

HeART of the Basin Scholarship

Dr Evan Chua - 2016

Fish and ecological health indicators in the assessment of agricultural and mining impacts in the Fitzroy Basin of Central Queensland.



Evan completed his PhD with CQUniversity in 2018, where he was involved in a catchment-wide environmental monitoring study of agricultural and coal mining impacts on Fitzroy Basin waterways and fish communities.

During his PhD, Evan developed a Fish Health Index (FHI) for measuring river and fish community degradation, identifying useful indicator fish species through careful analysis of ecological and environmental monitoring data. The FHI was able to distinguish between sites which were in degraded vs. more pristine conditions, and was also responsive to localised habitat disturbances. The results have been presented at international conferences, including the ASL Sydney Conference 2017, International Riversymposium 2019 and published in scientific journals.

Evan's PhD research was supported by research grants from the CQUniversity School of Health, Medical and Applied Sciences, the Australian Coal Association Research Program, a Coal Minesite Rehabilitation Trust Fund Scholarship provided by the Queensland State Government and the Queensland Resources Council, and the inaugural HeART of the Basin Scholarship provided by the Fitzroy Partnership for River Health.

Research publications:

The influence of riparian vegetation on water quality in a mixed land use river basin.
River Research and Applications (2019) - Evan, M. Chua, Scott P. Wilson, Sue Vink, Nicole Flint

The influence of riparian vegetation on water quality in a mixed land use river basin in Central Queensland.

22nd International Riversymposium Brisbane October 2019

Potential for Biomonitoring Using Fish Tissue Metals and Organ Analysis in a Major Agricultural and Coal Mining Region.

Chemosphere (2018) - Evan M. Chua, Nicole Flint, Scott P. Wilson, Sue Vink

Assimilation of polybrominated diphenyl ethers from microplastics by the marine amphipod *Allorchestes compressa*.

Environmental Science and Technology (2014) - Evan M. Chua, Jeff Shimeta, Dayanthi Nugegoda, Paul D. Morrison, Bradley O. Clarke

How Well Is the Health of an Ecosystem? Ask the Fish - Development of a Fish Health Index for the Fitzroy Basin of Central Queensland.

ASL Sydney Conference September 2017

About the HeART of the Basin Scholarship:

Fitzroy Partnership for River Health established the HeART of the Basin Scholarship in 2016. The Scholarship was established to expand research and understanding about waterway health in the Fitzroy Basin, with the award named to celebrate the significant contribution of inaugural Independent Science Panel Chair, Professor Barry Hart.

It was following recommendations by Professor Hart, that the Partnership evolved. The Hart report was prepared after the Fitzroy Basin floods in 2008 floods and a subsequent cumulative impact assessment study highlighted the need for an integrated monitoring and reporting system for water quality in the Fitzroy Basin.

The \$2,000 scholarship is open to research students at CQUniversity studying Honours, Masters by Research or PhD to progress their learnings in a research topic relating to improving waterway health in the Fitzroy Basin.

For more information on the Fitzroy Partnership for River Health, please contact:

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