15. Conclusion

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15.1 Overview

This chapter addresses Part C, Sections 1.50 and 1.68 of the terms of reference for the environmental impact statement (EIS) for the Lower Fitzroy River Infrastructure Project (Project). This chapter draws conclusions and makes recommendations with regard to the Project based on the environmental impact assessment undertaken for the Project, the environmental management plan (EMP) developed and environmental management system described, and legislation and policy requirements.

15.2 Conclusions

In December 2004, at a regional level and in response to prolonged and severe drought in Central Queensland, the Queensland Government, in partnership with local government, committed to developing the Central Queensland Regional Water Supply Strategy (CQRWSS) (DNRW 2006), a long term water supply strategy for the region. The Lower Fitzroy River system was identified as the next main supply source for urban and industrial needs (and to a lesser extent agricultural development) of the Lower Fitzroy and Gladstone regions. The CQRWSS identified that further infrastructure on the Lower Fitzroy River was required in order to provide the appropriate reliability of water supply (mainly for high priority water).

The Project, comprising the raising and operating of Eden Bann Weir and constructing and operating Rookwood Weir, was identified as appropriate infrastructure to satisfy future water supply requirements. Associated Project components include fauna passage infrastructure, upgraded river crossings and new and upgraded accesses to the weir sites.

The Project is proposed to operate in concert with the existing Fitzroy Barrage. Releases will be made from Rookwood Weir to Eden Bann Weir to the Fitzroy Barrage through 'run of river' methods. Abstraction (by others) will be from the Fitzroy Barrage impoundment.

The Gladstone Area Water Board (GAWB) and SunWater Limited (SunWater) were nominated as proponents for the Project.

The Water Resource (Fitzroy Basin) Plan 2011 (Fitzroy WRP) reserves a nominal volume of water (76,000 ML) for strategic water infrastructure on the Fitzroy River as the strategic water infrastructure reserve. The Project is recognised as strategic water infrastructure to which water allocations may be granted.

The Fitzroy Basin Resource Operations Plan (Fitzroy ROP) specifies that submissions to make unallocated water available from the strategic water infrastructure reserve on the Fitzroy River may be made as follows:

- GAWB: up to 30,000 ML of the reserve for urban and industrial water supplies
- Local government authority: up to 4,000 ML of the reserve for urban water supplies for the Capricorn Coast

The Fitzroy ROP does not specify the intended use of the remaining 42,000 ML and nominates that any person or entity may make a submission in this regard.

Future demands for water are difficult to predict with any degree of certainty. It is also noted that since the 2004-2007 drought that stimulated investigations into the Project generally wetter than average weather and widespread flooding has been experienced in the region, until recently when drier conditions have again been prevalent. It is acknowledged that as at June 2015 the demand

for water that the full Project development can deliver is not yet realised. A staged approach to development is therefore proposed which will enable proponents to respond to potentially smaller demands in the short-term and progressively respond to increasing and/or larger demand requirements over time through intermediate infrastructure builds until full development is reached. The current Project concept/preliminary design is modular to facilitate staging in order to respond quickly and efficiently to deliver water quickly to meet anticipated future demands.

The Project is located in a rural area that consists predominantly of large, rural agricultural (cattle grazing) land holdings. Settlement in the area is sparse and scattered.

Assessment has been undertaken for environmental, social, cultural and economic values in relation to the Project in accordance with the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth). The relevant controlling provisions in relation to matters of national environmental significance are:

- World Heritage properties
- National Heritage places
- Listed threatened species and communities
- Listed migratory species.

Potential impacts associated with construction activities, as identified through the environmental impact assessment undertaken for the EIS, have in the first instance been avoided through design. Where potential impacts cannot be avoided, mitigation and management measures have been included within the EMP. Potential construction impacts addressed in the EMP include the loss of remnant vegetation and fauna habitat, elevated noise levels and increased dust nuisance, increased traffic volumes and degradation of water quality through erosion and sedimentation. The EMP will inform the development of the construction EMP (CEMP) which will be implemented to mitigate and/or manage the localised and relatively short term construction-related impacts. Benefits from the construction phase will include employment opportunities and opportunities for the provision of services to the Project with associated economic spinoffs.

Water storages are likely to become more important for the purpose of water supply, mitigating drought and for maintaining environment flows to account for predicted increased temperatures, increased evaporation and reduced rainfall as a result of climate change. During operations the Project will provide security of water supply to support primarily urban and industrial growth and potentially some agricultural development. Consequently, social and economic benefits are expected at a local, regional and national level.

Unavoidable impacts as result of impoundment (within the river bed and banks) include the loss of some riparian vegetation and fauna habitat, restriction of movement, some changes to surface water flow and reduced water quality. Social impacts will arise in relation to use of riparian land and access to riparian land. Project design, implementation of the EMP and development of an operational EMP (OEMP) (including a Fitzroy River turtle (*Rheodytes leukops*) species management programme), the provision of offsets and the implementation of an amended Fitzroy ROP will ensure that operational impacts are mitigated and managed. Further the proponents are committed to undertaking individual negotiations with directly impacted landholders to develop compensation strategies.

The Project is located approximately 140 km upstream of the Great Barrier Reef World Heritage Area (GBRWHA) and Great Barrier Reef Marine Park (GBRMP) and will not have any direct impact on the GBRWHA and the GBRMP. Potential indirect impacts on the Great Barrier Reef resulting from changes to flow and water qualities have been assessed. Statistical analysis shows that there are no significant differences between current modelled freshwater flow regimes and the flow regimes projected with any additional infrastructure associated with the Project in place. The potential contribution of the Project to current sediment load entering the GBRWHA is negligible. Water quality impacts as a result of decaying vegetation within the impoundments will be short-term during the initial years of operation and will not persist into long-term operations.

Threatened species and threatened ecological communities (TECs) predicted to be impacted by the Project include some areas of vulnerable Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC, a number of individual vulnerable black ironbox (*Eucalyptus raveretiana*) trees and the vulnerable Fitzroy River turtle habitat. In addition to the EMP, and species management programs (undertaken in recognition of relevant Commonwealth threatened species abatement plans and conservation advice as available and applicable) that will be implemented to mitigate and manage impacts on these species, offsets are proposed to satisfy State and Commonwealth requirements where significant residual impacts remain.

The yellow chat (Dawson) (*Epthianura crocea macgregori*) is known from downstream estuarine sites within the Fitzroy Delta. Hydrological flow analysis indicates that the Project is not expected to influence localised drainage and inflows, or impact on water quality, to these wetland habitats that support the sub-species. It is considered that the development of the Project and subsequent uses of the downstream storage at the Fitzroy Barrage will not impact on yellow chat (Dawson) habitat.

The Fitzroy River system is representative of a modified environment and no significant change to downstream environments is anticipated as a result of the Project. Therefore no significant impacts to downstream migratory and marine species are expected.

An EMP has been developed for the Project, addressing the environmental management commitments for the construction and operational phase. The EMP will be further developed and will inform the development of a detailed CEMP and OEMP. The EMPs will include species management programs. The EMPs will:

- Build on the commitments to environmental performance made in the Project EIS
- Provide a framework to protect the environmental values potentially affected by the Project
- Set out environmental management obligations for environmental authorities and permits to assist the authorities when developing project approvals.

Implementation of the final EMP, CEMP and OEMP, and species management programmes, together with the provision of offsets will ensure that the Project achieves sustainable outcomes and is not expected to contribute significantly to cumulative impacts at a local and regional scale.

Consequential development potentially occurring as a result of the Project development relate to industrial and urban residential development within designated urban development areas and a relatively small increase in agricultural development within the region. Growth within the region will occur within the State and local government planning frameworks and through the implementation of actions identified in the Reef 2050 Long Term Development Plan

(Commonwealth of Australia 2015) and specific programs such as the Reef Water Quality Protection Plan (State of Queensland 2013).

The outcomes of specialist studies, community consultation and stakeholder engagement, along with regulatory requirements, codes and guidelines all form the framework for development of the Project commitments made by GAWB and SunWater. These commitments range from broad social, cultural and economic commitments, through to measures required to protect environmental values specific to the Project area. They include further investigations, field work and monitoring required at various stages of the Project. These documented commitments are a part of an ongoing strategy to meet EIS obligations.

The EMP presents a range of management and mitigation measures to be implemented during construction and operation of the Project and include the provision of offsets.

The analysis of the core objectives of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and principles of ecologically sustainable development demonstrates the Proponent's commitment to incorporate sustainability considerations throughout design, construction, operation and decommissioning of the Project. In, conclusion, this EIS demonstrates that an iterative planning approach has been taken to the design and development of the Project, effectively integrating both environmental and social and considerations into decision making for the Project and supporting the objectives of ecologically sustainable development.

Based on the findings of the EIS and given implementation of the EMP and offsets strategies, it is considered that the Project can be undertaken without unacceptable social, environmental or cultural impacts. The Project also presents a range of opportunities and positive benefits to regional, State and national economies.