# 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

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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

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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

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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:

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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.
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> 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.

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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

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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).

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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]
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> …
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> 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]

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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]

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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:

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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]

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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.
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> …
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> 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

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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

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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]

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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:

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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]

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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;

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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).

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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

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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.

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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:

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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]

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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

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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.