



**Examination of Auditor-General  
Report No. 16: 2017-18  
Follow-up of *Managing water  
quality in Great Barrier Reef  
catchments***

**Report No. 12, 56th Parliament  
Innovation, Tourism Development and  
Environment Committee  
February 2019**

## **Innovation, Tourism Development and Environment Committee**

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### **Acknowledgements**

The committee acknowledges the assistance provided by the Queensland Audit Office and the Department of Environment and Science.

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## Abbreviations

Auditor-General Report	Report 16: 2017–18, Follow-up of <i>Managing water quality in Great Barrier Reef catchments</i>
BMP	Best Management Practice
committee	Innovation, Tourism Development and Environment Committee
original Auditor-General Report	Report 20: 2014–15, <i>Managing water quality in Great Barrier Reef catchments</i>
QAO	Queensland Audit Office
Taskforce	Great Barrier Reef Water Science Taskforce

## Chair's foreword

This report presents a summary of the Innovation, Tourism Development and Environment Committee's examination of the Auditor-General Report 16: 2017-18 Follow-up of *Managing water quality in Great Barrier Reef catchments*.

The committee's task was to consider the Auditor-General's findings in relation to:

- the effectiveness of departments in implementing the recommendations the Auditor-General made in *Managing water quality in Great Barrier Reef catchments* (Report 20: 2014–15), and
- whether the actions taken have addressed the underlying issues that led to the Auditor-General's recommendations in that report.

On behalf of the committee, I thank the Queensland Audit Office for its assistance with the committee's examination.

I commend this report to the House.

A handwritten signature in blue ink, appearing to read 'D. Pegg'.

Chair

## Recommendation

### Recommendation 1

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The committee recommends that the Legislative Assembly note the contents of this report.

## 1 Introduction

### 1.1 Role of the committee

The Innovation, Tourism Development and Environment Committee (committee) is a portfolio committee of the Legislative Assembly which commenced on 15 February 2018 under the *Parliament of Queensland Act 2001* and the Standing Rules and Orders of the Legislative Assembly.<sup>1</sup>

The committee's primary areas of responsibility include:

- Innovation and Tourism Industry Development and the Commonwealth Games, and
- Environment and the Great Barrier Reef, Sciences and the Arts.

According to s 94(1)(a) of the *Parliament of Queensland Act 2001*, the committee has responsibility within its portfolio areas for the assessment of the integrity, economy, efficiency and effectiveness of government financial management by:

- examining government financial documents, and
- considering the annual and other reports of the Auditor-General.

### 1.2 Role of the Auditor-General

The role of the Auditor-General is to provide Parliament with independent assurance of public sector accountability and performance. This is achieved through reporting to Parliament on the results of its financial and performance audits.

A financial audit assesses whether the information contained in the financial statements of public sector entities is accurate, can be relied upon and is prepared in accordance with Australian Accounting Standards and relevant legislative requirements.<sup>2</sup>

A performance audit evaluates whether an agency or government program is achieving its objectives effectively, economically and efficiently, and is compliant with relevant legislation. It does not consider the merits of government policy. Rather, it focuses on how that policy is implemented.<sup>3</sup>

The Queensland Audit Office's (QAO) Report 16: 2017–18, titled 'Follow-up of *Managing water quality in Great Barrier Reef catchments*' (Auditor-General Report) was prepared under Part 3 Division 3 of the *Auditor-General Act 2009* and was tabled in the Legislative Assembly in accordance with section 67 of that Act on 26 June 2018. This report presents the results of the QAO's performance audit.

### 1.3 Referral of the Auditor-General Report

Standing Order 194B provides the Committee of the Legislative Assembly shall as soon as practicable after a report of the Auditor-General is tabled in the Assembly, refer that report to the relevant portfolio committee for consideration. The Auditor-General Report was referred to the committee on 23 August 2018.

A portfolio committee may deal with this type of referral by considering and reporting on the matter and making recommendations about it to the Assembly.<sup>4</sup>

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<sup>1</sup> *Parliament of Queensland Act 2001*, s 88; and Standing Order 194.

<sup>2</sup> Queensland Audit Office (QAO) Practice Statement – Financial statement audit, p 1.

<sup>3</sup> QAO Factsheet - About us, p 2.

<sup>4</sup> *Parliament of Queensland Act 2001*, s 92(3).

#### **1.4 Scope of the Auditor-General reports**

On 10 June 2015, Report 20: 2014–15, titled '*Managing water quality in Great Barrier Reef catchments*'<sup>5</sup> (original Auditor-General Report), was tabled in the Legislative Assembly, in which the QAO examined the Queensland Government's contributions to improving the quality of water entering the Great Barrier Reef from adjacent catchments, specifically agricultural run-off.

In the Auditor-General Report, the QAO assessed the effectiveness of departments in implementing the recommendations the Auditor-General made in the original Auditor-General Report and also whether the actions taken by the departments have addressed the underlying issues that led to the Auditor-General's recommendations in that original report.<sup>6</sup>

#### **1.5 Examination process**

The committee received a public briefing from the QAO on 3 September 2018. See Appendix A of this report for a list of witnesses. A copy of the transcript can be accessed on the committee's webpage [here](#).

The committee also wrote to the Department of Environment and Science, seeking further information on various matters.

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<sup>5</sup> Auditor-General, Report 16: 2017–18, Follow-up of *Managing water quality in Great Barrier Reef catchments* (Auditor-General Report No. 16: 2017-18), p 5.

<sup>6</sup> Auditor-General Report No. 16: 2017-18, p 1.



## 2 Context

### 2.1 Great Barrier Reef Water Science Taskforce

In May 2015, shortly after the tabling of the original Auditor-General Report, the Queensland Government established the Great Barrier Reef Water Science Taskforce (Taskforce) to provide advice on how to achieve water quality targets and priorities for investing \$90 million over five years:

*The taskforce evaluated current and past water quality programs. Its 2016 report found the water quality targets to be ambitious, and that transformational change would be needed to achieve the set targets. The taskforce acknowledged that there have been improvements; however, they are not moving fast enough to successfully achieve necessary results.*

*The report recommended a mix of policy, regulation, and investment to accelerate progress towards reef water quality targets. The Queensland Government accepted the taskforce's recommendations in-principle and incorporated them into the Reef 2050 Water Quality Improvement Plan.<sup>7</sup>*

In its deliberations, the Taskforce considered the QAO's findings, as presented in the original Auditor-General Report: 'It noted that many of the recommendations in its report complemented Queensland Audit Office's conclusions'.<sup>8</sup>

### 2.2 2017 Scientific Consensus Statement

The Reef Independent Science Panel, which consists of subject matter experts who conduct scientific reviews of Reef 2050 Plan activities and initiatives, was commissioned by the Australian and Queensland governments to '...provide independent scientific advice and review in support of the *Reef 2050 Long-Term Sustainability Plan* and advances and innovations in monitoring and reporting activities'.<sup>9</sup>

The '2017 Scientific Consensus Statement—Land use impact on the Great Barrier Reef water quality and ecosystem condition' is a review of the advances in scientific knowledge of water quality issues in the Great Barrier Reef:

*It arrives at a consensus on the current understanding of the system. The statement is the foundational document that provides the scientific understanding underpinning the Reef 2050 Water Quality Improvement Plan 2017–2022.*

*The 2017 Scientific Consensus Statement confirms that current initiatives will not meet water quality targets and reports that more is needed to accelerate change. There is an urgent need for greater investment in voluntary practice change programs (to encourage changes in landholders' agricultural practices), for the use of regulatory tools, and for other policy mechanisms. Robust monitoring and evaluation programs are also needed to measure the rate and effectiveness of adoption.<sup>10</sup>*

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<sup>7</sup> Auditor-General Report No. 16: 2017-18, p 15.

<sup>8</sup> Auditor-General Report No. 16: 2017-18, p 15.

<sup>9</sup> Auditor-General Report No. 16: 2017-18, p 15.

<sup>10</sup> Auditor-General Report No. 16: 2017-18, p 15.

### 3 Examination of the Auditor-General Report

#### 3.1 Background

In the original Auditor-General Report,<sup>11</sup> the QAO:

- found the Queensland Government did not have a cohesive program to halt and reverse the decline in water quality entering the Great Barrier Reef, as set out in its Reef Water Quality Protection Plans in 2003 and 2009<sup>12</sup>
- concluded that Queensland's response lacked urgency and purpose, was characterised by disparate projects with no central authority and no clear accountability for their delivery or achievement, and concluded there was no strong accountability for program expenditures
- found that land management programs to improve agricultural practices in the sugarcane and grazing industries were not achieving the changes needed to realise the Reef Water Quality Protection Plan's goal within established timelines<sup>13</sup>
- found that the limited number of water quality monitoring sites across the catchments restricted government departments' ability to verify modelled outputs against measured results<sup>14</sup>
- found uncertainty and low levels of confidence in modelled results indicating the quality of water entering the Great Barrier Reef was improving - public reporting on progress did not make this lack of confidence in the modelled results clear, potentially inferring the results were actual measured outcomes.

In the original Auditor-General Report, the QAO made five recommendations (see section 2.2 of this report), which were accepted by the relevant departments.

The scope of the follow-up audit, the results of which are presented in the Auditor-General Report, included the following three departments:

- the Department of Environment and Science, which includes the Office of the Great Barrier Reef
- the Department of Agriculture and Fisheries
- the Department of Natural Resources, Mines and Energy.<sup>15</sup>

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<sup>11</sup> Auditor-General Report No. 16: 2017-18, p 5.

<sup>12</sup> This goal was changed in the *Reef Water Quality Protection Plan 2013* to 'ensure that by 2020 the quality of water entering the reef from broadscale land use does not have a detrimental impact on its health and resilience'.

<sup>13</sup> The QAO found that Queensland had not achieved the right balance between industry-led voluntary approaches and regulatory enforcement of land management practices.

<sup>14</sup> Modelled outputs estimate average annual loads of key pollutants for each catchment draining to the Great Barrier Reef, while measured results track long-term trends in water quality entering the Great Barrier Reef from high-priority catchments.

<sup>15</sup> Auditor-General Report No. 16: 2017-18, p 1.

### 3.2 Audit findings

In December 2017, the QAO set out to establish whether the departments had effectively implemented the five recommendations made in the original Auditor-General Report. The QAO found the departments had made significant efforts to address the recommendations, having fully implemented four and partially implemented one.<sup>16</sup>

Figure 1 (below) reproduces the original five recommendations, and shows their implementation status, as presented in the Auditor-General Report.<sup>17</sup>

**Figure 1 - Implementation status of recommendations made in Report 20: 2014–15**

Recommendation made in original audit	QAO 2018 assessment of status
1 That the newly formed Office of the Great Barrier Reef be provided with sufficient and appropriate management and administrative authority so that it can be properly made responsible and held accountable for Queensland's reef management strategies and programs.	Recommendation fully implemented
2 That the design and implementation of the suite of programs attributed to the Reef Plan is reviewed to establish they are the most effective and efficient.	Recommendation fully implemented
3 That catchment monitoring is expanded to aid in determining the effectiveness of practice management change and to enhance the confidence in modelled outcomes.	Recommendation fully implemented
4 That a rigorous verification process is applied to data on land management practice change, and deficiencies in model inputs be addressed, to improve confidence in, and the accuracy of, inputs into catchment modelling.	Recommendation partially implemented
5 That unambiguous references be included in the tier one Reef Report Card which disclose the degree of uncertainty and levels of potential variability in the reported results.	Recommendation fully implemented

*Note: The tier one Reef Report Card is a high-level progress overview, at whole-of-reef level and by region, using modelled data.*

The next section of this report provides a summary of the QAO audit findings.

<sup>16</sup> Auditor-General Report No. 16: 2017-18, p 6.

<sup>17</sup> Auditor-General Report No. 16: 2017-18, p 6.

3.2.1 Program management and investment

The Auditor-General Report noted both Commonwealth and Queensland Government funding for reef water quality action, stating that the Queensland Government:

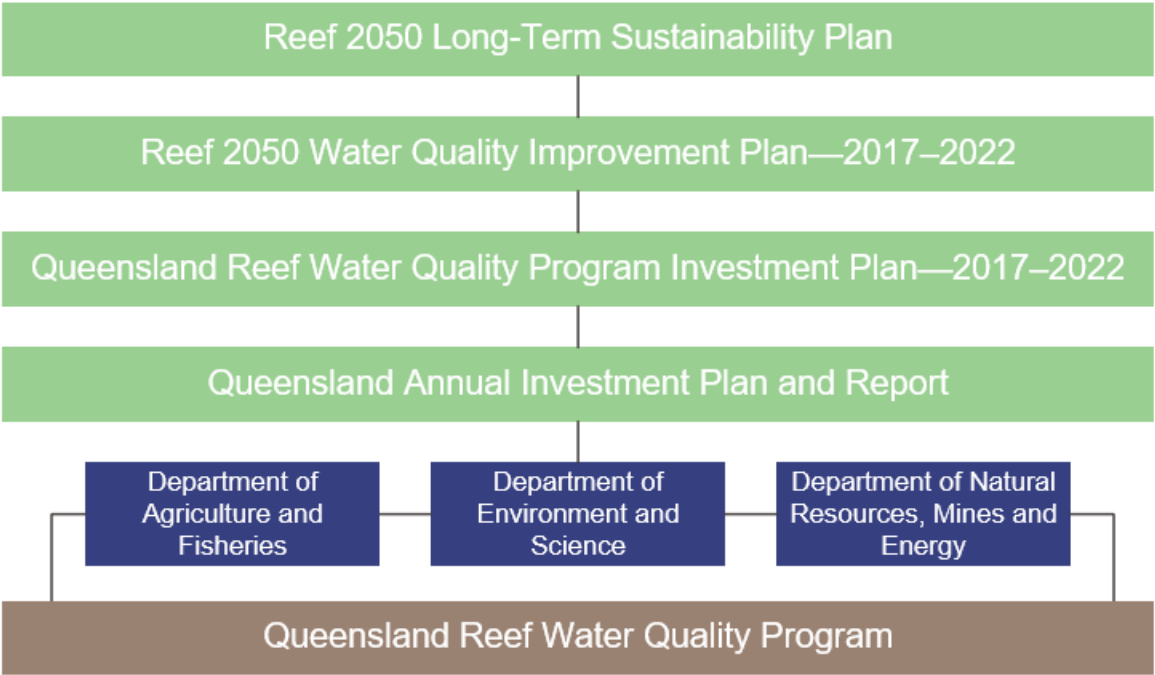
*...commits \$35 million annually for reef water quality action. In 2015, it provided an additional \$90 million over five years. In the 2018–19 budget, Queensland Government announced increased funding of \$13.8 million over four years to support the cane, grazing and banana industries in Great Barrier Reef catchments to improve water quality. It also included funding for other Great Barrier Reef and climate change initiatives.<sup>18</sup>*

According to the QAO, establishing the Office of the Great Barrier Reef within the Department of Environment and Science has improved the state’s reef program governance, design, management, and investment planning:

*The office manages, coordinates, and is accountable for the state's contribution to achieving the Reef 2050 Long-Term Sustainability Plan... goals and targets. The Long-Term Plan (jointly developed by the Australian and Queensland governments) provides the overarching framework for managing and protecting the Reef until 2050.<sup>19</sup>*

The below chart (Figure 2), adapted by the QAO from the Queensland Government Annual Investment Plan 2016–17, shows how the Queensland Government’s plans fit within the framework of delivering reef water quality improvement.

Figure 2 – Framework for improving reef water quality



The Office of the Great Barrier Reef provides a single point of reporting on the total package of reef water quality investments, but many departments still contribute to the activities within the program and are responsible for the delivery of their investments.<sup>20</sup>

<sup>18</sup> Auditor-General Report No. 16: 2017-18, p 6.  
<sup>19</sup> Auditor-General Report No. 16: 2017-18, p 7.  
<sup>20</sup> Auditor-General Report No. 16: 2017-18, p 7.

Over the 2015–16 and 2016–17 financial years, the Queensland Reef Water Quality Program actual expenditure was about \$12.8 million short of the planned investment.<sup>21</sup>

The QAO reported that, each year, any underspent funds are rolled over from the previous year:

*In the case of the \$90 million allocated to implementing the taskforce recommendations, funds can be moved to another area or project if program priorities change. Almost all the \$11 million not expended in 2016–17 (\$10 935 484) was allocated to the ‘responding to the challenge’ work area in the program logic model. This covers on-ground delivery actions to implement the changes required to make progress towards the targets.*<sup>22</sup>

According to the QAO, reasons given in the *Queensland Government Annual Investment Report 2016–17* for the underspend include the time required to establish the new program and execute contracts and partnerships, as well as the impacts of unfavourable weather conditions on some projects:

*While the report provides examples of where total planned expenditure was not spent, it does not acquit actual expenditure against planned investment for each program. This would identify for stakeholders which specific programs have underspent in that year and increase transparency and accountability. It is important that any underspend (especially of the magnitude that occurred in 2016–17—\$11 million or 19 per cent) is carefully and transparently managed and acquitted. This is to ensure that there is confidence in the management of public funds and that potential risks are appropriately mitigated, including risks:*

- *to the achievement of overall program objectives*
- *to the delivery of individual projects*
- *to future funding needs and allocations*
- *of subsequent misuse or waste of the unspent funds.*<sup>23</sup>

### **3.2.2 Catchment monitoring**

The Queensland Government’s Great Barrier Reef Catchment Loads Modelling Program estimates average annual loads of key pollutants<sup>24</sup> for each of the 35 catchments draining to the Great Barrier Reef, as part of the Paddock to Reef program: ‘It assesses progress towards the reef water quality targets by reporting on baseline levels and the change in loads for each subsequent year due to adoption of improved land management practices’.<sup>25</sup>

The QAO reported that the number of catchment monitoring sites has almost doubled and the Monitoring Program now monitors all intensive land use catchments:

*It includes 43 monitored sites across 20 key catchment areas to monitor sediments and nutrients and 20 sites for pesticides. This represents a significant improvement on the 26 monitoring sites in 14 of the 35 catchments in 2015. The additional monitoring reported against is at the end of catchment and sub-catchment scale.*

*Fifteen of the 35 catchments are still not monitored. These catchments are low priority as identified in the 2017 Scientific Consensus Statement—Land use impact on the Great Barrier Reef*

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<sup>21</sup> Auditor-General Report No. 16: 2017-18, p 7.

<sup>22</sup> Auditor-General Report No. 16: 2017-18, p 24.

<sup>23</sup> Auditor-General Report No. 16: 2017-18, p 24.

<sup>24</sup> Such as, sediment, nutrients and pesticides.

<sup>25</sup> Auditor-General Report No. 16: 2017-18, p 8.

*water quality and ecosystem condition. They represent predominantly low-intensity land use areas, for example nature conservation areas.*

*Expanding the number of sites means the program monitors a larger proportion of loads discharged to the Great Barrier Reef. This increase in monitoring means the program can calibrate and validate modelled outputs with greater confidence.<sup>26</sup>*

The Auditor-General Report identified further improvements to the accuracy of catchment monitoring data, including:

- projects to support further expansion of catchment monitoring and provide extension data to the modellers
- a project to provide an additional 34 pesticide monitored sites by manual sample collection, and
- development of robust, portable, low maintenance, and low-cost sensors, enabling precise and reliable monitoring of dissolved inorganic nitrogen.<sup>27</sup>

According to the QAO, both its original audit and the Taskforce report identified the need for monitoring directly related to landholder actions:

*The taskforce reported strong support for finer scale (end of farm) monitoring in a bid to engage producers. Finer scale monitoring identifies nutrient, pesticide, and sediment losses so that extension, incentives, and better management practice programs can be effectively targeted at pollutant hotspots.<sup>28</sup>*

### **3.2.3 Paddock to reef program**

#### **3.2.3.1 Model inputs**

According to the QAO, the departments have made significant efforts to address the model input deficiencies identified in the original audit, having implemented changes to improve confidence in the data, although some limitations remain in the complex models used:

*The departments are committed to further improving the model verification and accuracy.*

*Model quality improvements include better data collection processes and the use of custom-built geographic information system tools, aerial photography, and uniform grids for mapping purposes.*

*The main remaining data limitations relate to the impact of land clearing and to data on management practice change (the change in agricultural practices of landholders).<sup>29</sup>*

As was the case at the time of the original audit, the QAO found that the modelling still does not directly include data on land clearing:

*Currently, there is insufficient data to know how much of the cleared land has subsequently been planted with crops. Further study is needed to evaluate the impact land clearing has had and its long-term effects. At present, the government does not know the net effect the impact of cleared land is having in offsetting any gains they make in land management practice programs.<sup>30</sup>*

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<sup>26</sup> Auditor-General Report No. 16: 2017-18, p 26.

<sup>27</sup> Auditor-General Report No. 16: 2017-18, p 27.

<sup>28</sup> Auditor-General Report No. 16: 2017-18, p 27.

<sup>29</sup> Auditor-General Report No. 16: 2017-18, p 8.

<sup>30</sup> Auditor-General Report No. 16: 2017-18, p 8.

### 3.2.3.2 *Land management practice*

The QAO reported that, since its original audit, the Department of Agriculture and Fisheries has implemented several changes to improve confidence in the capture and analysis of management practice data, including:

- providing specific project spatial data for all modelled and reported practice changes<sup>31</sup>
- developing consistent water quality risk frameworks describing practices of greatest relevance to water quality
- developing a consistent way to describe management change detail to reduce the extent of differential reporting between regions and assessors,
- using satellite imagery to verify the outcomes of investment.<sup>32</sup>

However, the QAO reported that the Department of Agriculture and Fisheries is still unable to adequately report on the level of change in management practice, because it does not possess the necessary management practice data to measure that change:

*The farm management practice data is currently held by industry groups that host the best management practice portals. Despite being funded by government, no information on site-specific management practices or changes in practice is provided to the departments, with industry groups citing 'privacy concerns'.*

*This information includes the level of practice and any progress made by individual producers in moving towards improved industry standards. These data restrictions mean government has no indication of what, if any, progress has been made. It means government cannot measure the degree of practice change or assess the value achieved from its investment of public funds. The Office of the Great Barrier Reef is currently negotiating with industry groups to gain access to the data the departments need and should have access to.*<sup>33</sup>

The QAO observed that, at present, the rate of engagement and accreditation with best management practice programs is the only measure available to assess program performance, which is not considered an adequate measure for practice change:

*Since our 2015 report, accreditation rates for the Grazing and Smartcane best management practice programs have increased. The number of accredited graziers has increased from 10 to 87 and the number of canegrowers from four to 256. However, despite significant efforts, best management practice programs are still only used by two per cent of graziers and seven per cent of canegrowers. Accelerated uptake is needed to meet the 2018 target (of 90 per cent of sugarcane, horticulture, cropping and grazing lands in priority areas being managed using best management practice systems).*

*The proposal to broaden and enhance the existing reef protection regulations seeks to ensure that minimum practice standards are utilised across key industries and land uses in all reef catchments. This means adoption of minimum practice standards will no longer be voluntary.*<sup>34</sup>

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<sup>31</sup> This has increased the accuracy in terms of claims about change to management practices.

<sup>32</sup> Auditor-General Report No. 16: 2017-18, p 9.

<sup>33</sup> Auditor-General Report No. 16: 2017-18, p 9.

<sup>34</sup> Auditor-General Report No. 16: 2017-18, p 9.

### 3.2.4 Reef report card

The Auditor-General Report observed that the purpose of the Reef Report Card is to:

*...report modelled progress towards the previous Reef Water Quality Protection Plan and the current Reef 2050 Water Quality Improvement Plan targets and demonstrate the outcomes of investment. The Reef Report Card outlines the results from the Paddock to Reef Integrated Monitoring, Modelling and Reporting program.<sup>35</sup>*

The QAO noted that, since 2014, the Reef Report Cards include a confidence indicator graph that illustrates the model's level of uncertainty or potential variability for each of the major reporting themes measuring the land, catchments, and human dimensions affecting water quality: 'The Reef Report Cards from 2014 to 2016 show no change in confidence levels achieved from year to year'.<sup>36</sup>

According to the QAO:

*From 2018, the Reef Report Card will report on revised water quality and land management targets. While most of the targets are relevant and informative, the three land management targets relating to riparian vegetation management and stakeholder and program engagement are ill-defined. They do not define or measure the desired increase in either the extent of riparian vegetation or engagement.<sup>37</sup>*

The QAO found that this means that government cannot adequately report on the effectiveness of the programs and projects contributing to these targets.<sup>38</sup>

### 3.3 Audit conclusions and recommendations

The follow-up audit conclusions, as presented in the Auditor-General Report, are summarised below:

- there is now an overarching program to coordinate and monitor reef strategies and its programs aimed at improving the health of the Great Barrier Reef - the Office of the Great Barrier Reef provides a single point of accountability for the effective and efficient delivery of the Queensland Reef Water Quality Program, resulting in stronger governance, coordination and oversight
- there is a shared commitment among the departments and program partners to working cooperatively
- greater oversight, monitoring, tracking, and reporting of allocated investment at a whole-of-state-government level means there is now more clarity on how much is spent each year and on what (however, the Office of the Great Barrier Reef is not able to fully understand the effectiveness of this public investment, in part because it doesn't have access to key industry information related to some of the programs it funds)
- ongoing improvements to the water quality model are essential for properly evaluating and reporting on investment outcomes and optimising program delivery
- practice change information held by industry groups is also a critical input to the model - it is incumbent on government to obtain the information needed from the funded non-government organisations holding this information

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<sup>35</sup> Auditor-General Report No. 16: 2017-18, p 37.

<sup>36</sup> Auditor-General Report No. 16: 2017-18, p 9.

<sup>37</sup> Auditor-General Report No. 16: 2017-18, p 10.

<sup>38</sup> Auditor-General Report No. 16: 2017-18, p 10.



- despite significant efforts, the rate of voluntary adoption of best management practices by producers is not yet sufficient to achieve water quality targets - the proposed adoption of minimum practice standards will no longer rely solely on voluntary participation
- progress towards the Reef 2050 Long-Term Sustainability Plan targets has been slow and the present trajectory will not meet the targets
- the significant work done by Queensland Government in the last three years to build a more effective reef program, targeting effort and investment on activities more likely to improve water quality in the Great Barrier Reef catchments, is a positive step towards change - it links well with Commonwealth Government reef efforts and initiatives, however the program and supporting activities will take time to establish results.<sup>39</sup>

The QAO recommended that the Department of Environment and Science:

- *acquits actual expenditure against planned investment for Queensland's Reef Water Quality Program, in future annual investment reports, to increase transparency and accountability*
- *obtains reliable, timely, and adequate practice change information from relevant industry groups to understand the progress made, measure the degree of practice change, and account for outcomes for the public funds invested*
- *work with the Commonwealth Department of Environment and Energy, to refine over time the land management targets in the Reef 2050 Water Quality Improvement Plan 2017–2022 to define the increase in the percentage of riparian vegetation and the increase in stakeholder engagement targeted.*<sup>40</sup>

### **3.4 Matters examined at the public briefing**

The committee received a public briefing from representatives of the QAO on 3 September 2018.

At the public briefing on the follow-up audit, the Auditor-General advised the committee on the status of departmental progress in implementing the five recommendations from the original Auditor-General Report:

*We found that the departments had undertaken considerable work to implement our recommendations and improve their strategies and programs for improving water quality in the Great Barrier Reef catchments. There is a shared commitment amongst the departments.*<sup>41</sup>

Commenting on the establishment of the Office of the Great Barrier Reef, the Auditor-General observed that, although the Office is providing stronger governance, coordination, accountability and oversight of the program and has improved the allocation, expenditure and accountability of public funds,:

*...assessing the effectiveness of this public investment remains an issue. This is, in part, due to limitations in access to sufficient data on land management practice change, which includes access to data held by industry, and a lack of knowledge of the effects, if any, of land clearing in the catchments. Despite the significant efforts and some gains, the accreditation rate and voluntary adoption of best management practices by producers is not yet sufficient to achieve water quality targets.*<sup>42</sup>

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<sup>39</sup> Auditor-General Report No. 16: 2017-18, p 11.

<sup>40</sup> Auditor-General Report No. 16: 2017-18s, p 12.

<sup>41</sup> Public briefing transcript, Brisbane, 3 September 2018, p 1.

<sup>42</sup> Public briefing transcript, Brisbane, 3 September 2018, pp 1-2.

The Auditor-General noted a considerable increase in water quality monitoring sites in the catchments since the QAO's original audit, stating that the monitoring program now consists of 43 monitored sites across 20 key catchment areas to monitor sediments and nutrients and 20 sites for pesticides:

*This compares with 26 monitoring sites across 14 catchments previously, when we did the original audit. This increase in monitoring has allowed the departments to use the measured data to better validate modelled water quality data. We concluded that while some progress has been made with the water quality program, progress towards the joint Australian and Queensland Reef 2050 Long-Term Sustainability Plan targets has been slow. Scientific experts report that accelerated change is needed.*<sup>43</sup>

In relation to the Queensland Reef Water Quality Program, the Auditor-General advised that the departments have done significant work over the three years since the QAO tabled its original report:

*Their progress towards building a more effective reef program and better targeting its efforts and investment to improve water quality in the catchments are positive steps. The program and supporting activities will, however, take time to establish results and the water quality outcomes will take even longer to determine. Consequently, the reef remains vulnerable to a range of threats, including from water quality impacts from broadscale land use.*<sup>44</sup>

In relation to the QAO's three recommendations to the Department of Environment and Science, as set out in the Auditor-General Report, the Auditor-General stated:

*We have made three new recommendations aimed at further improving transparency on expenditure-able reef water quality programs, obtaining additional data from industry groups to help assess outcomes and improving land management targets.*<sup>45</sup>

At the public briefing, committee members asked questions covering various issues, including:

- the impact of land clearing on the Great Barrier Reef and related land management practice programs
- best management practice programs, including the work of producers in reducing reef run-off in relation to Great Barrier Reef catchments
- site visits undertaken by the QAO as part of its auditing work
- the number of, and expansion of, monitoring sites and catchments
- the status of negotiations between the Office of the Great Barrier Reef and industry groups to facilitate departmental access to farm management practice data
- the rate of voluntary adoption of best management practices by producers and the proposed adoption of minimum practice standards
- the implementation status of the partially implemented recommendation (number four) of the original audit.<sup>46</sup>

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<sup>43</sup> Public briefing transcript, Brisbane, 3 September 2018, p 2.

<sup>44</sup> Public briefing transcript, Brisbane, 3 September 2018, p 2.

<sup>45</sup> Public briefing transcript, Brisbane, 3 September 2018, p 2.

<sup>46</sup> Public briefing transcript, Brisbane, 3 September 2018, pp 2-5.

### 3.5 Issues raised with the Department of Environment and Science

Following the briefing the committee wrote to the Department of Environment and Science seeking further information on various matters. A number of these issues are detailed below.

In response to the committee's query on the current status of negotiations between the Office of the Great Barrier Reef and industry groups in relation to farm management practice data, the Department of Environment and Science stated that, since June 2018, the department has continued its support of the voluntary industry-led Best Management Practice (BMP) programs through the signing of three, four year (2018-2022), funding agreements with industry groups to deliver Smartcane BMP, Banana BMP and Horticulture BMP in Reef catchments:

*To date, industry has provided the available data on current management practices at a catchment scale to the Paddock to Reef Management Practice Adoption (P2R) program. This has allowed the Government to establish baselines for current management practices. To enable reporting on practice change outcomes at a property scale, the newly signed funding agreements include a requirement for the provision of de-identified geo-spatial practice change data from industry to P2R annually, commencing June 2019. Funding agreements to continue support for BMP programs in the grazing and grains industries (Grazing BMP and Grains BMP programs) are currently in development with industry groups and the provision of management practice data is an agreed requirement for further funding support.<sup>47</sup>*

Responding to the committee's query as to reasons for the low rate of voluntary adoption of best management practices by producers, the Department of Environment and Science commented that participation in voluntary industry-led BMP programs continues to gain momentum:

*Participation is high in Smartcane BMP with 71% of cane land (48% of cane growing businesses) participating and moderate in Grazing BMP with 21% of grazing land (30% of grazing businesses) participating. Accreditation in both the cane and grazing BMP programs is lower than anticipated, with 18% of cane land (8% of cane growing businesses) accredited in Smartcane BMP and 1.9% of grazing land (1.4% of businesses) accredited under Grazing BMP.*

*The key reason for slower than anticipated accreditation rates is the lack of a clear value proposition for farmers to become accredited in the BMP programs, including the absence of a strong market pull for accredited products. The absence of this market driver results in the perceived and actual time and costs incurred to reach accreditation as acting as a barrier. The department and industry partners remain committed to increasing the numbers of accredited producers and is attempting to do this through better understanding the motivations and barriers of best practice adoption and by working with behaviour change practitioners on the ground, through projects like Cane Changer. The government is also proposing changes to the reef regulations that will formally recognise those producers accredited under BMP or like programs as meeting minimum practice (and above) standards.<sup>48</sup>*

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<sup>47</sup> Department of Environment and Science, correspondence dated 5 November 2018, p 1.

<sup>48</sup> Department of Environment and Science, correspondence dated 5 November 2018, p 2.

**Recommendation 1**

The committee recommends that the Legislative Assembly note the contents of this report.

## **Appendix A – Officials at public briefing on 3 September 2018**

### **Queensland Audit Office**

- Brendan Worrall, Queensland Auditor-General
- Daniele Bird, Deputy Auditor-General
- Darren Brown, Director, Performance Audit