

Dear Sir Madam,

Following are my responses to the questions on notice as identified in the transcript.

Please call should you require any clarification.

Senator Waters Question re Citizen Science

Citizen science programs that are in use locally are:

- “Eye on Reef” app where members of public can upload information about observations. Can be used all over the reef not just the Burnett Mary region
- Also some of the tour groups do citizen science reporting when diving on the reef
- Citizen science assist researchers at Lady Elliott and Lady Musgrave including the Manta Ray studies
- Local scuba diving group report on what is seen to GBRMPLMAC (Great Barrier Reef Local Management Advisory Committee)
- Reef guardian schools

Of the science studies in the region there are the following:

- Water quality in Baffle Creek, Kolan River, Burnett River, Burrum River and Mary River (nutrients, pesticides and some river systems have sediment measures)
- Seagrass monitoring at Rodds Bay (near Turkey Beach in Gladstone Regional Council area, at the southern end of greater Gladstone harbour area and yet somehow in the Burnett Mary Region) and at Hervey Bay boat harbour. In the last report card it mentioned that there may be errors (definitely limitations) in using these sites
- No coral or marine water quality monitoring (There may be some initial baseline work done by Gardijil Sea rangers in the past year as part of some Reef Foundation funding but no reports published as yet). This will be the first study since after the 2013 floods of inshore corals in the region.

Senator Green’s Question re why the independent Science Panel is not independent in my estimation:

I was unsure as to whether the Senator was referring to the Independent Science Panel or the Independent Expert Panel although neither is independent and neither do the major replication and quality checks on any of the work that is in the major consensus statements. I have been advised by a previous member of the Independent Science Panel that,

“..... Once you are on it for long enough, the strong tendency is to protect everything you have previously endorsed. This committee works at a high level. It doesn’t have time to review anything in detail.”

The independent Science Panel is listed below and as demonstrated by the members biographies is not independent.

In fact Professor Rolfe was a lead author in the 2013 and 2017 Scientific Consensus Statements.

Dr Eva Abal – Dr Abal joins the International River Foundation after years of experience with the University of Queensland, Great Barrier Reef Foundation, SEQ Healthy Waterways Partnership (now Healthy Land and Water) and more recently as Strategic Projects and Partnerships Adviser of the International WaterCentre. In these roles, Eva has demonstrated skills in leading and managing large-scale trans-disciplinary programs towards a path to impact, establishing and maintaining collaborative networks, strategic alliances and applied research initiatives. Eva sits on a number of independent expert/advisory panels such as for the Great Barrier Reef 2050 Plan, Healthy Land and Water, Fitzroy Partnership for River Health, Gladstone Healthy Harbour Partnership, Greening Australia and Gold Coast Water. Eva's passion and commitment in integrated water resources management in the Asia Pacific region is evidenced in her being one of the authors of the Asian Development Outlook 2011 and 2016, that chart progress towards water security in the region..

Dr Andrew Ash - Dr Andrew Ash is a Chief Research Scientist in CSIRO Agriculture. He has 30 years research experience in climatically variable tropical rangelands and agricultural systems in northern Australia and south-east Asia with a particular emphasis on developing management systems to improve profitability and environmental outcomes for rural communities. Is an Adjunct Professor at UQ in School of biological Sciences

Dr Graham Bonnett - Dr Graham Bonnett leads the Advancing Agricultural Productivity and Environmental Health research theme of CSIRO's Sustainable Agricultural Flagship. Its goal is to significantly increase agricultural productivity whilst maintaining the environment. Graham comes from an agricultural background in England. He was awarded a Bachelor of Science with Honours in Agricultural Science (Crops), and a Doctor of Philosophy, both from the University of Leeds. After completing his doctorate, he worked on improving the quality of annual pasture at the University of Melbourne before joining CSIRO in 1993. He has worked since in Canberra, Townsville and for the past 10 years in Brisbane. In 2009 Graham was awarded the Queensland-Smithsonian Fellowship and he and his family spent five months at the Smithsonian Tropical Research Institute, Panama. Graham is a member of the Gene Technology Technical Advisory Committee that advises on the release of genetically modified organisms for trials and commercial purposes.

Dr Peter Doherty - Dr Peter Doherty is a Fellow (post-retirement) of the Australian Institute of Marine Science. He is a fish ecologist with a PhD from Sydney University and six years on the faculty of the School of Australian Environmental Studies at Griffith University. After his PhD, he was hosted by AIMS as a Queens Fellow in Marine Science and later returned as a staff scientist. His career with the Institute included leading the Tropical Fisheries Program and a decade as Research Director. In tandem, Peter led the Ecosystem Quality Program in CRC Reef, and its successor in the Marine and Tropical Sciences Research Facility. This evolved into being Science Leader of the Tropical Ecosystems Hub in the National Environmental Research Program covering GBR, Torres Strait, and the Wet Tropics bioregion. Other external roles include membership of science advisory bodies for Queensland Fisheries (HarvestMac, TrawlMac), GBRMPA (ERAC), and Industry (MEAG). Current roles include the Antarctic Research Advisory Committee (Chair), the Marine National Facility SAC, Reef Plan Independent Science Panel, GBR Water Quality Taskforce Review Group, and the international Scientific Committee on Oceanic Research.

Dr Hugh Yorkston - Director Coastal Ecosystems and Water Quality at Great Barrier Reef Marine Park Authority

Professor John Rolfe - John Rolfe is a resource economist who is Professor of Regional Economic Development in the School of Business and Law at the CQ University at Rockhampton, and a Fellow of the Academy of the Social Sciences in Australia.

Professor Rolfe has a number of research interests, but specialises in non-market valuation, regional development, environmental, resource and agricultural economic issues, agricultural adoption, and economic impact assessment in regional areas. He co-edited two important reference books on the topic of non-market valuation and benefit transfer in 2006 and 2015, and has published in a number of discipline areas outside his core skills in Applied Economics, including agricultural management, environmental reporting, impact assessment, and regional development,.

Professor Rolfe has led a number of major research projects (> 40) over the past 10 years for a total funding value of more than \$7.4M. His research has been funded through a number of sources, including the Australian Research Council grants, Australian and State Governments, Research and Development Corporations, and industry grants. He has supervised a number of PhD and Masters students to completion, as well as post-doctoral researchers. Professor Rolfe is a past Editor-in-Chief for a major applied economics journal, the *Australian Journal of Agricultural and Resource Economics*.

Professor Rolfe's standing in the resource economics field in Australia is shown by his participation in the national Environmental Economics Research Hub, from 2007-2011, where he was one of four program directors. In 2011, he was identified by Regional Development Australia as one of the most influential academics in Australia in regional development issues. He has served as the Independent Chair for the Gladstone Regional Community Consultative Committee on the basis of his expertise in impact assessment since 2012, and as Chair of the Gladstone Healthy Harbour Partnership Independent Science Panel as an expert in resource economics since 2016. In 2012-2013 and again in 2016-2017 he was one of the leaders of the 2013 Great Barrier Reef Science Consensus Statement, reflecting his expertise in this topic. In 2014-15 he acted as an expert in agricultural and development economics to an Expert Working Group in the Australian Council of Learned Academics. In 2019 he was appointed by the Queensland and Australian Governments to the Great Barrier Reef Independent Science Panel.

Professor Rolfe has extensive practical and policy experience on the intersection of agricultural and environmental issues in northern Australia, with a focus on economic analysis. At an academic level his key impacts are largely in the development and application of non-market valuation techniques, particularly choice modelling, and the transfer of those values to different case study settings. At a policy level, he has had a major role in applying economic analysis to key issues in regional development, agricultural development and resource protection, with a particular emphasis on dealing with agricultural water quality issues into the Great Barrier Reef. John has a number of research interests, but specialises in non-market valuation, regional development, environmental, resource and agricultural economic issues, agricultural adoption, and economic impact assessment in regional areas. He has 115 refereed publications in the form of journal articles, book chapters, book reviews and conference papers, and a further 250 non-refereed journal articles, conference papers and

research reports. John Rolfe has more than 2,000 citations and an H-index of 25 in Scopus, and 5,900 citations and a H-Index of 37 in Google Scholar.

Professor Rolfe has extensive practical and policy experience with agricultural and environmental issues in northern Australia. He has a background in agriculture and operated a cattle property in the Central Queensland region for a number of years. John has worked at Central Queensland University in part-time and then full time roles since 1989. As well as academic roles, he has also held a number of management positions in different parts of the University, including Head of Campus, Head of School, Director of Research Centre, and Deputy Dean Research. He served as President of the Australasian Agricultural and Resource Economics Society in 2019-20.

Dr Roger Shaw Chairperson - Dr Roger Shaw is an independent consultant who chairs the Independent Science Panel for the Great Barrier Reef Water Quality Protection Plan and is a member of the audit team for the Salinity Management Strategy of the Murray Darling Basin Authority. He was formerly the founding CEO for the CRC for Coastal Zone Estuary and Waterway Management, which ran an active research program in central Queensland. Roger's expertise is in landscape soil and water processes (soil assessment, soil salinity and sodicity management, irrigation water quality guidelines and coastal management); adaptive management of natural resources, including multi-stakeholder, multi-objective decision support and synthesis of science.

Dr Jenny Stauber - Dr Stauber is Chief Research Scientist and formerly Deputy Chief of the CSIRO Division of Land and Water, based in Sydney. She has over 35 years' research experience in the fields of aquatic ecotoxicology and human toxicology, and has written over 300 scientific and technical publications relating to the bioavailability and toxicity of contaminants in aquatic systems. Jenny has chaired and served on several World Health Organisation review boards, together with the NSW EPA Board and a large number of advisory panels to the Australian government on areas as diverse as ecotoxicology, contaminants, uranium mining, hazardous waste, acid sulphate soils, chemicals risk assessment and water quality guidelines. In 2014, Jenny was appointed to the Australian Government's Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development. In 2015 Jenny was elected as a Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE) and as a SETAC Fellow in 2016. She is currently a Visiting Professor at the Environmental Research Institute (SERI), South China Normal University, Guangzhou, China.

Regards
Dale Holliss
Manager

