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Request: Access to any reports, investigations or documents that were produced by the CSIRO as a result of the findings in the Murray Darling Basin Royal Commission Report

Document(s): 1-5

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CONFIDENTIAL**Issues management for SA MDB Royal Commission report release**

February 2018 (DRAFT as at Jan 31, 2019)

Internal contacts: Jen Baxter, Helen Beringen, Ben Creagh

Aim

This paper provides a management plan and key messages to support a CSIRO response, as required, on the public release of the final report of the South Australian Royal Commission into the Murray-Darling Basin (MDB).

We wish to reinforce the CSIRO as the Trusted Advisor in the minds of key stakeholders in this space.

Background

- On 23 January 2018 the SA Government established a Royal Commission into the MDB to investigate the operations and effectiveness of the MDB system, in response to concerns raised about water use across the Basin.
- In June 2018, the Commonwealth sought a High Court injunction to prevent current and former employees of the Commonwealth giving evidence to the Commission after a number of current and former employees of CSIRO were asked to meet with the Commission.
- On 27 June a former employee of CSIRO, Matt Colloff, provided evidence to the Commission, accusing the Murray Darling Basin Authority (MDBA) of previously "attempting to influence CSIRO findings in its pursuit of returning a minimum amount of water to the environment" (Witness statement, June 21, 2018).
- On October 30, 2018, the closing statement by Senior Counsel Assisting the RC referred to work conducted by CSIRO for the MDBA relating to the Colloff allegations around the process of finalisation and delivery of CSIRO's Multiple Benefits project report.
- CSIRO rejects the description of events, and the conclusions that Senior Counsel Assisting drew. CSIRO maintains that a robust governance and review process was in place involving a steering committee and independent science review committee.
- On November 5, 2018, CSIRO voluntarily engaged with the royal commission through a submission to the royal commission, following the SA Government's decision not to pursue compelling Commonwealth officers to appear at the Commission (CSIRO material is online – see #132 - <https://www.mdbrc.sa.gov.au/community-engagement/submissions>)

Key Issues

1. Expect a critical report re. CSIRO given royal commission comments re. Colloff accusations of the MDBA "attempting to influence CSIRO findings in its pursuit of returning a minimum amount of water to the environment".
2. High media interest – There has been ongoing media coverage of the SA Royal Commission into water usage on the MDB. CSIRO has been criticised in the media for its stance not to appear.
3. High political interest with two inquiries underway on recent Darling River algal outbreaks (January 2019), and the upcoming NSW state election (March 23) and federal election (due by May 18)
4. CSIRO continues to deliver research, and is organising a Murray-Darling Basin Forum to investigate longer-term research priorities on March 14-15, 2019.
5. Implications of drought on research and media focus continues.
6. Relocation of MDB regional researchers, coinciding with new research opportunities.

Issue management approach

- Agreed key message developed on CSIRO position, tested internally
- Refer all inquiries to standard comment, based on CSIRO's written submission and not comment further

- Ongoing management of media responses and review where additional comments may be warranted
- Key spokesperson L&W BU director Jane Coram
- Government bodies kept informed of any significant requests / responses related to their projects, as will other key stakeholders as appropriate.
- MPLO updated on any interview requests/interactions with media.

Key messages (updated message from JC, Feb 1, 2019)

- Don't get drawn into a public tit for tat discussion around ex or current scientists comments – comment that science represents a process of active debate and there will always be dissenting views.
- We have been involved in collaborative research into the MDB for three decades now and will continue to do that, recognising its environmental, cultural, economic and social significance to Australia
- We did not provide comment until late in the Royal Commission because as a Commonwealth agency we were bound to wait for the outcomes of the High Court (or appropriate words to that effect)
- Management of the MDB requires very complex balancing of scientific, social and economic considerations and our role is to provide the science to underpin that.
- We have rigorous processes for ensuring the quality of our science and these were exercised in our work for the MDBA, as with all our work.
- The MDB is a very complex and dynamic system and the science is incomplete, and will be for a very long time.
- What the science does show is the difficulty of simultaneously meeting all water uses in the basin. It also indicates that under climate change predictions this will be even more difficult. ~~The current, unprecedented summer conditions highlight the importance of considering extreme weather conditions in the management of the basin, and this is what the Royal Commission has chosen to focus on.~~
- We will continue to contribute to understanding climate change and its implications for the many values of the basin, including xxx...

Previously identified points:

- CSIRO has led research in the Murray-Darling Basin for decades. We continue to investigate and collaborate to support regulators and the current Basin Plan, and explore emerging opportunities and research areas.
- CSIRO provides independent and rigorous scientific input to help inform the management of the Murray-Darling Basin.
- As a trusted advisor in this space, we work with government and industry and community to provide a sustainable future for the Murray Darling Basin without compromising important environmental sites and ecosystems.
- We assist water dependent industries and communities to understand and adapt to a changing environment.
- Our research supports the basin in adapting to a future with less water, more frequent and severe droughts, and increasing water demands, all of which will continue to put pressure on water management in the Basin.
- We offer integrative inter-disciplinary and independent research based on the Murray-Darling Basin not available elsewhere in Australia
- We co-ordinate projects undertaken by external researcher institutions including university, government bodies.

(Additional details as required, dependent on report findings...)

- CSIRO stands by its statements to the Royal Commission:
<https://www.mdbrc.sa.gov.au/community-engagement/submissions>

- Research conducted by CSIRO for the Murray-Darling Basin Authority (MDBA) which was discussed in the Murray-Darling Royal Commission, underwent rigorous review and independent oversight.
- CSIRO, along with other Australian and international organisations, was contracted by the MDBA to undertake the research project to assess potential ecological, social and economic benefits of the proposed Basin Plan. The project involved the MDBA, CSIRO, Charles Sturt University, Deakin University and Wageningen University (the Netherlands).
- It was overseen by a Scientific Reference Panel and a Project Steering Committee, and outputs were reviewed by an Independent Scientific Review Panel made up of representatives from Griffith University, The Centre for International Economics, Edith Cowan University, Ecolnsights, and Barma Consulting.

Media Plan

- No proactive media proposed. Corporate Affairs will monitor local media and respond accordingly with the holding statement.
1. All media to be referred to:
 - Huw Morgan s22
 - Ben Creagh s22 Helen Beringen s22
 2. Public comment to be made in the first instance by Huw Morgan s22 (consistent with Enterprise position)
 3. Should the media enquiry warrant a senior spokesperson, this should be in the first instance Jane

ENVIRONMENT, ENERGY AND RESOURCES

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8 February 2019

The Hon Steven Marshall
Premier of South Australia
GPO Box 2343
Adelaide South Australia 5001
email premier@sa.gov.au

Dear Premier,

CSIRO has enjoyed a long and constructive relationship with the South Australian Government, and it is in the spirit of this collaboration that I write to you in response to the Murray-Darling Basin Royal Commission Report, South Australia (29 January 2019).

The Report included numerous references to CSIRO including positive acknowledgement of our contribution to a range of key scientific inputs into Murray-Darling Basin (MDB) decision making over a considerable period. However the purpose of this letter is to specifically address the Report's criticisms relating to CSIRO research integrity, allegations of secrecy, engagement with the Royal Commission, and reputation and how we may cooperate further in the future to ensure a sustainable and healthy MDB system.

In my covering letter to CSIRO's submission to the Royal Commission (5 November 2018), I rejected the Royal Commission's assertion that CSIRO's scientific integrity was compromised and its independence undermined. Given this assertion was repeated in last week's Report, I wish to reaffirm our position on this matter and again, reject the assertion.

CSIRO maintains that a robust governance and review process was in place for the Multiple Benefits project (the subject of the Royal Commission's commentary in both the closing statement of Senior Counsel Assisting on 30 October 2018, and again in the Report) involving a steering committee and independent science review committee. CSIRO stands behind the quality and integrity of the research conducted, and the integrity of the review and approval processes that took place prior to the delivery and the public release of these reports.

CSIRO does not accept the Report's statements that CSIRO acted in secrecy in its provision of research to the Murray-Darling Basin Authority (MDBA). As is usual practice in contracted research and development, the terms of engagement, and/or release of reports, were negotiated with the MDBA at the time that work was conducted. CSIRO reports to the Murray-Darling Basin Authority have been made publicly available under these arrangements. CSIRO also made public submissions to a number of federal inquiries regarding the Murray-Darling Basin Plan.

With respect to timing of our submission, CSIRO contacted the Royal Commission in June and indicated we wished to remain respectful to the High Court while it considered significant issues regarding the involvement of current and former Commonwealth employees. We advised that CSIRO would re-engage with the Royal Commission once the High Court had made its decision. When the High Court matter was

subsequently abandoned, CSIRO advised the Royal Commission on 12 October that it would be making a voluntary submission, and made that submission to the Royal Commission on 5 November 2018.

The Report also describes CSIRO as a "once well-regarded institution." CSIRO has been in the top 1 per cent of global institutions based on total citations in 14 of the 22 Clarivate Essential Science Indicators¹ (ESI) fields consistently over the past decade. In four of these fields, Plant and Animal Science, Agricultural Sciences, Environment/Ecology, CSIRO ranks in the top 0.1 per cent. CSIRO continues to be recognised as a world leader in science and is included in Thomson Reuters' global top 20 government institution innovators.

Furthermore, CSIRO has continued to deliver comprehensive scientific assessments of current and future water availability in major water systems across Australia, including Northern Australia, Tasmania and south-west Western Australia, the Great Artesian Basin, as well as internationally in India and South America. Most recently, the Northern Australia Water Resource Assessment evaluated the feasibility, economic viability and sustainability of water resource development across the Fitzroy, Darwin and Mitchell catchments.

In closing, it was pleasing to note the Report acknowledged CSIRO's deep legacy and positive contribution to helping inform the management of the MDB. While this letter serves to redress assertions to which CSIRO feels obliged to respond, as the national science agency, we remain committed to providing scientific and technical solutions that are impartial, credible and of national benefit.

To this end we remain dedicated to ongoing engagement with the range of key stakeholders with vested interest in the health and sustainability of the MDB. Should you or your office wish to discuss the matter further, or have any queries regarding our response, or would like to know more about our ongoing work in South Australia or the MDB, please contact me on [REDACTED] s22 or email [REDACTED] s22

Yours sincerely

[REDACTED] s22

Executive Director – Environment, Energy and Resources
CSIRO

¹ Clarivate analytics provides global scientific and innovation metrics <https://clarivate.com/>

[REDACTED]

From: Foley, Cathy (Executive, Lindfield)
Sent: Tuesday, 19 February 2019 9:44 PM
To: Alan Finkel
Subject: Re: Nutshell MDB Royal Commission Brief

Thanks Alan.

Sent from my iPhone so please excuse any errors

On 19 Feb 2019, at 9:02 pm, Alan Finkel <s22> wrote:

Cathy,

This convinces me that CSIRO's research integrity was above reproach.

Thank you for this detail.

Alan

From: s22
Sent: Tuesday, 19 February 2019 3:01 PM
To: Alan Finkel s22
Subject: Nutshell MDB Royal Commission Brief

Summary of Royal Commission on the Murray Darling Review by Dr Cathy Foley to assess if CSIRO had shown poor science integrity.

- This was undertaken independently at my own volition. I used the material on the Royal Commission web site and also asked CSIRO provide some material to fill in some information gaps. In my view the question of CSIRO integrity is unfounded.
- The Royal Commission was set up by the SA Government in response to the Murray-Darling Basin Compliance Review that suggested that there had been "water theft" up stream.
- Brett Walker was appointed as the Royal Commissioner and interpreted the Water Act to mean that environmentally sustainable level of take (ESLT) was "solely on the basis of environmental criteria" rather than triple bottom line approach used by the MDBA [the interpretation of Australia Government solicitor].
- Due to a High Court action seeking to clarify if State-based Royal commissions could summon evidence and witnesses from other states and the Commonwealth, CSIRO did not make a submission nor provide witnesses at the time they were requested. All CSIRO relevant reports were made available.
- One ex-staff member involved with the 2011-2012 study was a witness and raised concerns about material not being included in the final report. He had V51 and some hand written meeting notes as evidence. Note that a number of tables in V51 were not in the published version of the report. This is what caused his concern.
- The tables in question were prepared by the witness using his modelling and linking it to MDBA modelling. MDBA staff member indicated that different assumptions were used and so the tables were not correct. [Note that MDBA did not provide the assumptions for the modelling. This is said that they were not provided because of concern it would lead to multiple models being created and confusing the sector.]
- The High Court challenge was dropped late August. CSIRO made a late submission about 4 weeks later.

- The Commissioner chose to not accept CSIRO's submission content and chose to use the ex CSIRO staff member's account using legal arguments for his reason to do this.
- Subsequent review by CSIRO of the report preparation found that there were 75 versions and that each version had a change and issues log associated with it. Every change made was discussed and signed off with reason for the change. This had occurred for every version. It showed the highest scientific integrity. The tables were left out as the modelling approach used was not correct and still had questions about its validity.
- The ex-CSIRO witness was on long service leave at the last stages of the report preparation and so may not have been aware of the reasons and steps taken at the time that tables were removed.
- Throughout the Commission report, CSIRO science excellence was commented on 13 times.

Dr Catherine P. Foley PSM FTSE FAIP FinstP

Chief Scientist

CSIRO |

s22



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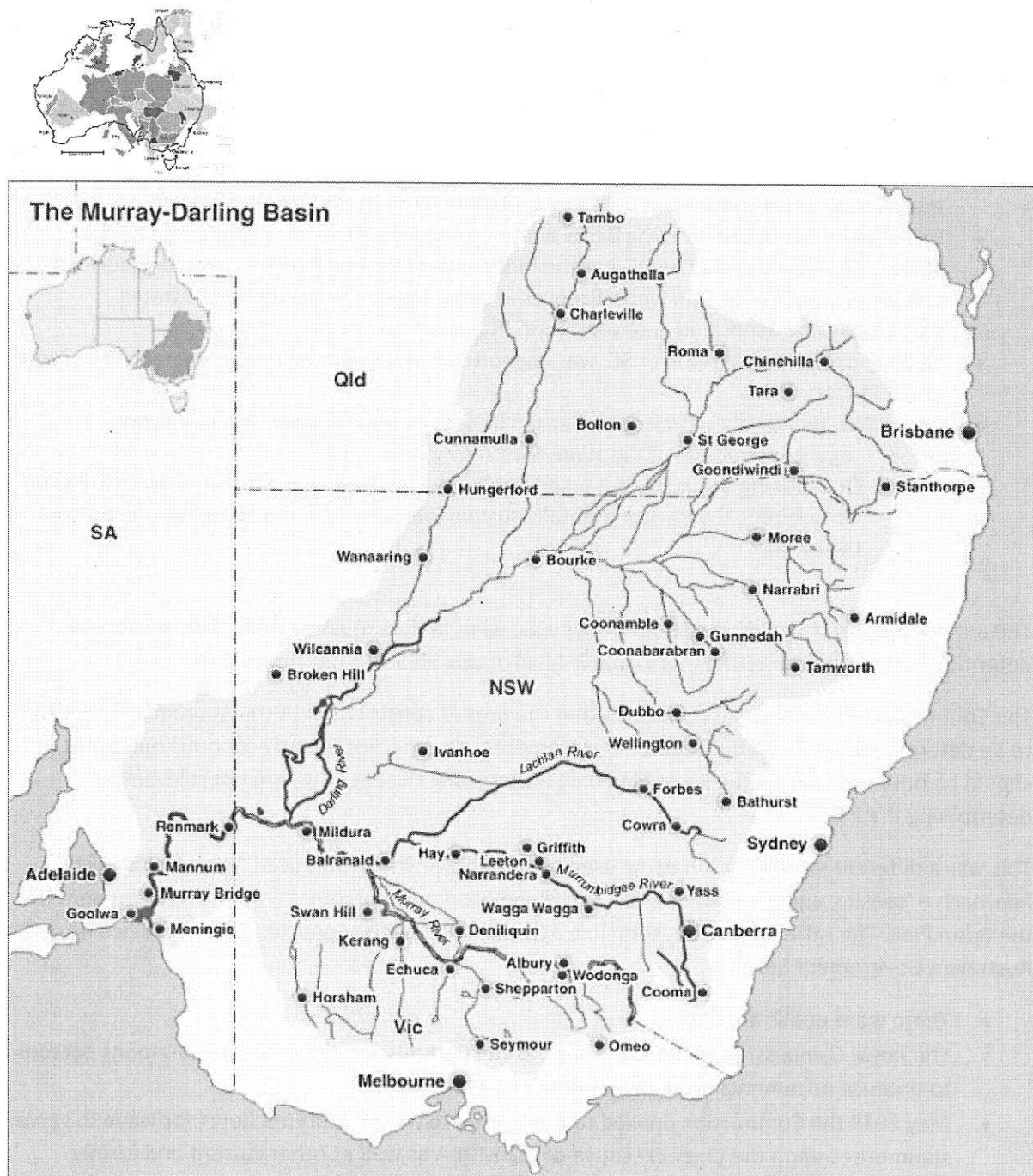
Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

Royal Commission on MDB – Understanding the commentary relating to CSIRO

There are comments on CSIRO integrity given in the Royal Commission report, the media response and a subsequent letter to union members by the CSIRO Staff Association. As CSIRO Chief Scientist, it is critical that I understand:

1. Are these justified comments? and
2. What is needed to address integrity issues if it is wanting?

What is the Murray Darling Basin?



Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

The **Murray–Darling basin** is a large geographical area in the interior of southeastern Australia. Its name is derived from its two major rivers, the Murray River and the Darling River. The basin, which drains around one-seventh of the Australian land mass, is one of the most significant agricultural areas in Australia. It spans most of the states of New South Wales and Victoria, the Australian Capital Territory, and parts of the states of Queensland (lower third) and South Australia (southeastern corner). The basin is 3,375 kilometres in length, with the Murray River being 2,508 km long.

Most of the 1,061,469 km² basin is flat, low lying and far inland, and receives little direct rainfall. The many rivers it contains tend to be long and slow flowing, and carry a volume of water that is large only by Australian standards [Edited from Wikipedia]

Background to why the Royal Commission was called

[Summarized from the peer reviewed paper in *AUSTRALIAN ENVIRONMENT REVIEW* 2018 ADAM WEBSTER, History Repeating: The South Australian Royal Commission into the Murray-Darling Basin]

- Late-2017, then Premier Jay Weatherill announces South Australian Royal Commission to investigate 'water theft' from the Murray-Darling Basin in the upstream states.
- Called after the Murray-Darling Basin Water Compliance Review — conducted by the Murray Darling Basin Authority and the Independent Review Panel — revealed lack of a culture of compliance with water licences in some regions in the upstream states, particularly in Queensland and New South Wales.
- Sydney barrister, Bret Walker SC, was appointed Royal Commissioner commenced its work on 23 January 2018.
- April 2018, the Royal Commission released its second issues paper. Focus was on:
 - Legal construction of the *Water Act 2007* (Cth)
 - Questioning the approach taken by the Murray-Darling Basin Authority (MDBA) in determining the environmentally sustainable level of water to be recovered from the Basin.

The critical question raised in the issues paper was: what factors must be taken into account in determining the 'environmentally sustainable level of take' (ESLT) from the Basin?

The Commissioner reached the conclusion that the proper construction of the Act requires the ESLT to be determined 'solely on the basis of environmental criteria'. Social and economic outcomes should be optimised within the Basin Plan only after setting the ESLT and are not relevant to determining the ESLT.

This was a different interpretation being used by the MDBA. The MDBA used 'triple bottom line' approach — 'seeking equal environmental, social and economic outcomes' — in the development of the Basin Plan. The MDBA's triple bottom line approach had been supported by legal advice from the Australian Government Solicitor.

- There were public hearings.
- The *Royal Commissions Act 1917* (SA) gives the Commission the power to summons persons to produce documents or to give evidence at a hearing.
- May 2018 the Commission applied to the South Australian Supreme Court for leave to serve summonses upon the Chief Executive of the MDBA as well as other current and former employees of the MDBA to attend to give evidence to the Commission, Secretary of the

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

- Department of Agriculture and Water Resources and the Proper Officer of the MDBA to produce documents to the Commission.
- The Supreme Court made orders granting leave to serve the summonses (pursuant to the *Service and Execution of Process Act 1992* (Cth)), and the Commission issued these summonses.

Shortly after the Commission issued the summonses, the Commonwealth commenced proceedings in the High Court.

These proceedings raised two issues:

- Does ss 10 and 11 of the *Royal Commissions Act 1917* permit the Commission to issue summonses to the Commonwealth, the MDBA (and its current and former officers and employees) or residents of other states.
- The Commonwealth contended that the Act did not purport to bind the Commonwealth Executive.
- South Australia conceded that s 11(1) of the Act (which provides the Commission with power to punish for failure to comply with a summons) does not apply to the Commonwealth, a person being sued on behalf of the Commonwealth or residents of other states.
- However, it contended that the Commission still had the power to issue summonses to these people pursuant to s 10 of the Act.

The High Court was to hear the matter in October 2018. The hearing was vacated.

- The Royal Commissioner was faced with the practical difficulty that, in the event that the High Court ruled in favour of the Commissioner, there was insufficient time to reissue the summonses and hear the witnesses before the Commission is due to deliver its final report by 1 February 2019.
- The new Liberal government in South Australia indicated it was unwilling to extend the reporting period of the Commission.
- Commission withdrew the summonses and the applicants thereby withdrawing the High Court proceedings seeking to challenge the summonses.
- The important questions of statutory construction and constitutional interpretation will remain unanswered.

The Royal Commission Report was released on 31/1/2019.

My research into this matter

I have not been involved in this matter. I was unaware of any submissions. I have not been involved in any “crisis” meetings since the Royal Commission report has been released.

I have had one discussion some time ago with Jack Steele on the earlier newspaper articles in June that reported on the evidence of Dr Colloff in the relation to the importance of the internal peer review process via e-Publish and the need for our researchers for compliance.

I have read through the Royal Commission Report on Murray Darling Basin with a focus on the parts relating to CSIRO.

I have read the relevant submissions and transcripts relating to comments on CSIRO science and integrity.

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I have undertaken some searches to find relevant original documentation.

I have read briefly the CSIRO reports referred to in this matter.

Approach of the Royal Commission:

1. The commissioner's Interpretation of the Water Act:
 - The Water Act was interpreted by the Commissioner that "science will determine what the environment needs and that the test for government (including the MDBA) is that they just do what science tells it to do." [p.22]
 - The MDB is "the most highly plumbed river basin in the world"
 - Triple bottom line concept was a "myth" and made no sense. [p.20] It is interesting that this has been the approach to the consideration of balancing the environment and economic and social activity since 2003. See Dept of Environment report, Triple Bottom Line Reporting in Australia.
<http://www.environment.gov.au/archive/settlements/industry/finance/publications/indicators/pubs/indicators.pdf>
2. South Australia's interest and co-operative federalism was the desire of the commission. [p.39]
 - This was a SA state based royal commission.
 - Other states and other commonwealth departments did not make submissions or provide evidence such as the BOM.
 - The high court challenge was halted as a positive outcome for the commissioner would not have had provided him time to obtain compelled information. A series of letters with the SA AG, he indicated that he has sufficient material anyway. The SA AG did not approve an extension for the Royal Commission. Note there had been a change of government during the time the Royal Commission was in operation.
 - Although he would have preferred to have the evidence and documents he requested from the commonwealth including CSIRO, he felt he had sufficient information. <https://mdbrcsa.govcms.gov.au/sites/g/files/net3846/f/mdbrc-key-correspondence-letter-to-hon-vickie-chapman-9-aug-2018.pdf?v=1535434473>. He therefore in good faith believed that the High Court matter should be discontinued as the decision from them would not be timely enough to obtain further evidence if the judgement was in his favour.

CSIRO Involvement in MDB

CSIRO has had a long history in undertaking research and maintain scientific capability in the relevant disciplines as outlined by the CSIRO submission written by Peter Mayfield. This submission provided factual detailing of the various reports, collaborations and relationships. It outlined briefly what each report was about. It did not address other matters as this would outside CSIRO remit as a government research agency. We do not comment on policy.

Since 2006 projects were undertaken for:

- Commonwealth National Water Commission,
- MDB Authority (MDBA),
- MDB Commission (MDBC) and
- South Australian Government through the Goyder Institute partnership between CSIRO, Flinders University of SA, the University of Adelaide, University of South Australia and

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WaterEd Australia Pty Limited (trading as the International Centre of Excellence in Water Resources Management).

Also CSIRO contributed extensively to the development of several management initiatives in the MDB, such as the Murray-Darling Basin Plan (Basin Plan), the MDB Salinity Management Strategy and others.

The reports undertaken under a number of contracts are given below:

1. 2006 South East Australian Climate Initiative for the National Water Commission
2. 2007 MDB Water Assessment (Sustainable Yields Project) for the National Water Commission
3. 2009 Expert advice to the MDBA on the overall framework and approach to assessment of economic and social impacts of reducing the Sustainable Diversion Limit (SDL) [referred to as Sustain Yields Project 2008]
4. 2009 and 2010 Climate scenarios, groundwater and river modelling to support the Basin Plan for the MDBA
5. 2011 Review of the MDB Ecologically Sustainable Level of Take method for the Basin Plan for the MDBA
3. 2011 Multiple Benefits Project for the MDBA [referred to as Multiple Benefits Report 2012]
6. 2011 Goyder Institute MDB Plan Science review
7. 2012 Goyder Institute Ecological Outcomes of proposed Basin Plan
8. 2013 Sustainable Diversion Limits (SDL) Adjustments Ecological Elements Method for the MDBA

CSIRO has published 81 peer reviewed papers discovered using Web of Science search using the words “Murray-Darling Basin” and “CSIRO” over the period 1990 to 2019. 28 of these papers are from 2013 and 12 include climate change.

[Question: What was the reason for the delay in the CSIRO submission? The High Court Challenge ended on the 30 August 2018. CSIRO submission was prepared in October 2018. The Royal Commission report says it was received on 17 December 2010, (p. 173) and on 5 November 2018 on p. 215. What caused the delay? Not that the last hearing date was 23/10/19. Also why were the issues raised by Colloff not addressed in the CSIRO submission? His evidence was on 27/6/18. I note that the people involved were also busy with the GBR Senate enquiry being held at that time.]

Science Quality

Quality of CSIRO research was highlighted in several places (13 times) throughout the Royal Commission report.

- CSIRO improved knowledge...[p.628]
- Conclusions of CSIRO work with Goyder was provided [p.174]
- CSIRO’s ecological analysis was peer reviewed by E, Maltby U. Liverpool [p.174]
- 2008 Sustain yield report was considered the best available knowledge [p. 55, 261]
- 2009 Advice on defining climate change scenarios was reported as best practice. [check]
- Report 2008 found ground water models were not fully integrated and there were no calibrations. Reported as “gold hydrology”[p. 633]

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

- Ongoing work at CSIRO and BoM is best in the world [p. 56]
- CSIRO is Australia's leading science organisation [p. 152]
- CSIRO is Australia's preeminent scientific research institution [p. 247]
- Commission agreed with CSIRO's assessment that climate change modelling should be included [p. 55]
- CSIRO modelling to 2020 showed 15% decline in annual flows is on the way to being vindicated [p. 106]
- CSIRO Biodiversity Science and Solution for Australia was helpful [p. 135]
- Providing the best available science [p. 152]

Subjective comments that are not substantiated in the Royal Commission Report (3 times)

- CSIRO is described as a "once well regarded institution" [p.214-15]
- CSIRO Royal Commission submission was not helpful. [p. 215]
- The CSIRO declined an invitation to attend voluntarily before the Commission, to respond to Dr Colloff's assertions and answer the Commissioner's questions. It did, however, provide a written submission to the Commission under cover of a letter dated 5 November 2018.¹²⁹ [Note this was listed elsewhere as 17/12/19 - p. 173] Not only did that submission arrive some six months after the close of public submissions, and five days after the close of the public hearings (which spanned 33 sitting days over some four and a half months), it was patently unhelpful. The covering letter to the submission blankly objected to submissions made by Senior Counsel in closing regarding the CSIRO's conduct and inferences of maladministration, arising in the context of Dr Colloff's evidence.¹³⁰ It provided no material or argument to support that position. That absence of substantive answer enhances confidence in Dr Colloff's damning evidence. [p. 215]

Issues raised about MDBA that impacted CSIRO research

- CSIRO had criticized SDLAM approach as less rigorous [p. 290]
- MDBA limited reference to CSIRO review was perceived by the Commissioner as "misleading" [p. 207]
- CSIRO invited to review MDBA ESLT determination and made some comments listed in p. 205. MDBA misrepresented CSIRO advice of 2009 in April 2011. CSIRO report indicated that Climate Change should be included in the modelling for the ESLTs. The April 2011 MDBA said CSIRO indicated that historical data could be used and no climate change would be used in the modelling. This was not correct. [p. 55, 596, 263]
- MDBA did not provide CSIRO with the details and assumptions of their modelling. [p. 53, 69, 173, 214, 360, 713]
- CSIRO was given access to the SA region but not the Basin –wide modelling [p. 174]
- CSIR (2010) had concerns on the misuse of its research on intercepting activities and overestimates of inflows [p. 173]
- MDBA did not use CSIRO science to get the flows at the right level [p. 216]
- CSIRO Ground Water models were not fully integrated and there was no joint calibration [p. 629]
- MDBA did not try to include climate change into modelling over the last 7 years.
- Note it appears that CSIRO has not undertaken any research for MDBA since the 2013 report.

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

CSIRO Integrity Questioned

- Commissioner said CSIRO “a lesser but alarming extent the CSIRO, is marked by an unfathomable predilection for secrecy.” [p.16].
 - I have gone through the whole report where CSIRO was mentioned. At no time was CSIRO identified as behaving secretly. The inability for CSIRO attending the commission due to the High Court Challenge is the reason CSIRO had a minimal engagement as did all other states and other government agencies such as DWAR and BOM. This comment is not justified.
- The Royal Commission Report said that in 2011 MDBA pressured CSIRO to alter parts of the CSIRO “Multiple Benefits report”. This was based on evidence from Dr Matthew Colloff who at the time lead one of the four Tasks for the report. [p. 215]
 - “In 2011, management of the MDBA improperly pressured the CSIRO to alter parts of the CSIRO’s ‘Multiple Benefits’ report. This rendered parts of that report misleading, as they no longer reflected the views of, at the very least, Dr Matthew Colloff, who was one of the authors. The CSIRO should not have agreed to the changes that were made. This conduct too represents maladministration” [p.54]
 - “To the extent that it is suggested these amendments are based on ‘rigorous CSIRO approved methodology’, it is noteworthy that the Ecological Elements Report states that it is based on a ‘highly simplified hydro-ecological model’ and that it ‘will not adequately represent species or responses at a fine scale’ and is ‘not intended for site-scale planning or assessment of works and measures scenarios’. “[p.56]
 - “He recounted that the MDBA exercised material influence over the way the CSIRO conducted its review and presented its findings, including requesting that certain information be removed on the basis that it contradicted the MDBA’s own findings. He and others involved in the Multiple Benefits Project considered they had no choice but to accept the MDBA’s requests because the CSIRO held concerns it might not otherwise be paid for its work. Alarmingly, Dr Colloff concluded that in his opinion, the MDBA’s conduct amounted to scientific censorship. Finally, due to the level of staff discontent following the Multiple Benefits Project, an independent facilitator was brought in to assist staff to work through those issues.¹²⁸” [p.215]
 - Evidence of the draft report and the written notes were taken as contemporaneous evidence [p.714]
 - Colloff and other staff had mediation after this [p. 715]
 - This is said to be Colloff’s opinion who was seen as a credible witness
 - No evidence other than hearsay about concern of not being paid
 - Colloff’s written notes do not support the statement above. MDBA staff member, Ian Burns, said the interpretation was “inconsistent”. This was followed by some scientific discussion for the basis of these concerns.

This is the most concerning issue raised. My detailed examination of the evidence is provided below. I see no evidence of questionable integrity. Rather managing lack of scientific collaboration to enable certain assessments to be made that are credible.

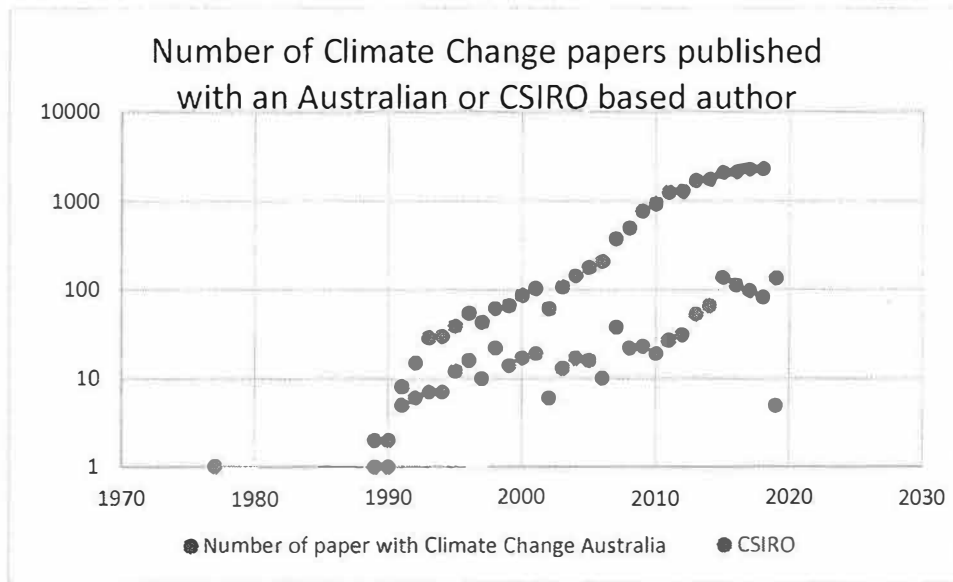
- CSIRO-BOM Climate Change report had “no indication that the report is based on any new research” [p258]
 - This is an interesting comment as the report provides updated data and modelling checks and developments to see what changes there have been in the climate. This is clearly articulated in the introduction of the report. [Get quote]

Reduction in capacity to do climate change and adaption research

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

- “regrettably since 2014³ Commonwealth government has shredded Australian Capacity to conduct research into climate change and adaption to ..” p255 Mark Howden ex CSIRO

Prof Howden said he gave a talk in 2018 at the Australian Adaption Conference. Here he is listed as a speaker. There is no paper or slide set to substantiate his claim that there has been a 75% drop from the trend. I did a Web of Science search using the key words; “Climate Change “ and Australia and found that there was a slight drop in the rate of increase of papers published with an Australian based author by it is not 75%.



Questions:

1. CSIRO approved methodologies referred to in 3/5/18 MDBA press release – was that corrected?
2. Why did CSIRO not attend the hearings when invited or voluntarily?
<https://www.abc.net.au/news/2018-08-10/murray-darling-royal-commissioner-denies-state-government-claims/10105448> High court challenge to prevent the appearance of commonwealth employees to give evidence at the SA Royal Commission. This was dropped when the SA AG agreed to not compel commonwealth employees to give evidence.
CSIRO

CSIRO not attending the Royal Commission Hearings

- The Commissioner assumes this is part of the evidence — along with Dr Colloff's evidence of misleading censorship — that the MDBA (and the CSIRO) purports to 'reject' in its submission to the Commission. As mentioned, Dr Colloff produced to the Commission a prior version of the Multiple Benefits Report. The final version contained many changes of significance. Clearly Dr Colloff was genuinely upset by the changes. He made contemporaneous notes of the process. A mediator was engaged to deal with the damage done to staff morale. There is no motive for him to not tell the truth, or to exaggerate. The alterations to the draft report speak for themselves. If the MDBA or CSIRO wanted his evidence to be rejected, they could have:

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

- sent a lawyer to the Commission to seek to challenge Dr Colloff's evidence, on professionally proper grounds, or
- produced a witness to give sworn contrary evidence.
- Neither course was adopted. A bald rejection, in the manner of the MDBA, is nearly as good as an admission. And that non engagement, and the evidence of Dr Colloff, highlights a deeply unsatisfactory approach by the MDBA: it seeks a review to be conducted by the CSIRO, yet then fails to provide the disclosure of matters of science the CSIRO seeks. P 715
 - CSIRO Submission was factual information about the reports we were involved with, collaborations and timing. This was made available after the High Court application was withdrawn.
 - Constraints on engagement was not possible due to the evidence period being complete. Further more the Commissioner in a letter to the SA ??? said that he had sufficient evidence..
 - I need to seek a briefing on why specific evidence to refute Dr Colloff's evidence was not provided.

Observations:

- The Commission happened over a change of government in SA from a Labour to a Liberal.
- The Commissioner was impressed with the Water Act of 2007 but questioned what the triple bottom line approach as a way to operate.
- MDBA - did not feel they could openly make their modelling assumptions and methodology available. This seems to be a major issue throughout the report. There is no evidence for their motivation or policy on access to their modelling.
- Colloff saying that the report was changed under pressure is only point critical of CSIRO (other than not attending and submitting their report late and not addressing the Colloff allegation)
 - Relevant evidence is:
 - From his written statement – my comments in brackets and highlighted in yellow:

For example, we wanted to see how our ecological and hydrological modelling compared with the MDBA's. In a draft of the Multiple Benefits report, we had included a table and some narrative about our hydrological modelling, which, in a meeting on 7 December 2011, the MDBA requested that we remove, because it didn't compare favourably with their own modelling. [The written notes do not support this. The issue of inconsistencies due to model differences was raised.] That work compared the number of ecological targets that would be met under each of the scenarios. It was called 'traffic lights reporting' -the table originally had solid red symbols (when a target was not met), amber or red circles (for when a target could be met if the delivery of water was managed) and green symbols (that targets could be met). The MDBA weren't suggesting that we change numerical data; I think they suggested that we drill into more detail with them about the areas of disagreement in order to understand why they were different. [This is normal scientific process when there is a difference of opinion] In my view however, there was not a serious discussion about this happening, because it would have taken too much time. [Question: was there a deadline for the report to be submitted? Was there a limit on the funding available to support this extra work?] The table was removed from the final report. [The draft reports had a log of all changes. The report in evidence was V51. There are 4 more versions before the final one. These would have logged the reason for the changes. Can I get copies of these?]

26. Based on my notes, in a meeting with Ian Burns on 19 December 2011, he advised that the problem with the 'traffic lights' reporting was its inconsistency with what the MDBA had reported,

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

[correct as there is evidence for this] and the problem that Rhondda Dickson (CEO of MDBA) and Jody Swirepik had was that the reporting we had done was undermining the Plan [This is a reason for making sure that the inconsistencies were removed. I read this to mean that this needed to be sorted before being published as the consequences would lead to the plan having to change. Undermining word is a problem.] . The inconsistencies were around a set of ecological targets that the MDBA claimed could be met, but we couldn't substantiate an evidence base from our modelling that indicated they could be met. [Isn't this good science if you don't have the full information? The problem seems to be that MDBA did not provide sufficient information to rectify these inconsistencies. There fore the tables could not be published as they were not correct.]

27. The ultimate decision to remove the traffic lights table was made by the CSIRO person who had responsibility for delivering the report, Carol Couch, on request from Jody Swirepik, who at the time was the Executive Director of Natural Resource Management at the MDBA. [What is the evidence for this?]

28. In a more general sense and throughout the project, we received an awful lot of direction about what to and not to include in the report from Carol Couch, Leader of the Ecosystems and Contaminants Program for WfHC. In my view that direction was clearly coming from MDBA, because Carol wasn't across all the science herself. [How do we know this?] In general terms, the MDBA seriously micromanaged the project, which made it very stressful and tedious. [Not a science integrity issue]

From Dr Colloff's written statement in evidence.

The main issue of question of the integrity or not leading to the removal of the tables from Chapter 3 shown in the draft report

https://www.mdbrc.sa.gov.au/sites/g/files/net3846/f/3._draft_report_mdba-mbp_finalreport_03eyv51_2011_07_12.pdf?v=1530600247

The tables in question were:

- Table 3.3 Assessment of meeting flow events for river red gum forest targets at southern and northern Basin hydrologic indicator sites for key environmental assets under the without development, baseline and 2800 scenarios
- Table 3.4 Assessment of meeting flow events for river red gum woodland targets at southern and Northern Basin hydrologic indicator sites for key environmental assets under the without development, baseline and 2800 scenarios
- Table 3.5 Assessment of meeting flow events for lignum targets at southern and northern Basin hydrologic indicator sites for key environmental assets under the without development, baseline and 2800 scenarios
- Table 3.6 Assessment of meeting flow rules for black box woodland targets at southern and northern Basin hydrologic indicator sites for key environmental assets under the without development, baseline and 2800 scenarios
- Table 3.7 Assessment of flow rules for coolibah woodland targets at northern Basin hydrologic indicator sites for key environmental assets under the without development, baseline and 2800 scenarios
- Table 3.8 Assessment of flow rules for river cooba targets at northern Basin hydrologic indicator sites for key environmental assets under the without-development, baseline and 2800 scenarios
- Table 3.9 Assessment of proportion of targets met for each vegetation community at hydrologic indicator sites for key environmental assets under the 2800 scenario

My understanding is that these tables referred to as the "Traffic Light tables" were brought together using modelled information from CSIRO models and MDBA models.

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Points to note are:

- This is V51 and Dr Colloff's verbal evidence was that there were 75 versions before the final published report.
- At the beginning of each version, there is a detailed table that outlines the changes made in each version, by whom and for what reason. The relevant version that shows the basis for the removal was not provided in evidence. [QUESTION: Can we get a copy of this version?]
- Dr Colloff's written notes on 19/12/11

3.00 19th Dec. Ian Burtis

4.00 Problem w. traffic lights - inconsistencies with what they're reported.

5.00 Is not an adequate representation of results. Interpretation is not consistent.

Issues Class I

7.00 Edward Wakool expressed as a target but not done as a demand and therefore not modelled, and

8.00 pm what is important for them is what Vol. is needed →

Tonday report

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

September 2011	October 2011	November 2011
M 5 12 19 26	M 3 10 17 24	M 7 14 21 28
T 6 13 20 27	T 4 11 18 25	T 8 15 22 29
W 7 14 21 28	W 5 12 19 26	W 9 16 23 30
T 1 8 15 22 29	T 6 13 20 27	T 13 20 27
F 2 9 16 23 30	F 7 14 21 28	F 14 21 28
S 3 10 17 24	S 1 8 15 22 29	S 5 12 19 26
S 4 11 18 25	S 2 9 16 23 30	S 6 13 20 27

Report at August
Last week of Jan.

(240)

National Heroes Day* (Philippines) Summer Bank Holiday (U.K.)

34/124 Monday 29

7.00 am In reg- valley - used a demand
the series -> calling an account ->
8.00 daily -> monthly aggregation -> then
disaggregates -> to daily. This approach
9.00 is chunky.
[In relaxing by 10%, results in inas-
10.00 tances -> done in July. Moved away
from this].

11.00
If they got within 10% of what they
Noon asked for, then they included it.
When they fail the tests it
1.00 is not by much. Modelling
report (Statistical analysis) comes out
2.00 in Jan. They are confident
they can deliver on many targets
3.00 that we report as failures in
Regulated rivers. In unreg systems
4.00 they are trying to look at
different recovery options, because
5.00 the ones we used were probably
not realistic. To what extent will
6.00 recovery be optimised? Had to
say.

7.00
Prosser - result is under current policy & could be
8.00 pm changed and it uncertain.

Problem we'll have is about what is

WEEK 35

W	1	8	15	22	29	W	5	12	19	26	T	2	9	16	23	30
T	2	9	16	23	30	T	6	13	20	27	W	3	10	17	24	31
F	3	10	17	24		F	7	14	21	28	T	4	11	18	25	
S	4	11	18	25		S	8	15	22	29	F	5	12	19	26	
S	5	12	19	26		S	2	9	16	23	S	6	13	20	27	
						S	3	10	17	24	S	7	14	21	28	

30 Tuesday 24/2/23

Jodie/Alma

7.00 am What is in the fine print. They see the reporting we've done as undermining the ~~the~~ Plan.

9.00 Targets are the same in our report and theirs.

10.00 Targets are met in Southern basin
Targets not met in Condaminel & Barrow ~~Barrow~~ not met, but others are, incl. Gwydir (but they cannot model well).

1.00 Options
2.00 (1) take it out X
(2) Modify & restructure our stuff.
3.00 (3) Reference their report. ✓ Get rid of tables.

4.00 Option (1) Issue - if we take it out, then why did we take it out?

5.00 If we go with option 2, the issue of one stuff tree in the are of icial assessment of precision due have. They will only look at green & red dots. Cannot have this.

8.00 pm

(242)

September 2011					October 2011					November 2011						
M	5	12	19	26	M	31	3	10	17	24	M	7	14	21	28	
T	6	13	20	27	T	1	8	15	22	29	T	1	8	15	22	29
W	7	14	21	28	W	5	12	19	26	W	2	9	16	23	30	
T	1	8	15	22	T	6	13	20	27	T	3	10	17	24		
F	2	9	16	23	F	7	14	21	28	F	4	11	18	25		
S	3	10	17	24	S	1	8	15	22	S	5	12	19	26		
S	4	11	18	25	S	2	9	16	23	S	6	13	20	27		

August

WEEK 35

aggregate out tables &

Ind 1 Far (Indonesia) Hari Raya Puasa* (Fest, Spore) National Day (Mal) Ind 1 Far (Philippines) 24/122 Wednesday 31

7.00 am So & we do it by ecological (eg. black box woodland

8.00 red gum forest / woodland N. Basin / S. Basin).

9.00 Fish, Birds. Not by individual targets.

10.00 Ian Burns has their stuff ready to go for the Tammy stuff.

11.00 We can Ian Will send us some example of how they are reporting. - Limbutter.

1.00 [Ian - Ecology & Analysis Branch.]

2.00 Card to Becky Nev.

3.00 20/12/2011 MBA MBP

4.00 according to our model run for All ewrs for redgums 80% get met, of the 20% that don't, MBA believes that most can be met through adaptive management.

7.00 In areas where the sensor (model) is not a good representation of the model, then interpretation is....

8.00 pm

Summary of these notes typed up:

pp. 239 242. Meeting with Ian Burns. Ian pointed out the problem with our "traffic lights" table from MDBA's perspective: it is not an adequate representation of their results. (p. 241) MDBA see the reporting that CSIRO has done as undermining the Basin Plan [message from Jodie Swirepik and Rhondha Dixon]. Requests from MDBA to remove "traffic lights" tables and related data from the

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

CSIRO Multiple Benefits report: options canvassed.

<https://www.mdbrc.sa.gov.au/sites/g/files/net3846/f/mdbrc-exhibit-19-summary-of-handwritten-notes-dr-matt-colloff.pdf?v=1530675873>

My typing up of these notes:

P.239:

Ian Burns

Problem w. traffic lights – inconsistencies with what they've reported. Is not an adequate representation of results. Interpretation is not consistent.

Edward Wokool expressed as a target but not done as a demand and therefore not modelled and what is important for them is what vol. is needed → January report.

In reg- valleys – used a demand time series → calling an account → daily → monthly aggregation → then disaggregates → to daily. This approach is chunky.

[In relaxing by 10%, results in inconsistencies → Done in July. Moved away from this].

If they got within 10% of what they asked for, then they indicated it when they fail the events it is not by much. Modelling report (statistical analyses) comes out in Jan. They are confident they can deliver on many target that we report as failures in Regulated rivers. In unreg systems they are trying to look at different recovery options, because the ones we used were probably not realistic. To what extent will recover been optimised? Hard to say.

Prosser – result is under current policy & could be changed and is uncertain.

Problem we'll have is about what is

P.241

What is in the fine print. Jodie/Rhondla They see the reporting we've done as undermining the Plan.

Targets are the same in our report and their.

Targets are met in Southern basin

Targets in Condamine Balanne & Barwon not met, but others in N. Basin are, incl. Gwydir (but they cannot model well)

Options:

1. Take it out x
2. √Modify and reestimate our stuff → finesse it
3. Reference their report √ get rid of tables

Option 1 issues if we take it out then why did we take it out?

If we go with option 2, then issue of our stuff there is artificial assessment of precision we have. They will only look at green and red dots. Cannot have this.

p.242 So (squiggle) we aggregate our tables and do it by ecological (e.g. black box woodland red gum forest/ woodland N. Basin /S. Basin)

Fish Birds Not individual targets.

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

Ian Burns has their stuff ready to go for the January stuff

Ian Will send us some examples of how they are reporting – Glenbwer.

[Ian – Ecologarol (?) & Analysis Branch]

20/12/2011 Carol Ian Becky Nev

MDBA MBP

For All ewRs for redgums 80% mget meet according to our model run of the 20% that don't, MDBA believes that most can be met through adaptive management.

In our areas where the scenario (model) is not a good representation of the model, then interpretation is....

Observations

MDBA modelling assumptions and approaches were not made available to CSIRO.

- The typed up summary is not accurate and is misleading.
- The typed up summary fails to provide the scientific discussion and basis for the concern.
- The undermining the plan comment seems to be taken out of context of the whole discussion.
- Removal of the tables is discussed at length with several options. There is no evidence of a decision in the notes to remove the tables. In fact the opposite as there is a cross next to this option.
- Dr Colloff said in his evidence that they could not substantiate the evidence base of the tables. In my view then to include them would not be appropriate until there were substantiated.
- There is no evidence provided that the tables were removed on the request of MDBA.
- Dr Colloff in his verbal evidence indicated that he was not involved in the last versions of the report.
- Without seeing the later versions and the logging of the changes and reason for the changes, I cannot comment on the role of Dr Carol Couch in the final preparation of the report.
- V 51 was listed as ready on 6/12/11. The final report is dated 28/3/12. I did not see any evidence on why Dr Colloff was not included V52-55 if this is correct. Note there were 75 versions over all before the final version.

My Conclusion

1. The majority of the report mentioning CSIRO is very positive and on many occasions points to the quality of CSIRO's research.
2. CSIRO was limited by MDBA not providing detailed access to their modelling assumptions and methodology to enable useful comparisons.

Personal Notes and Study – Note not all the words are my own. Some information is from papers and reports. These are indicated and referenced.

3. Tables were removed from their report between V51 and the final published version. However there is no evidence that this was done because of a request from the MDBA. The evidence suggests that these tables were removed because it was not possible to access the required modelling to make sure that correct interrelations and comparisons of models.
4. The Commissioner thought that CSIRO should have given evidence and provided a sworn statement to refute Colloff's evidence. He wrote ". A bald rejection, in the manner of the MDBA, is nearly as good as an admission." [P. 715]. There was no sympathy for the position that CSIRO a federal government agency was not evident.
5. **With the information at hand and in the time I have had available to review the material, there is no evidence to support questioning CSIRO integrity. Comments that the scientific integrity was compromised are not justified.**

MURRAY-DARLING BASIN

Document 5

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SOUTH AUSTRALIAN ROYAL COMMISSION INTO THE MURRAY-DARLING BASIN

Timeline and CSIRO response

- On 23 January 2018, the South Australian Government established a Royal Commission into the Murray-Darling Basin (MDB) to investigate the operations and effectiveness of the MDB system. The Royal Commission was established under former Premier Jay Weatherill, in response to concerns raised about water use across the Basin.
- In early June 2018, two CSIRO officers were invited by the Royal Commission to appear before the Commission (Dr Carmel Pollino and Dr Sebastien Lamontagne) as were some former CSIRO officers. These invitations followed a meeting of the Commission with the Director of the Goyder Institute for South Australia, Dr Kane Aldridge on 6 June 2018. On that day, Dr Aldridge advised CSIRO that in his meeting with the Commission, he recommended that the Commission engage with CSIRO including with Dr Pollino because of her work on a 2011 report "Analysis of South Australia's environmental water and water quality requirements and their delivery under the Guide to the proposed Basin" published by the Goyder Institute and also the 2011 CSIRO report "A science review of the implications for South Australia of the Guide to the proposed Basin Plan: synthesis", also published by the Goyder Institute. CSIRO is a partner in the Goyder Institute.
- On 12 June 2018, the Commonwealth of Australia instituted proceedings in the High Court in relation to the powers of the Royal Commission and other matters. The Commonwealth sought a High Court injunction to prevent current and former employees of the Commonwealth giving evidence to the Commission.
- Given this, noting that CSIRO was not directly involved in the High Court proceedings, CSIRO chose to remain respectful of the High Court and that legal process, and await its decision before CSIRO made steps in relation to the Royal Commission. CSIRO therefore decided to not engage in the Commission until there was a clear pathway forward.
- On 27 June 2018, a former employee of CSIRO, Matt Colloff, provided evidence to the Commission, accusing the Murray Darling Basin Authority (MDBA) of previously "attempting to influence CSIRO findings in its pursuit of returning a minimum amount of water to the environment".
- On 29 June 2018, Peter Mayfield provided a letter on behalf of CSIRO to the Commissioner which advised that CSIRO would await the outcomes of the High Court decision before engaging with the Royal Commission.

- On 29 June 2018, CSIRO released a public statement regarding the Multiple Benefits project (see CSIRO Statement below).
- On 4 July 2018, the Commissioner's Senior Instructing Solicitor wrote to CSIRO (Peter Mayfield) acknowledging CSIRO's correspondence of 29 June and inviting CSIRO to voluntarily contribute to the Royal Commission.
- On 28 August 2018, the High Court discontinued its proceedings in relation to the powers of the Royal Commission.
- Subsequently, the Commissioner decided not to compel Commonwealth Officers to appear before the Royal Commission, following the SA Government's decision not to challenge the High Court decision.
- On 13 September 2018, the Australian Government Solicitor wrote to the Commissioner advising that:
 - the Australian Government and MDBA would provide voluntary submissions to the Royal Commission; and
 - the Australian Government and MDBA did not wish to take up the Royal Commission's invitation to appear in person before the Commission.
- On 12 October 2018 CSIRO (Peter Mayfield) wrote to the Commissioner advising that, following the discontinuation of the High Court proceedings, CSIRO would provide a voluntary submission to the Royal Commission regarding scientific matters relevant to the Royal Commission.
- On 30 October 2018, in closing statements made by Senior Counsel Assisting the Royal Commission, comments were made that "The Basin Authority paid Commonwealth funds to the CSIRO for a report that they then pressured the CSIRO to change in an improper and misleading way". Reference was also made to "maladministration" on the part of the CSIRO. The Senior Counsel Assisting referred to work conducted by CSIRO for the MDBA relating to the Colloff allegations around the process of finalisation and delivery of CSIRO's Multiple Benefits project report (see below for a description of the Multiple Benefits project).
- On 5 November 2018, CSIRO voluntarily provided a submission to the Royal Commission (CSIRO's submission is publicly available online – submission #132). The submission provided a full description of the processes CSIRO implemented regarding governance and peer review of our work and a list of past projects relevant to the Murray-Darling Basin. In

making this submission, CSIRO has provided information related to its involvement in providing independent and rigorous scientific input to help inform the future management of the Murray-Darling Basin.

- CSIRO's submission was accompanied by a letter from Peter Mayfield on behalf of CSIRO which advised that CSIRO rejected the conclusions made by the Special Counsel Assisting in his closing statements including the statement that "The Basin Authority paid Commonwealth funds to the CSIRO for a report that they then pressured the CSIRO to change in an improper and misleading way" and the reference to "maladministration" on the part of CSIRO. The letter also provided clarification regarding the Multiple Benefits project including its review and governance arrangements.
- It is acknowledged that CSIRO's submission was provided to the Royal Commission after the conclusion of its public hearings (CSIRO's submission was provided during the Commission's report writing phase). CSIRO needed several weeks to prepare its submission because a number of scientists and leaders who were involved in the production of the key reports over the past decade have since left CSIRO, and hence a number of discussions were required during those weeks to discuss and develop the content of CSIRO's submission.
- On 29 January 2019, the Commissioner's report was delivered to the Governor of South Australia. The report was publicly released on 31 January 2019.
- CSIRO's formal response to the MDB Royal Commission report was provided on 8 February 2019 as a letter from Peter Mayfield to the South Australian Premier, the Hon Steven Marshall.

CSIRO position

- The Royal Commission report includes a number of criticisms about CSIRO including "maladministration" on the part of CSIRO and that CSIRO acted in "secrecy".
 - CSIRO strongly rejects suggestions that CSIRO's scientific integrity was compromised, its independence undermined, or that it acted in secrecy.
 - Over the past decade, CSIRO has delivered a number of projects to the MDBA to inform the development of the Basin Plan. CSIRO stands behind the quality and integrity of the research it has conducted and the

integrity of the review and approval processes that took place prior to the delivery and the public release of these reports.

- CSIRO maintains that a robust governance and review process was in place for the Multiple Benefits project involving a steering committee and independent science review committee.
- CSIRO continues to deliver on a record of world class and novel science to better understand this country's valuable water resource; as recently as last year CSIRO delivered the Northern Australia Water Resource Assessment which evaluated the feasibility, economic viability and sustainability of water resource development across three catchments in Western Australia; Northern Territory, and Queensland.
- CSIRO has no view on the *Water Act 2007*, the Murray-Darling Basin Plan, or how these legislative/policy instruments are being interpreted or implemented.
- Similarly CSIRO has no view on the role or effectiveness of the MDBA in terms of its policy making and program delivery. If, and how the MDBA has used information and advice provided by CSIRO is a matter for the MDBA to comment on.
- As noted in the Royal Commission report and in CSIRO's submission to the Royal Commission, CSIRO has provided a substantial body of work (research, data, models, reports) over the past decade to inform the MDBA's development of the Basin Plan. CSIRO has also delivered methods, systems and some input data (such as climate scaling factors and groundwater assessments) that contributed to the MDBA's development of sustainable diversion limits (SDLs) for the Basin Plan. Refer to the CSIRO submission to the MDB Royal Commission for a description of CSIRO's contributions to the MDBA.

CSIRO Statement – 29 June 2018

CSIRO, along with other Australian and international organisations, was contracted by the MDBA to undertake a research project to assess potential ecological, social and economic benefits of the proposed Basin Plan.

The project involved the MDBA, CSIRO, Charles Sturt University, Deakin University and Wageningen University (the Netherlands).

It was guided by a Scientific Reference Panel and overseen by a Project Steering Committee, and outputs reviewed by an Independent Scientific Review Panel made up of representatives from Griffith University, The Centre for International Economics, Edith Cowan University, Ecolnsights, and Barma Consulting.

CSIRO Statement – 4 February 2019

This statement responds to allegations published in the final report of the South Australian Royal Commission into the Murray-Darling Basin which was publicly released on January 31, 2019.

CSIRO has led research in the Murray-Darling Basin for decades, and continues to provide independent and rigorous science to inform the management of the Murray-Darling Basin.

CSIRO refutes statements that it was pressured to change a report in an improper and misleading way by the Murray-Darling Basin Authority. CSIRO uses rigorous processes to ensure the quality of our science including the robust governance and independent review processes used for this work.

We strongly reject suggestions that CSIRO's scientific integrity was compromised, its independence undermined, or that it acted in secrecy.

CSIRO acknowledges the ongoing endeavours of our renowned scientists who continue to provide world-class science to advance our understanding of this intricate and dynamic system.

CSIRO Statement – 8 February 2019 (described on the CSIRO website as an update to the 4 Feb statement)

This statement responds to allegations published in the final report of the South Australian Royal Commission into the Murray-Darling Basin which was publicly released on January 31, 2019.

CSIRO has led research in the Murray-Darling Basin for decades, and continues to provide independent and rigorous science to inform the management of the Murray-Darling Basin.

The Royal Commission has upheld the value of science in general, and acknowledged CSIRO's contribution to a range of key scientific inputs into MDB decision making over a considerable period.

However, CSIRO refutes statements that it was pressured to change a report in an improper and misleading way by the Murray-Darling Basin Authority. CSIRO uses rigorous processes to ensure the quality of our science including the robust governance and independent review processes used for this work.

We strongly reject suggestions that CSIRO's scientific integrity was compromised, its independence undermined, or that it acted in secrecy.

CSIRO acknowledges the ongoing endeavours of our renowned scientists who continue to provide world-class science to advance our understanding of this intricate and dynamic system.

Basin Plan

- The Murray-Darling Basin Plan is a policy document, required under legislation by the *Water Act 2007*.
- The Murray-Darling Basin Authority (MDBA) was established by the Water Act as an independent statutory authority charged with developing the Basin Plan, with the primary objective of limiting how much water could be used by industries and communities in the Basin.
- The Commonwealth Minister responsible for water adopted the Basin Plan on 22 November 2012 and on 29 November 2012 it received bipartisan support in Parliament.
- Review of the Basin Plan is a policy decision. The Water Act specifies review points for the Basin Plan. The first review is scheduled to occur in 2026.

Science in the Basin Plan

- The development of the Basin Plan required several years of research and analysis to understand how much water could be taken from the Basin for consumptive use, without compromising rivers, lakes and wetlands and the animals and plants that depend on them. The Basin Plan was preceded by a Guide to the Basin Plan.
- Science was one of multiple inputs to the Basin Plan. CSIRO contributed science to the development of the Basin Plan – refer to the CSIRO submission to the MDB Royal Commission for a full description of CSIRO's inputs. If, and how, the MDBA chose to use CSIRO's inputs was at the discretion of the MDBA.

- The science behind the Basin Plan was independently reviewed by Australian and international scientists. In 2012 an independent panel led by CSIRO's Bill Young was contracted by the MDBA to provide the report "Science review of the estimation of an environmentally sustainable level of take for the Murray-Darling Basin". With respect to whether the best available science was used, the panel determined that best available science was used (e.g. with respect to hydrological models and hydrodynamic models) and in the context of an adaptive approach the methods used were fit for purpose.
- With respect to climate information, the panel's report noted that the incorporation of climate change scenarios was a policy decision by the MDBA.
- The Basin Plan is founded on an adaptive management approach to implementation, which allows for refinement of management approaches in response to new science. The decision-making process regarding the review of the Basin Plan is described in the Water Act.

CSIRO response to the Basin Plan

- CSIRO feedback on the science underpinning the Basin Plan was provided to the MDBA at the time of the Basin Plan's development as follows:
 - In 2010, CSIRO provided feedback to the MDBA on the Guide to the Proposed Basin Plan:
 - CSIRO noted some concerns with the technical underpinning of the Guide.
 - This feedback was published on the MDBA website at the time.
 - Subsequently CSIRO conducted research which improved understanding prior to the release of the proposed Basin Plan.
 - In 2012, CSIRO provided feedback to the MDBA on the proposed Basin Plan in a formal submission to the MDBA:
 - Broadly speaking, CSIRO's position at the time was supportive of the Basin Plan's adaptive management approach to implementation but also noted that "it will be important to develop and implement a

- CSIRO continues to implement new research opportunities and collaborations in the MDB.
- CSIRO looks forward to strengthening its strategic research alliances to deliver new ecological research to help underpin delivery of the Murray-Darling Basin Plan.
- As part of this work, CSIRO continues to support the Murray-Darling Basin Authority (MDBA) with their regionally-specific knowledge needs of floodplain dynamics, environmental watering and ecohydrology trajectories.

SITUATION MANAGEMENT TEAM

- On 25 January 2019 CSIRO established a Situation Management Team, reporting to Peter Mayfield, to coordinate CSIRO's response to the above issues and activities.
- The Situation Management framework is a standard practice in CSIRO where additional coordination and resources are required to manage complex or significant issues.
- On 31 January 2019, Jane Coram, Director of CSIRO Land and Water, wrote to staff asking them not to publicly comment on the MDB Royal Commission whilst CSIRO considered its response. This is consistent with the CSIRO public comment policy.
- The Situation Management Team will assist in developing CSIRO's formal response to the Royal Commission report.

CSIRO STAFF ASSOCIATION COMMENTARY

- On Friday 1 February 2019, the CSIRO Staff Association published an opinion piece that referred to the Royal Commission report and the report's criticisms of CSIRO.
- CSIRO remains committed to supporting its staff and to maintaining constructive engagement with the Staff Association.
- CSIRO published a media statement on Monday 4 February 2019 which addressed criticisms levelled by the Staff Association, and the Royal Commission more broadly with regard to the quality and scientific integrity of CSIRO research.