BJ & DP Gill Plumbing

85. Tiaro and District Landcare Group

86. Ms Eileen Tobin

87. Ms Katrina Gosschalk

88. Mr Neil Couldrey

89. Noosa Council

90. Queensland Coalition

91. Growcom

92. Queensland Farmers' Federation Ltd

93. Natural Resource Services Pty Ltd

94. Mr Phillip Moran

95. Mr David Gibson, MP

96. Mr John Porter

97. Fraser Island Defenders Organisation

98. Ms Margaret Bunce

99. Ms Elizabeth Berry

100. Conondale Range Committee

101. Mr Bob Borsellino

102. Kilcoy Shire Council

103. Australian Water Association

104. Australian Freshwater Turtle Conservation and Research Association

105. Tiaro Shire Council

106. Mr Tom Killen and Ms Jill Killen

107. Mr Kevin Millers and Ms Connie Millers

108. Henrietta, Geoff, Mitchell and Katie Martin

108A. Henrietta, Geoff, Mitchell and Katie Martin

109. Wildlife Preservation Society of Queensland

110. Mr David Arthur

111. Ms Sally Mackay

112. Mr Robert Bell

113. Dr Steve Dennis

114. Cooroora Veterinary Clinic

115. District Historical Association Inc.

116. Mr John Taylor and Ms Christine Taylor

117. Mr Tony Keetley and Ms Sharon Keetley

118. Ms Marilyn England

119. Cr Ron Owen

120. Mr David Bade

121. Mr Arkin Mackay

122. Mr Lew Cleary and Ms Diane Cleary

123. D Wedlock

124. J Wedlock

125. Mr Robert Brophy and Ms Rhonda Brophy

126. Mrs Flo Vickery

127. Mrs Maree Wesener

128. Mr Guy Bunett

129. Ms Betty Ladner

130. Mr Malcolm Wager

131. Imbil Garage

132. Mr John Cameron and Ms Jenny Cameron

133. Ms Lynette Kaergaard

134. Mr Robert Farnham and Ms Rahima Farnham

135. Ms Jayleen Morgan

136. Logan and Albert Rivers Catchment Association Inc.

137. Kandanga Information Centre

138. Ms Helen Coulter

139. Mr John Schroder and Ms Rosalind Schroder

140. Sunshine Coast Environment Council Inc.

141. Gympie and District Landcare Group Inc.

142. Ms Shirley Edward

143. Queensland Conservation Council

144. Queensland Country Women's Association

145. Mr John Seeck

146. Cooloola Shire Council

147. Ms Meriel Chamberlin

148. Mr Alexander Sinclair

149. Hervey Bay City Council

150. Mr Steve Burgess

150A Mr Steve Burgess

151. Sisters of Mary

152. Mr Keith Gall

153. Mr David Kreutz

154. Mary Catchment Coordination Association

155. Dr Bradd Witt, Ms Katherine Witt and Mr Andrew Taylor

155A. Dr Bradd Witt, Ms Katherine Witt and Mr Andrew Taylor

155B. Dr Bradd Witt, Ms Katherine Witt and Mr Andrew Taylor

156. Save The Mary River Coordinating Group Inc.

156A. Save The Mary River Coordinating Group Inc.

157. Institute of Sustainable Futures

157A. Institute of Sustainable Futures

158. CONFIDENTIAL

159. Mr Greg Corbet

160. Ms Rosemary Burnett

161. Ms Elaine Bradley

162. Ms Prudence Firth

163. Ms Glenda Pickersgill

163A. Ms Glenda Pickersgill

164. Firth family

165. Australian Conservation Foundation

166. Queensland Government

167. Ms Robyn Ford

168. Mr Ross Smith and Ms Gail Smith

169. Mr Lyndall Ensbey

170. Mr Andrew Taylor

171. Prof. Angela Arthington – Griffith University

172. Rev John Woodley – Gympie Uniting Church

173. CONFIDENTIAL

174. Ms Judy Coates

175. Ms Lin Fairlie

176. Ms Tanzi Smith

177. Mrs Jan Mulholland

178. Mrs Zillah Jackson

179. Ms Carolyn Bussey

180. Ms Mary Sims

181. Noosa Parks Association Inc.

182. Mr Brian Clark

183. Ms Bronwyn McDonald

184. D E Spice

185. Queensland Dairyfarmers' Organisation Ltd

186. Ms Robyn Davies

187. Reverend Iain Watt

188. Mr Dominic Kenyon-David

189. Ms Elizabeth Paton and Mr David Paton

190. WWF-Australia

191. Mr Steve Watson

192. Ms Kerryn Griffiths

193. Mr Ian Olsson

194. Ms Stephanie Bellia

195. Queensland Water Resource Reform

196. Mr Nik Harris

197. Mr Kevin Ingersole

198. Maroochy Shire Council

199. Gold Coast North Chamber of Commerce and Industry Inc.

200. Ms Tracey Charlton

201. Mr Bryan McLennan

202. Mr Mark Case

203. CONFIDENTIAL

204. Fenner School of Environment and Society

205. Kandanga State School Parents and Citizens Association

206. Mr Colin Austin

207. Arcay Marine and Associates Pty Ltd

208. Ms Lynne De Weaver

209. Lord Howe Island Shipping Services Pty Ltd

210. Harwood Slipway Pty Ltd

211. Norfolk Shipping Pty Ltd

212. Yamba Shipping

213. Mr D J Firth

214. Clarence Environment Centre

215. Ms Janelle Brown

216. Save the Caldera Rivers Campaign Committee

217. Nature Conservation Council of NSW

218. Mr Allan Townsend

219. Mr Col Shepherd

220. Tweed Climate Action Now

221. Mr John Hunter

222. Caldera Environment Centre Inc.

223. Clarence Valley Conservation Coalition Inc.

224. Uki Village and District Residents Association

225. Ms Paulette Hay

226. Anglican Bishop of Grafton

227. Grafton District Anglers Club

228. Ms Delree Philp

229. Mr Jimmy Malecki

230. Mr Alan Cibilic

231. Clarence Valley Council

232. Climate Change Australia (Clarence Branch)

233. Ms Suzanne Thomas

234. Mr Peter Conde

235. Ms Gisela Somerville and Mr Colin Somerville

236. Ms Penny Watsford

237. ECOfishers NSW

238. Murwillumbah Ratepayers and Residents Association Inc.

239. Mr Steve Foreman and Ms Angela Keenan

240. Ms Justine Maunsell

241. Ms Barbara Fahey

242. Valley Watch Inc.

243. National Parks Association (Armidale Branch)

244. G J May

245. Coffs Harbour City Council

246. Ms Judith Melville

Appendix 2

Witnesses who appeared before the Committee at the Public Hearings

Tuesday, 17 April 2007
Gympie Conference Centre
GYMPIE

Mr Gregory Wicks, Private capacity

Miss Hazel Schoen, Private capacity

Ms Gillian Boyer, Private capacity

Save the Mary River Co-ordinating Group
Mr Kevin Ingersole, Chairman
Mr Alan Sheridan, Secretary
Mr Stephen Burgess, Research Officer
Ms Glenda Pickersgill, Environmental Section

Mr David Gibson, Member for Gympie, Queensland Parliament

Lifeline Sunshine Coast
Mr Kenneth Campbell, Coordinating Counsellor Kandanga

Uniting Church in Australia
Reverend John Woodley
Reverend Iain Watt

Institute of Sustainable Futures, University of Technology, Sydney
Professor Stuart White, Director

Mary River Council of Mayors
Councillor Minas (Mick) Venardos, Chairman
Mr Kenneth Mason, Chief Executive Officer
Mr Robert Fredman, Director of Engineering

Mr John McHugh, Private capacity

Mr Alan Sheridan, Private capacity

Gubbi Gubbi Dyungungoo
Dr Eve Fesl, Spokesperson and Treasurer

Dr Lyndon DeVantier, Private capacity

Mr Phillip Moran, Private capacity

Mary River Riparian Landholders Group (Lower Catchment)
Mr Ronald Black, Chairperson

Fraser Island Defenders Organisation
Mr John Sinclair, Honorary Project Officer

Tiaro and District Landcare Group
Mrs Lynette Klupfel, President

Wednesday, 18 April 2007
Brisbane Convention and Exhibition Centre
BRISBANE

Dr David Williams, Private capacity

Dr Bradd Witt, Private capacity

Ms Katherine Witt, Private capacity

Mr Andrew Taylor, Private capacity

Mr John Taylor, Private capacity

Mrs Christine Taylor, Private capacity

Mr Robert Hales, Associate Lecturer, Griffith University

Wildlife Preservation Society of Queensland
Mr Desmond Boyland, Policies and Campaigns Manager, Member of Logan Branch of WPSQ; and Elected Councillor, WPSQ State Council

Queensland Conservation Council
Mr Nigel Parratt, Acting Coordinator

Queensland Farmers' Federation
Mr John Cherry, Chief Executive Officer

Queensland Dairyfarmers' Organisation Ltd
Mr Wesley Judd, President
Mr Adrian Peake, Chief Executive Officer
Mr Selwyn Cochrane, State Councillor

Queensland Coalition
Mr Jeffrey Seeney, Leader
Mr Michael Duff, Adviser

Queensland Government
Mr Ken Smith, Director General, Department of Infrastructure
Mr Dave Stewart, Deputy Coordinator General, Department of Infrastructure
Mr Geoff Dickie, Acting Coordinator General, Major Projects, Department of Infrastructure
Mr Peter Dann, Assistant Coordinator General, South-East Queensland Water Grid, Department of Infrastructure
Mr Stephen Mill, Executive Director, Community Futures Task Force, Department of Infrastructure
Mr Graeme Newton, Chief Executive Officer, Queensland Water Infrastructure Pty Ltd
Mr John Bradley, Chief Executive Officer, Queensland Water Commission
Mr Barry Dennien, Executive Director of Planning, Queensland Water Commission
Mr Scott Spencer, Director-General, Department of Natural Resources and Water

Friday, 11 May 2007
Parliament House
CANBERRA

National Water Commission
Mr Steve Costello, General Manager, Water Programs Group
Mr Murray Radcliffe, Project Officer

Department of the Environment and Water Resources
Ms Alexandria Rankin, Acting First Assistant Secretary, Approvals and Wildlife Division
Mr Gerard Early, Acting Deputy Secretary

Professor Peter Collignon, Private capacity

Professor Jean Joss, Private capacity

Wide Bay-Burnett Conservation Council Inc.
Mr Roger Currie, Water Resources Policy Officer

Snowy Mountains Engineering Corporation (SMEC)
Mr Amir Deen, Manager, Water Services

Monday, 4 June 2007
Parliament House
CANBERRA

WWF - Australia
Mr Nick Heath, Program Leader, Water, and Queensland Office Manager

Australian Conservation Foundation
Ms Kathrine Noble, Building Green Campaigner

Australian Water Association
Mr Christopher Davis, Member, and previous Chief Executive Officer
Mr Emile Loos, Policy Officer

Big Scrub Environment Centre
Ms Vanessa Grindon-Ekins, Spokesperson

Clarence River Professional Fishermen's Association
Mr John McGuren, Executive Officer

Professor Donald Bursill, Private capacity

Clarence Landcare Inc.
Mr Brian Dodd, Chair

Queensland Government
Mr Ken Smith, Coordinator General, Department of Infrastructure, Queensland
Mr Barry Dennien, Executive Director, Planning and Policy, Queensland Water Commission
Professor Paul Greenfield, Chair, Queensland Water Commission Expert Advisory Panel on Purified Recycled Water
Mr Graeme Newton, Chief Executive Officer, Queensland Water Infrastructure Pty Ltd

Appendix 3

Documents referred to in this report

ACIL Tasman, *The Scoping Economic Futures - Traveston Crossing Region future economic and business development scenarios*, February 2007.

Department of Primary Industries (DPI), Water Resources, *Water Supply Sources for the Sunshine Coast and the Mary River Valley*, December, 1994.

GHD Pty Ltd, Kinhill, *South East Queensland Water and Wastewater Management and Infrastructure Study: Final Report for Phase 1* (Volume 1), April 1999.

GHD Pty Ltd, *South East Queensland Regional Water Supply Strategy - Desktop Review of Identified Dam and Weir Sites*, June 2006.

Hales, R, Anderson, A, *Critique of the 'Integrated Water Supply Options for North East New South Wales and South East Queensland, SMEC Report'*, July 2007.

Hales, R, *A Discussion Paper on the QLD Government's Assessment and Management of the Social Impacts of the Proposed Dam on the Mary River*, Brisbane, 2007.

Marsden Jacob Associates, *The economics of rainwater tanks and alternative water supply options*. Prepared for the Australian Conservation Foundation, Nature Conservation Council (NSW) and Environment Victoria. April 2007.

Queensland Water Resources Commission, *SEQ Sources Study*, 1991.

Queensland Water Commission, *Draft for Consultation The Framework for a South East Queensland Regional Demand Management Program 2007–2009*, March 2007.

Queensland Water Infrastructure Pty Ltd. *Traveston Crossing Dam Overview Geotechnical Investigations - As At 12 February 2007*, 2007

State of Queensland, Department of Natural Resources and Mines, *SEQ Regional Water Supply Strategy – Stage 2 Interim Report*, November 2005.

SMEC, *Integrated Water Supply Options for north east New South Wales and south east Queensland*, 2007.

Turner, A, Hausler, G, Carrard, N, Kazaglis, A, White, S, Hughes, A and Johnson, T. *Review of Water Supply-Demand Options for South East Queensland*, Institute for Sustainable Futures, Sydney and Cardno, Brisbane, February, 2007.

Witt, G. B, Witt, K. J and Taylor, A. *Alternative supply options to the proposed Wyaralong Dam: Preliminary analysis and presentation of potential supply options to achieve the proposed Wyaralong Dam contribution (to the proposed Cedar Grove weir) at lower social, economic and environmental cost.* Report prepared for the Deputy Premier of Queensland and Minister for Infrastructure Anna Bligh, 2007.

Appendix 4

Bulk Water Supply Infrastructure Program Initiatives

Project Title	Project Description	Date Complete	Current Status
Western Corridor Recycled Water Project	Bulk recycled water supply linking Luggage Point on Brisbane's east to Caboonbah in the north-west of SEQ. This water will be used by power stations and industrial users and to supplement the urban water supply via Wivenhoe Dam. Overall length of pipelines is approximately 200km with a combined capacity to supply 210 ML/day.	Stage 1A 31/7/2007 Stage 1B 30/4/2008 Stage 2 31/12/2008	Bundamba to Swanbank pipeline under construction. Bundamba 1A Advanced Water Treatment Plant under construction. Western pipeline section to Wivenhoe – under construction. Eastern pipeline section to Luggage Point – under construction. Luggage Point & Gibson Island Treatment Plant – under construction.
SEQ (Gold Coast) Desalination Project	Facility based at Tugun will desalinate seawater to a potable water standard. It will have the capacity to produce up to 125 ML/day for distribution across SEQ.	30/11/2008	Preparatory site work commenced in September 06. Excavation of ntake/outlet shafts substantially progressed. Major site works to commence April 07.
Southern Regional Water Pipeline	A 100 km bulk treated water supply network between Brisbane and the Gold Coast with reverse flow capacity to distribute up to 130 ML/day.	30/11/2008	Pipeline construction started October 06. Main construction activities progressing include: •pipe laying in the Bundamba/Swanbank area; •Bremer and Brisbane River crossings; •construction of the North Beaudesert Balance Tank; and • major road crossings.
Northern Pipeline Interconnector	A 90 km pipeline to connect the Sunshine Coast bulk water storages (Mary River-Noosa, Baroon Pocket Dam, Wappa Dam and Ewen Maddock Dam) with the SEQ Water Grid at Morayfield/Narangba to distribute up to 65 ML/day.	31/12/2008	A range of preliminary and interim preconstruction activities are progressing, including environmental assessments and approvals processes, community and stakeholder consultation, concept engineering development, corridor selection and land assessment activities.

Project Title	Project Description	Date Complete	Current Status
Eastern Pipeline Interconnector	A total of 20 km of pipelines to connect Redland Shire bulk water sources (North Stradbroke Island aquifer and Leslie Harrison Dam) with the SEQ Water Grid at Logan City to distribute up to 22 ML/day	31/12/2008	The project is currently in the preliminary planning phase, with a series of detailed site investigations progressing. A pre-lodgement briefing with the Federal Department of the Environment, Heritage and Water Resources was undertaken on 12 February 2007. Detailed assessment and project design yet to undertaken
Cedar Grove Weir	Weir on the Logan River near Jimboomba. Will operate in conjunction with Wyaralong Dam and Bromelton Offstream Storage	31/12/2007	Commonwealth approval not required. State approvals progressing. Design work completed. Construction to start May 07.
Bromelton Offstream Storage	Construction of an 8,000 ML storage facility adjacent to the Logan River in the vicinity of Bromelton. This project will generate an extra 5,000 ML/a through water harvesting from the Logan River.	31/12/2009	Necessary preliminary feasibility investigations, including preliminary geotechnical, environmental scans, and hydrological modelling are being advanced. A preferred site has been selected. Further detailed investigation and acquisition work is progressing to confirm the site. Detailed approvals yet to be sought.
Wyaralong Dam	The project is to be located on Teviot Brook, approximately 14 kilometres north-west of Beaudesert in the Logan River catchment. It is estimated that the system will yield up to 21,000 ML/a, when operated in concert with Cedar Grove Weir on the Logan River	31/12/2011	On 13 December 2006 the Federal Minister of the Department of Environment and Heritage decided that the Project constitutes a 'controlled action' under the EPBC Act. The ToR for the EIS will be finalised in April 2007. Preconstruction project development advancing, including full EIS, water quality & land management, cultural heritage assessment, community consultation, and voluntary land acquisition

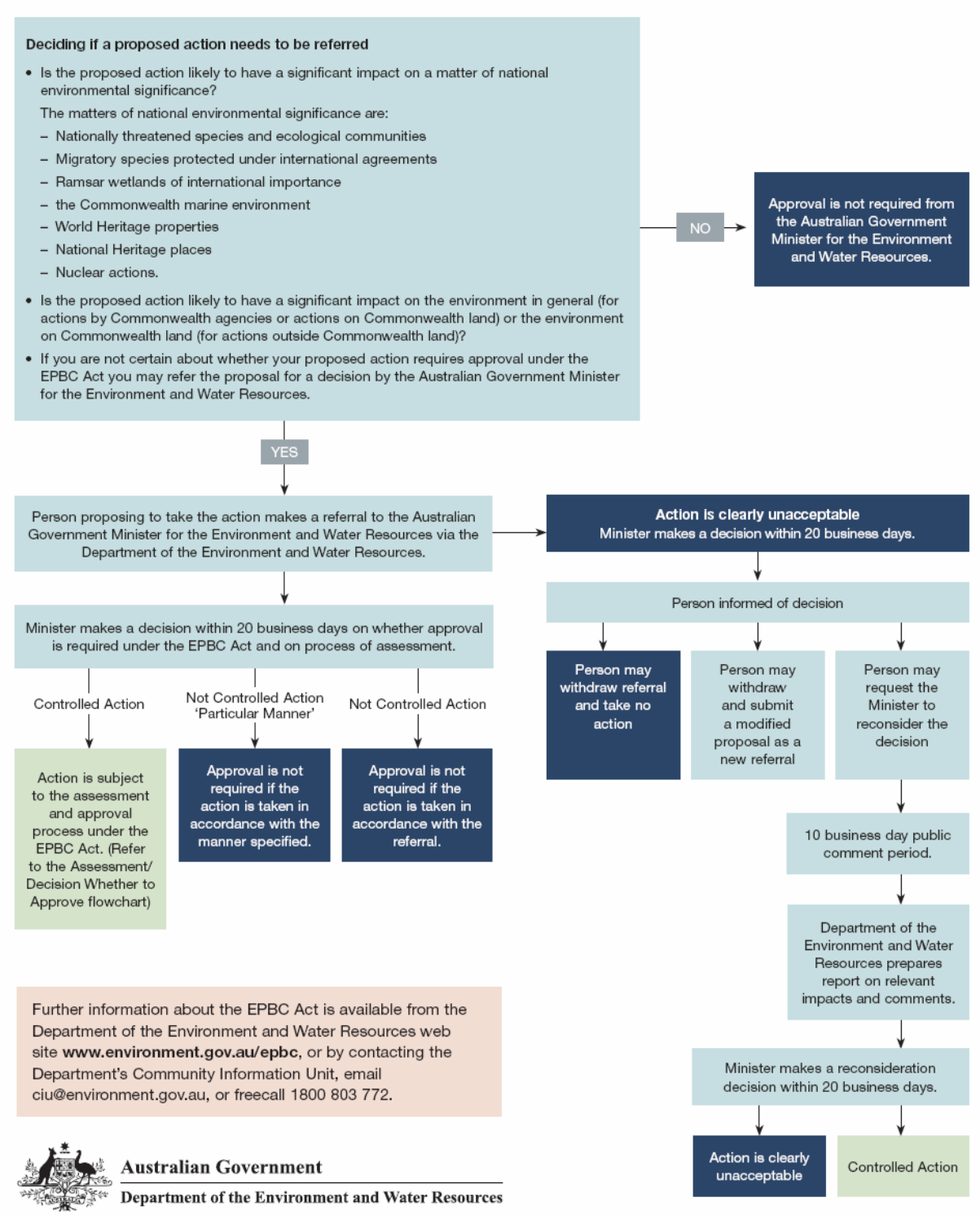
Project Title	Project Description	Date Complete	Current Status
Traveston Crossing Dam Stage 1	The first stage of Traveston Crossing Dam, will involve the construction of a 153,000 megalitre storage on the Mary River, approximately 16km south of Gympie. Stage 1 of the dam will deliver up to 70,000 ML/a. (Full details at Section 8 of this Submission)	31/12/2011	On 29 November 2006 the then Federal Minister of the Department of Environment and Heritage decided that the Project constitutes a 'controlled action' under the EPBC Act. The ToR for the EIS will be finalised in April 2007. Preconstruction project development advancing, including full EIS, water quality and land management, cultural heritage assessment and community consultation.
Borumba Dam Stage 3	Raise Borumba Dam to a FSL of around 163.7 metres, with a capacity of some 350,000 ML. It is anticipated that a raised Borumba Dam will be capable of generating an additional 40,000 ML/yr, when operated in concert with Traveston Stage 1.	2025	A community - led proposal to raise Borumba Dam as an alternative to the proposed Traveston Crossing Dam Stage 1 is currently being assessed by the QWC
Traveston Crossing Dam Stage 2	The second stage of Traveston Crossing Dam involves all necessary dam and other infrastructure modifications to increase the storage capacity to 570,000 ML. Traveston Crossing Dam, when finalised at stage 2, will deliver 150,000 ML, operating in concert with a raised Borumba Dam	2035	Voluntary land purchases for those landholders potentially affected by Stage 2 commenced. Preliminary project planning to inform optimisation of infrastructure relocation.

Source: Queensland Government, *Submission* 166, pp 102–105.

Appendix 5

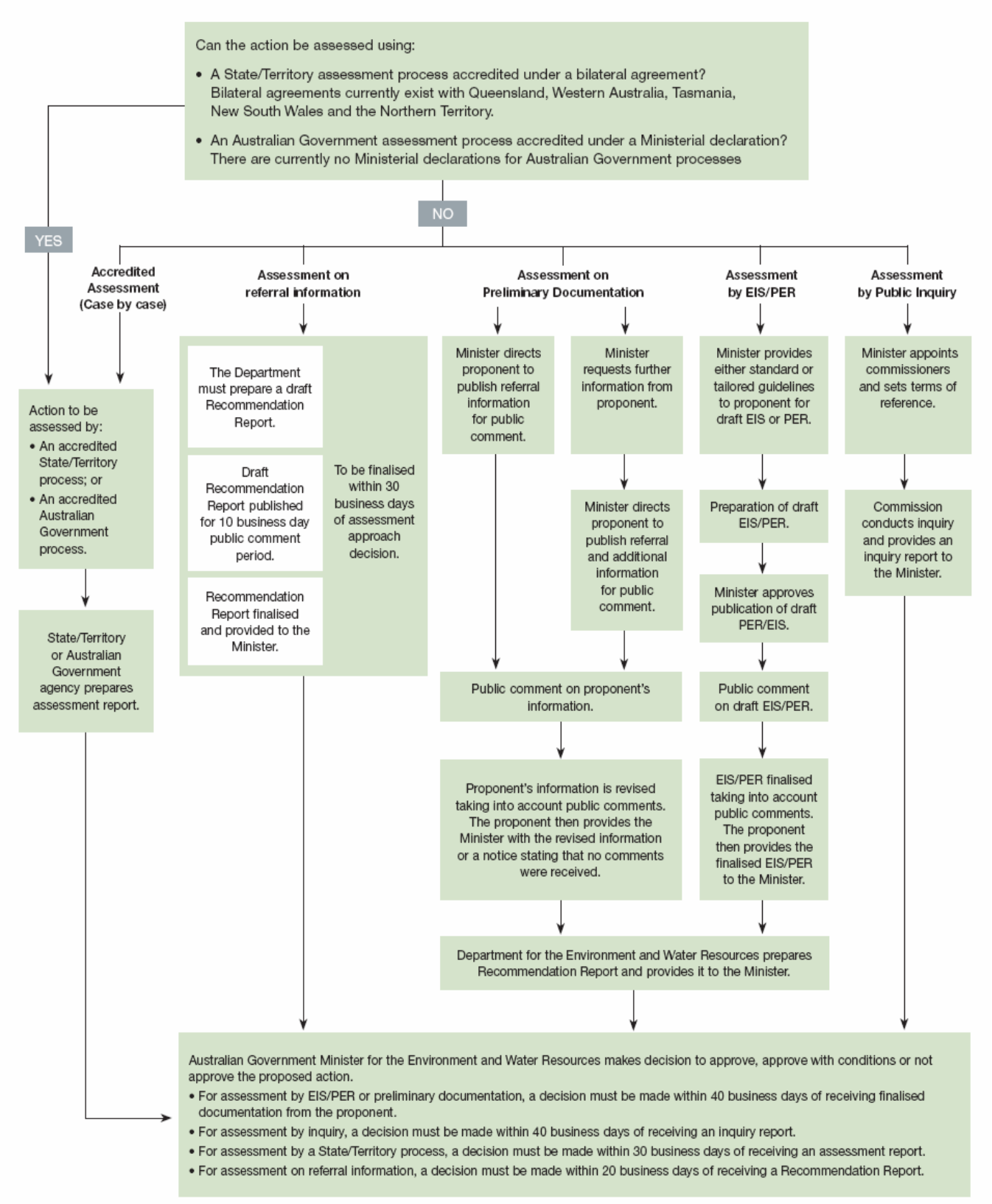
Environmental Assessment Process under EPBC Act

Figure 5:1 The EPBC Act environment assessment process – referral



Source: http://www.environment.gov.au/epbc/assessmentsapprovals/pubs/flow-chart.pdf, p. 1.

Figure5.2: The EPBC Act environment assessment process – assessment/decision whether to approve



Source: http://www.environment.gov.au/epbc/assessmentsapprovals/pubs/flow-chart.pdf, p. 2.

Appendix 6

Listed Threatened Species

LISTED THREATENED SPECIES		
Category	**Mary River - Impact**	**Definition[1]**
Vulnerable	**Australian Lungfish, Queensland Lungfish –** *Neoceratodus forsteri*	A native species is eligible to be included in the ***vulnerable*** category at a particular time if, at that time: (a) it is not critically endangered or endangered; and (b) it is facing a high risk of extinction in the wild in the medium-term future (as determined in accordance with the prescribed criteria).[2]
Endangered species	**Mary River Cod** – *Maccullochella peelii mariensis* **Mary River Turtle, Mary River Tortoise** – *Elusor macrurus*	A native species is eligible to be included in the ***endangered*** category at a particular time if, at that time: (a) it is not critically endangered; and (b) it is facing a very high risk of extinction in the wild in the near future (as determined in accordance with the prescribed criteria).
Critically endangered species		A native species is eligible to be included in the ***critically endangered*** category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future (as determined in accordance with the prescribed criteria).
Extinct in the wild		A native species is eligible to be included in the ***extinct in the wild*** category at a particular time if, at that time: (a) it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or (b) it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Extinct		A native species is eligible to be included in the ***extinct*** category at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.

[1] *Environment Protection and Biodiversity Act 1999*, pp. 218-219

[2] Prescribed Criteria are set out the in the EPBC Regulations, 2000, Part 7, Regulation 7.01 and 7.02.