



Environment Institute  
of Australia and  
New Zealand Inc.

Wednesday, 19 June 2019

Mr Mike Rowe  
Director General  
Department of Water and Environmental Regulation  
8 Davidson Terrace  
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Sent via email: [mike.rowe@dwer.wa.gov.au](mailto:mike.rowe@dwer.wa.gov.au); [info@dwer.wa.gov.au](mailto:info@dwer.wa.gov.au)

Dear Mike,

**Re: Protecting the Health of the National Heritage Listed Fitzroy River.**

The Environment Institute of Australia and New Zealand (EIANZ) (the Institute) Western Australia (WA) Division (the Division) supports the State Government's election commitment to protect the health of the National Heritage Listed Fitzroy River and provide a basis for sustainable development in the region. We write to raise our concerns about the Department of Water and Environmental Regulation's (DWER) (the Department) current approach to achieving these commitments through development of a Fitzroy River water allocation plan by 2020.

The Institute is the leading professional body in Australia and New Zealand for environmental practitioners, and promotes independent and interdisciplinary discourse on environmental issues. On all issues and all projects, the Institute advocates good practice environmental management delivered by competent and ethical environmental practitioners.

We forward this submission on behalf of the WA EIANZ members. The Division currently has approximately 140 members while the Institute has over 1400 members across Australia in a range of technical disciplines including Certified Environmental Practitioners (CEnvP), ecological consultants, environmental advocates and environmental impact specialists working in government, industry and the community.

Yours sincerely



Adam Harman  
Champion Advocacy  
EIANZ – WA Division

The EIANZ WA Division is concerned about the Department's proposed water allocation plan for the Fitzroy River Catchment which, if implemented, would allow abstraction of up to 600 Gigalitres (GL) of water each year. This volume of water exceeds that of Sydney Harbour (approx. 500 GL).

The EIANZ believes that provision and protection of water is a crucial national issue where responsible and collaborative action must be taken at all levels of government, industry and community to ensure water for human and environmental purposes is used in a sustainable manner. The key water related issues are scarcity, growing consumption, competing uses, water quality, human intervention and damage to ecological systems, and allocation of water for ecosystems. To address these issues measures must be put in place (including stronger legislation and improved practices) to protect existing water resources and ensure that water is harvested in a sustainable manner now and for the future.

The Department's policy approach (i.e. framework) to develop a complex water allocation plan to manage and regulate the expansion of irrigation in the Fitzroy River catchment needs to be underpinned by sound technical and scientific knowledge, to ensure any water abstraction is ecologically sustainable. The activities and actions of humans have altered the structure and function of most aquatic ecosystems in many different ways, however, over-allocation of water abstraction for off-river storage on floodplains has had devastating impacts on downstream ecosystems, as recently witnessed by the dramatic collapse of the health of the Darling River.

In Western Australia, approaches to the determination of environmental flow allocations for rivers has focussed primarily on hydrologically-driven methods. These are typically based on percentages of the 'natural' flow regime, with a focus on the maintenance of minimum flows (Pusey, 1998). However, the importance of maintaining natural variability is considered critical (Arthington, 1998). The hydrological regime of the Fitzroy River is highly variable, with annual discharge ranging from 300 GL (in 1992) to 25,000 GL (in 2000) (DWER 2018). Although flooding is infrequent, as the Fitzroy River is 'drier' more often than 'wet', overbank or peak flows are critical for inundation of the interconnected National Heritage Listed floodplains. We support the Department's 'no dam' policy (which encompasses a range of barriers), however, we hold concerns over plans to consider abstraction or capture of water during periods of higher flow through construction of water harvesting infrastructure or off-river storages on the floodplain. Taking high flows and/or flood waters will certainly impact on the natural flow regime of the system (i.e. depth or extent of flooding, duration of flooding, and variability of flooding) and the fauna and flora it supports.

For high conservation value systems such as the Fitzroy River, which support a diverse array of state, federal and internationally listed fauna and flora species (i.e. freshwater sawfish, Prince Regent hardyhead) a holistic approach to environmental water allocation is required, with direct focus on current ecological values, through detailed analysis of the needs of biota. The ecology-driven approach involves estimating the water regime requirements of wetland species, communities and ecosystem processes. Additional research may be required where existing information is inadequate (Roberts et al., 2000). The ecology-driven method was used for the determination of Environmental Water Requirements and Environmental Water Allocations for the groundwater-fed wetlands of the Gnangara Mound on the Swan Coastal Plain, WA (WAWA, 1995). The water regime requirements of vegetation were first examined, with an objective of maintaining the existing distributions. These requirements were then compared with the requirements of aquatic invertebrates and waterbirds, for the determination of Environmental Water Requirements. If the environmental objective (protection of ecosystem health) cannot be met under proposed abstraction, then alternative methods to a water allocation plan should be investigated to protect the surface flows of the Fitzroy River and the interconnected National Heritage Listed floodplains.

Science shows that the most effective way to protect the remarkable natural and cultural values of the Fitzroy River is to legislate for a management plan that includes a buffer zone along the river that protects important seasonal wetlands; the alluvial aquifers and other groundwater conduits on which dry season refuge pool are reliant, and the floodplains from which the aquifers recharge (Douglas et al. 2011, Kingsford et al. 2005, Pittock et al. 2015). The Martuwarra Fitzroy River Council (MFRC) propose a buffer zone boundary (framework) which covers only 9% of the catchment but protects 90% of the floodplains from surface water extraction for irrigation from the river or floodplains (MFRC 2019). This approach would still facilitate sustainable development with no barrier to measured increase in small scale irrigation away from the river and floodplains.

### Conclusion

The EIANZ WA Division is pleased to make comments on the plan to develop a Fitzroy River water allocation plan by 2020. EIANZ emphasises the necessity for water allocation planning to be underpinned by sound technical and scientific knowledge, with consideration of water regime requirements of wetland species, communities and ecosystem processes. If the environmental objective (protection of ecosystem health) cannot be met following this approach, then alternative methods to a water allocation plan should be investigated to protect the surface flows of the Fitzroy River and the interconnected National Heritage Listed floodplains.

EIANZ will continue to undertake consultation across our membership in order to provide targeted input in future stages of the consultation phase.

If you have any further queries regarding the above matters, please contact Belinda Bastow, President EIANZ WA Division, on 0418950678 or [wa@eianz.org](mailto:wa@eianz.org)

## References

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