

REVIEW OF AUDITOR-GENERAL'S REPORT No. 3 OF 2015:  
*RESTORATION OF THE LOWER COTTER CATCHMENT*

STANDING COMMITTEE ON PUBLIC ACCOUNTS

JULY 2016

REPORT 31



## COMMITTEE MEMBERSHIP

### Current Members

Ms Nicole Lawder MLA	Chair from 18 July 2016 Member from 8 August 2013 to 18 July 2016
Ms Joy Burch MLA	Deputy Chair from 23 February 2016 Member from 21 January 2016 to 23 February 2016
Mr Jayson Hinder MLA	Member from 15 March 2016
Mr Alistair Coe MLA	Member from 18 July 2016 Member from 6 June to 8 August 2013

### Former Members

Mr Brendan Smyth MLA	Chair to 15 July 2016 Member to 6 June 2013
Ms Mary Porter AM MLA	Deputy Chair to 19 February 2016
Ms Meegan Fitzharris MLA	Member from 10 February 2015 to 21 January 2016
Ms Yvette Berry MLA	Member from 5 August 2014 to 10 February 2015
Dr Chris Bourke MLA	Member to 5 August 2014
Mr Zed Seselja MLA	Chair to 6 June 2013

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## RESOLUTION OF APPOINTMENT

The Legislative Assembly for the ACT appointed the Standing Committee on Public Accounts on 27 November 2012.

Specifically the resolution of 27 November 2012 establishing the Standing Committees of the 8<sup>th</sup> Assembly, as it relates to the Public Accounts Committee states:

(1) The following general purpose standing committees be established and each committee inquire into and report on matters referred to it by the Assembly or matters that are considered by the committee to be of concern to the community:

(a) a Standing Committee on Public Accounts to:

(i) examine:

(A) the accounts of the receipts and expenditure of the Australian Capital Territory and its authorities; and

(B) all reports of the Auditor-General which have been presented to the Assembly;

(ii) report to the Assembly any items or matters in those accounts, statements and reports, or any circumstances connected with them, to which the Committee is of the opinion that the attention of the Assembly should be directed;

(iii) inquire into any question in connection with the public accounts which is referred to it by the Assembly and to report to the Assembly on that question; and

(iv) examine matters relating to economic and business development, small business, tourism, market and regulatory reform, public sector management, taxation and revenue;<sup>1</sup>

## TERMS OF REFERENCE

The Committee's terms of reference were to examine the Audit report and report to the Legislative Assembly.

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<sup>1</sup> ACT Legislative Assembly, *Minutes of Proceedings*, No. 2, 27 November 2012, pp. 24–27.



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## RECOMMENDATIONS

### RECOMMENDATION 1

**7.14** The Committee recommends that the ACT Government implement a sustainable funding model for management of the Lower Cotter Catchment (LCC) through the Plan of Management for the LCC.

### RECOMMENDATION 2

**7.18** The Committee recommends that the ACT Government improve transparency with regard to budget inflows and outflows for the management of the Lower Cotter Catchment and how these flows are apportioned across the two primary stakeholders involved—Icon Water which has responsibility for maintaining source water protection and the Government agency(ies) with responsibility for land management.

### RECOMMENDATION 3

**7.23** The Committee recommends that the ACT Government report to the Assembly, by the last sitting day in March 2017, on the progress of the Government's implementation of the recommendations made in Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, that have been accepted either in-whole or in-part. This should include: (i) a summary of action to date, either completed or in progress (including milestones completed); and (ii) the proposed action (including timetable), for implementing recommendations (or parts thereof), where action has not yet commenced.

### RECOMMENDATION 4

**7.28** The Committee recommends that the responsible Minister inform the ACT Legislative Assembly by the last sitting day in March 2017 on progress with regard to the Commissioner for Sustainability and the Environment's evaluation of the restoration of the Lower Cotter Catchment.

### RECOMMENDATION 5

**7.33** The Committee recommends that the ACT Government inform the ACT Legislative Assembly by the last sitting date in 2016 as to progress on the pine wildling removal trials within the Blue Range area. This should include detail on: (i) key milestones; (ii) trial outcomes concerning identification of removal methods that best align with the preservation of water; and (iii) a proposed timeline for implementation of pine wildling removal within the Lower Cotter Catchment.

**RECOMMENDATION 6**

**7.39** The Committee recommends that the ACT Government prioritise the finalisation of the Lower Cotter Catchment Recreation Strategy. The Strategy, amongst other things, should include: (i) identification of controls on public access to the Catchment; and (ii) strategies to raise community awareness of the importance of access restrictions in protecting the water supply.

**RECOMMENDATION 7**

**7.50** The Committee recommends that the ACT Government consider extending the program of native planting and habitat restoration for the Lower Cotter Catchment in partnership with the local community and community-based organisations and groups.

# 1 INTRODUCTION AND CONDUCT OF INQUIRY

- 1.1 Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment* (the Audit report) was presented to the ACT Legislative Assembly on 20 May 2015.
- 1.2 In accordance with the resolution of appointment of the Standing Committee on Public Accounts (the Committee), the Audit report was referred to the Committee for examination.
- 1.3 The Audit report presents the results of a performance audit that examined 'the management of the Lower Cotter Catchment'. This involved consideration of the implementation of the *Lower Cotter Catchment Strategic Management Plan 2007* which was released in January 2007.<sup>2</sup>

## TERMS OF REFERENCE

- 1.4 The Committee's terms of reference were to examine the Audit report and report to the Legislative Assembly.

## CONDUCT OF INQUIRY

- 1.5 The Government tabled its response to the Audit report on 11 August 2015.
- 1.6 On 15 October 2015 the Committee received a briefing from the Auditor-General in relation to the Audit report.
- 1.7 As noted earlier, under its resolution of appointment, the Committee examines all reports of the Auditor-General which have been presented to the Legislative Assembly. Specifically, its resolution of appointment requires the Committee to 'inquire into and report' on all reports of the Auditor-General which have been presented to the Assembly.
- 1.8 The Committee has established procedures for its examination of these reports pursuant to the Assembly resolution.<sup>3</sup> In accordance with these procedures, the Committee resolved on 10 November 2015 to inquire further into the Audit report.

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<sup>2</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 27.

<sup>3</sup> [http://www.parliament.act.gov.au/in-committees/standing\\_committees/Public-Accounts/pac/referral](http://www.parliament.act.gov.au/in-committees/standing_committees/Public-Accounts/pac/referral)

## SUBMISSIONS

- 1.9 The Committee invited written submissions by advertising in the *Canberra Times*, placing a notice on the ACT Legislative Assembly website and by writing to the responsible Minister(s) and other stakeholders. The individuals and organisations who lodged written submission are listed at **Appendix B**. Copies of submissions can be accessed and downloaded from the Committee's website.<sup>4</sup>

## PUBLIC HEARINGS

- 1.10 Public hearings were held on 15 March and 31 March 2016. Witnesses who appeared before the Committee are listed at **Appendix C**. Transcripts of these hearings can be accessed and downloaded from the Committee's inquiry homepage.<sup>5</sup>
- 1.11 On 24 May 2016, a technical briefing on the Lower Cotter Catchment (LCC) was provided to the Committee by directorate officials from the ACT Parks and Conservation Service (the Service). The Committee appreciated the opportunity to meet and hear from a range of officers from the Service with considerable expertise across the many facets of the LCC.
- 1.12 The Committee met on 26 July 2016 to discuss the Chair's draft report which was adopted on 26 July 2016.

## STRUCTURE OF THE REPORT

- 1.13 The Committee's report is divided into four parts, comprising eight chapters:

### Part 1—Context to the Inquiry

- Chapter 1—Introduction and conduct of inquiry
- Chapter 2—Audit background and findings
- Chapter 3—The Lower Cotter Catchment

### Part 2—Views from the Auditor-General and ACT Government

- Chapter 4—The Auditor-General
- Chapter 5—Responsible Ministers

### Part 3—Views from the ACT community

- Chapter 6—Views of submitters and witnesses

### Part 4—Views of the Committee

- Chapter 7—Committee comment
  - Chapter 8—Conclusion
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<sup>4</sup> [http://www.parliament.act.gov.au/in-committees/standing\\_committees/Public-Accounts/review-of-auditor-general-report-no.-3-of-2015-restoration-of-the-lower-cotter-catchment?inquiry=796126](http://www.parliament.act.gov.au/in-committees/standing_committees/Public-Accounts/review-of-auditor-general-report-no.-3-of-2015-restoration-of-the-lower-cotter-catchment?inquiry=796126)

<sup>5</sup> [http://www.parliament.act.gov.au/in-committees/standing\\_committees/Public-Accounts/review-of-auditor-general-report-no.-3-of-2015-restoration-of-the-lower-cotter-catchment?inquiry=796126](http://www.parliament.act.gov.au/in-committees/standing_committees/Public-Accounts/review-of-auditor-general-report-no.-3-of-2015-restoration-of-the-lower-cotter-catchment?inquiry=796126)

## ACKNOWLEDGEMENTS

- 1.14 The Committee thanks all those who contributed to its inquiry by making a submission, providing additional information or appearing before it to give evidence.



## 2 AUDIT BACKGROUND AND FINDINGS

2.1 This chapter presents an overview of the background to, and key findings of, the Audit.

### AUDIT BACKGROUND AND OBJECTIVES

2.2 The objective of the Audit was to provide:

...an independent opinion to the Legislative Assembly on the effectiveness of the management of the Lower Cotter Catchment by ACT Government agencies and Icon Water.<sup>6</sup>

2.3 The Audit focused on ACT Government agencies and Icon Water's:

- implementation of the Lower Cotter Catchment Strategic Management Plan 2007; and
- other recent activities in the management of the LCC.<sup>7</sup>

2.4 Four agencies were included in the Audit, namely:

- Icon Water;
- Environment and Planning Directorate (EPD), including the Conservator of Flora and Fauna (the Conservator);
- Territory and Municipal Services Directorate (TAMS), in particular the ACT Parks and Conservation Service (PCS); and
- the Environment Protection Authority (EPA).<sup>8</sup>

2.5 The period covered by the Audit was from 2008 to May 2015.<sup>9</sup>

### AUDIT CONCLUSIONS

2.6 The Audit report contained the following audit conclusions drawn against the audit objectives.

2.7 The Audit concluded that an effective 'overarching legislative framework to protect the ACT's potable water catchments' is provided by the *Planning and Development Act 2007*. The Act

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<sup>6</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 35.

<sup>7</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 35.

<sup>8</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 35–36.

<sup>9</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 37.

- makes the protection of ‘existing and future domestic water supply’ the highest objective of the Lower Cotter Catchment.’<sup>10</sup>
- 2.8 According to the Audit report, a major restoration project is being implemented to address adversely affected water quality in the LCC.<sup>11</sup> Restoration of the LCC is ‘entering the consolidation and maintenance phases.’<sup>12</sup>
- 2.9 The Audit concluded that since the 2003 fires, the water quality has steadily improved and turbidity and sedimentation have reduced. However, ‘turbidity problems still occur following heavy rainfall events because of the unstable soils and erosion sites in particular parts of the catchment.’<sup>13</sup>
- 2.10 The Audit also concluded that management actions from 2006 to 2009 and the regeneration of vegetation in the LCC had ‘reduced the rate of sediment movement into the Enlarged Cotter Dam.’ However, high level coordination of activities in the LCC has reduced. A Deed of Agreement which previously enabled major works in the LCC to be completed ceased in October 2009. The Audit concluded that ‘there is no effective high-level coordination for the implementation of the LCC Strategic Management Plan.’ It concluded that ‘a review of the catchment management and coordination arrangements for the LCC by the ACT Government would assist in identifying a new management, coordination and decision-making structure for the LCC.’<sup>14</sup>
- 2.11 According to the Audit report, cooperation across agencies and community volunteers in the restoration of the Catchment have resulted in the achievement or part achievement of almost all twenty-nine management actions outlined in the LCC Strategic Management Plan.<sup>15</sup> However further work remains.
- 2.12 The Audit concluded that ‘the LCC is exposed to significant risks which are interrelated and which, under adverse conditions, could accumulate and lead to a catastrophic failure of the water catchment.’ Risks include—the movement of large amounts of sediment into the reservoir; wildfire; and the impact of inadequate regulation of public access to the LCC.<sup>16</sup>
- 2.13 The Audit concluded: ‘If a fire were to occur and if it was followed by a heavy rainfall event(s), then there is a significant risk that the sediment control structures would be overwhelmed

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<sup>10</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.

<sup>11</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.

<sup>12</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.

<sup>13</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.

<sup>14</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.

<sup>15</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.

<sup>16</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 4.



culminating in high levels of turbidity in the catchment leading to a loss of water quality and consequently increased cost of water treatment.<sup>17</sup>

- 2.14 The Audit also concluded that the development of a risk identification process and an overarching risk management plan shared across the four agencies included in the Audit is needed 'to effectively and efficiently determine financial resources needed for risk management strategies.'<sup>18</sup>
- 2.15 The Audit concluded that priority should be given to important and ongoing work in the LCC, including—:
- the inspection and maintenance of erosion control structures;
  - a review of the LCC road and fire trail network;
  - review of three areas of unmanaged pine plantation that present a fire risk;
  - controlling the major weeds;
  - completing a statutory plan of management for the LCC;
  - finalising controls on public access to the Catchment; and
  - raising community awareness of the importance of access restrictions in protecting the water supply.<sup>19</sup>

## AUDIT FINDINGS

- 2.16 The Audit provided key findings to support its conclusions. The main elements of these findings—across three audit themes—are reproduced below.

### CATCHMENT GOVERNANCE AND COORDINATION OF RESTORATION

- 2.17 Key findings across the audit theme—catchment governance and coordination of restoration—were:
- The Audit found that the '*Planning and Development Act 2007* provides an effective overarching legislative schema which provides a framework to protect the ACT's potable water catchments, making the protection of 'existing and future domestic water supply' the Act's highest objective for the LCC...' The *Nature Conservation Act 2014* aligns with the *Planning and Development Act 2007*.<sup>20</sup>

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<sup>17</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 4.

<sup>18</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 4.

<sup>19</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 4.

<sup>20</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 5.

- The Audit also found that the (interim) ACT and Region Catchment Management Coordination Group which commenced in February 2015 represents a significant effort to improve coordination and outcomes across the ACT's and NSW's catchment. However, the Group may not give adequate priority and attention to the LCC.<sup>21</sup>
- The Audit found that 'an over-arching risk management plan' for the protection of the LCC is required. It was found that although the *Water Resources Act 2007* gives the EPA a central role in the management of water resources in the ACT, the statutory water policy coordination role of the EPA had not been implemented. Consequently, there is a need to comply with this legislation or amend it to reflect practice.<sup>22</sup>
- The Audit report found that high-level coordination of activities in the LCC had reduced after October 2009 when a Deed of Agreement ceased. There 'has been no integrated catchment management structure in place for the LCC from October 2009 to the present time.'<sup>23</sup> The Audit identified 'a risk that the management of the Cotter Catchment and the LCC will not receive the coordinated inter-agency attention that is appropriate...'<sup>24</sup>
- The Audit found that although the *Planning and Development Act 2007* required TAMS to produce a Plan of Management 'as soon as practical', this had not been finalised. According to the Audit, 'the development of a LCC Plan of Management and its completion should become a high priority...' and consultation be undertaken to expedite implementation of the plan.<sup>25</sup>
- The Audit also found that the ACT Code of Forest Practice 2005 had not been updated as required by the Strategic Management Plan in 2007. This should be reviewed as a priority.<sup>26</sup>
- The Audit report found that there 'is no Plan of Management to guide the achievement' of the main objective for the LCC which is to protect the water supply.<sup>27</sup>
- The Audit also found that the Code of Practice for maintenance works requires both Icon Water and PCS to prepare an annual operations plan and submit it to the other party prior to each new financial year. Icon Water advised that this annual exchange does not occur. Also, while this Code of Practice provides for the exchange of 'works plans' by the parties, it was found that this 'does not consistently occur for works in the LCC.'<sup>28</sup>
- The Audit found that the 'processes set out in the Code of Practice for maintenance works were not being followed in the management of the LCC.' According to the Audit report— 'There would be benefit in TAMS and Icon Water reviewing the information in the Code of

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<sup>21</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 5.

<sup>22</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 6.

<sup>23</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 7.

<sup>24</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 7.

<sup>25</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 8.

<sup>26</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 8.

<sup>27</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 8.

<sup>28</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 9.

Practice for maintenance works and in ensuring that the coordination and approval processes it contains are put into practice.<sup>29</sup>

- The Audit also found that TAMs should review PCS's draft Code of Sustainable Land Management and if necessary should support its development and completion.<sup>30</sup>

## EVALUATION OF THE IMPLEMENTATION OF THE STRATEGIC MANAGEMENT PLAN

### 2.18 Key findings across the audit theme—evaluation of the implementation of the Strategic Management Plan—were:

- The Audit found that water quality in the LCC had steadily improved and turbidity had declined. This indicates that natural regeneration of vegetation and the resources used to reduce and control sediment have been effective. However, turbidity problems continue to occur after heavy rainfall events.<sup>31</sup>
- The Audit found a number of strategic risks for the LCC, namely—:
  - fire and wildfire in the Catchment;
  - risk of erosion following heavy rain;
  - erosion from roads and unstable soils;
  - the need to manage public access to the Catchment;
  - weed proliferation; and
  - turbidity following fire or erosion.<sup>32</sup>
- The Audit found it was important that Icon Water, TAMS, ESA and EPD jointly assess and determine the risks for the LCC, as directed by the Strategic Management Plan.<sup>33</sup>
- Expert advice provided by a water consultant was that restoration work was 'urgently required' given the amount of sediment movement into the reservoir. There was evidence of active gully and surface erosion in the Catchment due to heavy rainfall.<sup>34</sup>
- According to the Audit— 'Adequate attention has not consistently been given to the inspection and repair of the sediment control structures in the LCC.' Evidence of inappropriate recreational access was also found.<sup>35</sup> TAMS' ability to regulate public access to the LCC has been delayed by a lack of powers of Conservation Officers in the LCC (which

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<sup>29</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 10.

<sup>30</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 10.

<sup>31</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 10.

<sup>32</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 11.

<sup>33</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 12.

<sup>34</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 12.

<sup>35</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 13.

has now been rectified by the new *Nature Conservation Act 2014*)<sup>36</sup> and the delays that have occurred in completing the LCC Plan of Management.<sup>37</sup>

- The Audit found that problems include the management of pine wildlings and the unmanaged regrowth pine forest within and surrounding the LCC.<sup>38</sup>
- The Audit found that there had been significant progress ‘in restoring the LCC over the last ten years’ and the restoration work had entered the consolidation and maintenance phases. There have been improvements in water quality and landscape function. The rate of sediment movement into the Enlarged Cotter Dam has reduced.<sup>39</sup>
- However, the Audit also found that: ‘the LCC is exposed to significant risks which are inter-related and which, under adverse conditions, could accumulate and lead to a catastrophic failure of the water catchment.’<sup>40</sup> According to the Audit:

The ultimate risk is of the movement of large volumes of unmanaged sediment from unstable soils into the reservoir. Wildfire is a significant risk which will increase with climate change and requires persistent and effective management efforts. The controls which regulate public access to the LCC are inadequate; increasing the risks of fire, landscape damage and erosion. If a fire were to occur and if it was followed by heavy rainfall event(s), then there is a significant risk that the under-maintained, and the damaged, sediment control structures would be overwhelmed and ineffective, culminating in high levels of turbidity in the catchment leading to loss of water quality and consequently increased cost of water treatment.<sup>41</sup>

- The Audit found there was a need to develop a shared risk plan by the four agencies involved so that ‘risks can be used to effectively and efficiently determine financial resources needed for risk mitigation strategies...’<sup>42</sup>
- The Audit found that the Strategic Management Plan set out 29 management actions and, including sub-parts—specifying 49 separate actions to be achieved. Only four of these actions had not been achieved and the Audit considered this to be a significant achievement. Nonetheless, the Audit found that ‘there is still significant work required over time frames of twenty-to-fifty years ...’<sup>43</sup>

## CURRENT ISSUES FOR THE LOWER COTTER CATCHMENT

### 2.19 Key findings across the audit theme—current issues for the LCC—were:

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<sup>36</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 13.

<sup>37</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 14.

<sup>38</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 14.

<sup>39</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 14.

<sup>40</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 14–15.

<sup>41</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 14–15.

<sup>42</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 15.

<sup>43</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 15.

- The Audit found that although the Government was aware of the lack of coordinated approach to water catchment management, and had taken steps to improve this, 'there is a risk that these developing arrangements will give insufficient priority and inadequate attention to the LCC as they focus primarily on other important, non-potable water catchment matters'.<sup>44</sup>
- The Audit found that, for a number of reasons, the 'new ACT and Region Catchment Management Coordination Group may not be able to attend sufficiently to the LCC's high-level coordination and mid-level operational needs...' According to the Audit report, there would be benefit in the ACT Government developing a specific coordination and decision making body and processes for the LCC...<sup>45</sup>
- The Audit found that: 'The coordination of the LCC at the higher, decision-making levels has reduced since the Deed of Agreement ceased in October 2009 ...'<sup>46</sup> It also found a need for the catchment management and coordination arrangements for the LCC to be reviewed and that high priority be given to a new management—coordination and decision-making structure—specifically for the LCC.<sup>47</sup>
- The Audit identified a need for the development of an overarching integrated risk-assessment process and plan for the LCC and considered this should be given high priority. The cross-agency identification of strategic risks would determine the financial resources allocated to risk mitigation strategies.<sup>48</sup> The Audit also found that priority should also be given to completing and implementing the Plan of Management, as required by the *Planning and Development Act 2007*, which gives effect to the management objectives for the LCC.<sup>49</sup>
- The Audit found that expert advice provided by the water consultant it had engaged recommended fire fuel reduction by controlled burns be undertaken in the LCC as soon as feasible, as well as physical pine removal.<sup>50</sup> Fuel reduction burns in some areas of the LCC would require care to minimise effects on water quality post burns.<sup>51</sup>
- The Audit found that not all planned controlled burns in the LCC had been undertaken since 2009, mainly due to above average rainfall in successive autumn burn seasons.<sup>52</sup> However, it found that the 2015 late summer/autumn burn season provided favourable conditions for the conduct of controlled burns.<sup>53</sup>

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<sup>44</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 15–16.

<sup>45</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 16.

<sup>46</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 16.

<sup>47</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 17.

<sup>48</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 17.

<sup>49</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 17.

<sup>50</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 17–18.

<sup>51</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 18.

<sup>52</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 18–19.

<sup>53</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 19.

- According to the Audit report, both TAMS and the water consultant engaged by the Audit highlighted the problem of the management of pine wildlings and of the un-managed regrowth pine forests within and near the LCC. In particular, an area called the Blue Range was identified as presenting a very high fuel load. The water consultant recommended the construction of adequate retention ponds as any fire debris would flow directly into the reservoir. The accumulation of fuel in the Blue Range was recognised as a problem by the ACT Bushfire Council. A draft *Blue Range Rehabilitation Plan* had been developed by TAMS and a fuel reduction burn in one part of the Blue Range had been undertaken.<sup>54</sup> The Emergency Service Commissioner intends to review (with TAMS and EPD) the fire trail network in the LCC to allow safe access for fire fighting, public access management and fuel reduction burning.<sup>55</sup>
- The Audit found that expert advice from the water consultant pointed to damaged and ineffective sediment control works and gully erosion in some parts of the LCC and indicated that urgent restoration work was required. Regular inspection and maintenance of erosion control structures was recommended.<sup>56</sup>
- According to the Audit report, ‘high priority action is required’ to protect the Catchment. Specifically:
  - ...it is now time for a reassessment of the condition of the landscape; focusing on the eroded areas and formed gullies, on the damaged erosion control structures, the capacity of the sediment ponds, and the state of the logs which are decaying.<sup>57</sup>
- The Audit report found that there was merit in evaluating the Strategic Management Plan and publishing the results within two years of the Audit report. The evaluation could be undertaken by the Commissioner for Sustainability and the Environment.<sup>58</sup>

## AUDIT RECOMMENDATIONS

- 2.20 The Audit made 12 recommendations which are reproduced in full at **Appendix A**. Three<sup>59</sup> recommendations were considered to be ‘High Priority’. Recommendations were made in relation to two of the three audit themes.
- 2.21 In 2013–14, the Government adopted a new approach for responding to performance audit reports. Changes under the new approach included: (i) confining management responses in audit reports to advising of factual errors only; and (ii) the discontinuation of the provision of a

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<sup>54</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 19–20.

<sup>55</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 21.

<sup>56</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 21.

<sup>57</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 21.

<sup>58</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 22.

<sup>59</sup> Recommendation(s) No. 5; No. 7; and No. 11.

Government submission<sup>60</sup> to the Committee in response to each audit report (three months after presentation).

2.22 The new approach for responding to performance audit reports is largely reflected in the Audit report. The Audit report points out that a draft report was provided to various agencies for consideration and required changes were reflected in the final proposed report which was provided to agencies for further comment.

2.23 A summary of agencies' responses is provided below:

- CMTEDD did not provide comments for inclusion in the report;
- Icon Water expressed appreciation for the report, welcomed some recommendations, and emphasised its commitment to work with Government to build on successes and address challenges;
- TAMS and ESA noted that corrections to matters of fact had been addressed in the report; and
- EPD and EPA expressed satisfaction with modifications made in response to comments on the draft report.<sup>61</sup>

## GOVERNMENT RESPONSE

2.24 The Government tabled its response to the Audit report<sup>62</sup> on 11 August 2015.<sup>63</sup> In its response, the Government agreed with all twelve recommendations.

2.25 As part of the Committee's call for written submissions, the responsible Minister<sup>64</sup>, at the time, provided a status update on implementation of the Audit recommendations.

2.26 A summary of the twelve recommendations across the three audit themes, together with the Government position in response to each recommendation—as at 11 August 2015 and 11 February 2016 respectively—is at Table 2.1 (below).

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<sup>60</sup> The discontinuation of the provision of a government submission to the Committee was replaced with the tabling of a government response to each respective audit report (four months after presentation).

<sup>61</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, pp. 25–26.

<sup>62</sup> Presented 20 May 2015.

<sup>63</sup> Available at: [http://www.parliament.act.gov.au/\\_data/assets/pdf\\_file/0005/761270/Government-Response-to-AG-report-No-3-of-2015-Restoration-of-the-Lower-Cotter-Catchment.pdf](http://www.parliament.act.gov.au/_data/assets/pdf_file/0005/761270/Government-Response-to-AG-report-No-3-of-2015-Restoration-of-the-Lower-Cotter-Catchment.pdf)

<sup>64</sup> Ms Meegan Fitzharris MLA—Minister for Transport and Municipal Services, 11 February 2016—available at: [http://www.parliament.act.gov.au/\\_data/assets/pdf\\_file/0008/826217/No.-3-ACT-Government.pdf](http://www.parliament.act.gov.au/_data/assets/pdf_file/0008/826217/No.-3-ACT-Government.pdf)

Table 2.1—Summary of Audit recommendations—Government position and status on implementation

Audit theme	Recommendation number and broad coverage	Government position <sup>65</sup>	Status <sup>66</sup> (as at 11 February 2016)
1. Catchment governance and coordination of restoration	R1—Development of a Code of Potable Water Catchment Management by December 2016.	Agreed	Proposed to commence in late March 2016.
	R2—The Conservator of Flora and Fauna to review the Management Agreement with Icon Water as it related to the Lower Cotter Catchment.	Agreed	Commenced
	R3—Implement the TAMS and Icon Water Code of Practice with particular attention to processes for annual operations plans and work plans.	Agreed	Commenced
	R4—Review and finalise the Parks and Conservation Service Code of Sustainable Land Management.	Agreed	Not commenced. Work on consolidated Codes of Practice to commence late March 2016.
2. Evaluation of the implementation of the Strategic Management Plan	Nil recommendations	N/A	
3. Current issues for the Lower Cotter Catchment	R5—Review the management and coordination arrangements for the Lower Cotter Catchment in consultation with key agencies— <b>High priority recommendation.</b>	Agreed	Completed and ongoing
	R6—Implement or review the EPA's role in water policy coordination as articulated in section 64 of the <i>Water Resources Act 2007</i> .	Agreed	Commenced
	R7—Develop a cross-agency risk management process and plan for the Lower Cotter Catchment— <b>High priority recommendation.</b>	Agreed	Commenced—Draft Plan to be presented to DG Water Group in March 2016.
	R8—TAMS to finalise the Plan of Management for the Lower Cotter Catchment by July 2017.	Agreed	Commenced. First draft to be completed April 2016.
	R9—TAMS to develop and implement an action plan in relation to regrowth pine forest in and adjacent to the Lower Cotter Catchment.	Agreed	Commenced. Pine wildling removal trials to commence April 2016.
	R10—Review of Lower Cotter Catchment road and fire trail network to be completed by July 2016.	Agreed	Commenced—works will be ongoing throughout 2016.
	R11—Assess and remediate (where required) sediment control structures in the Lower Cotter Catchment— <b>High priority recommendation.</b>	Agreed	Commenced— ongoing throughout 2016.
	R12—The Commissioner for Sustainability and the Environment to evaluate the restoration of the Lower Cotter Catchment against the Strategic Management Plan and report by December 2017.	Agreed	Not commenced. Refer Commissioner for Sustainability and Environment.

<sup>65</sup> As per Government response to the Audit report, tabled 11 August 2015.

<sup>66</sup> As at 11 February 2016—refer submission No. 3—ACT Government.



### 3 THE LOWER COTTER CATCHMENT

- 3.1 The LCC has a unique history and specific characteristics that require careful and appropriate management to ensure the protection of the Catchment as a source of domestic water supply in the Territory. A map of the Lower Cotter Catchment is at **Appendix D**.
- 3.2 Key aspects concerning the role and importance of the LCC, as a source of domestic water supply for the Canberra community, include<sup>67</sup>:
- The LCC is managed primarily to protect Canberra's water supply.
  - The Cotter River begins high in the Brindabella mountains and flows 70 kilometres until it reaches its confluence with the Murrumbidgee River.
  - When Canberra was proclaimed the national capital in 1913, the whole of the Cotter River was set aside to supply water for the new city.
  - Three dams have been constructed along the Cotter River—Corin Dam in the Upper Cotter Catchment; Bendora Dam in the Middle Cotter Catchment, and the Cotter Dam in the LCC.
  - The original Cotter Dam provided the main water supply for Canberra up until the 1960s when both the Corin and Bendora Dams were built. Until 2004 the Cotter Dam had not been used for domestic water supply for over 30 years.
  - The 2003 bushfires destroyed all of the pine plantations in the LCC and since then rain events have contributed to erosion and elevated levels of turbidity in streams.
  - The quality of water from the LCC is poor compared with the upper catchment. Roads and gullies in the Catchment contribute sediment to streams. It costs more to deliver water from the Catchment to the community because it requires more treatment.
  - Rehabilitation work undertaken in the LCC since the 2003 bushfire include the removal of standing burnt pines, the decommissioning of about 100kms of roads, and the construction of sediment control structures. In addition, over 1300 hectares have been planted with pines and native species.
  - In recent times, vegetation recovery in the LCC has been better than expected and extensive natural regeneration of native species has occurred.
  - Water is the most valuable resource in the Catchment and the delivery of a clean and cost-effective water supply requires stable and functional landscapes. Land use and land management practices are used which are consistent with achieving water quality goals.
  - Management of the Catchment includes an emphasis on planting native vegetation, erosion control measures and integrated weed management.

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<sup>67</sup> ACT Government. (2007) *Lower Cotter Catchment Strategic Management Plan (final)*, January; [http://www.tccs.act.gov.au/parks-conservation/water\\_catchments/rural\\_water\\_catchments/lower\\_cotter\\_catchment](http://www.tccs.act.gov.au/parks-conservation/water_catchments/rural_water_catchments/lower_cotter_catchment)

3.3 A timeline of key events in the life of the LCC is a useful illustration of its unique history and specific characteristics, in particular how they underpin the role of the Catchment as a source of domestic water supply for the Territory.

Table 3.1—Timeline of key events in the life of the Lower Cotter Catchment<sup>68</sup>

Time	Event
Over 20,000 years ago—present	Aboriginal people were the first to recognise the values of this area, utilising its resources and managing it sustainably for tens of thousands of years. Their connection with the land continues today.
Early 1800s	Successive waves of rabbit plagues were a feature of the early part of this century. These had a marked effect on vegetation and resulted in massive soil erosion.
1915—1918	Construction of the original Cotter Reservoir.
1820—1925	European settlers arrived with graziers bringing in sheep and cattle. Native timber was cleared for grazing and for construction material for local homesteads.
1925—1960	Pine plantations were established and came to cover two-thirds of the Lower Cotter Catchment. They were designed to stabilise soils and provide a commercial resource.
1951	The height of the Cotter Dam was raised to 26.8 metres. This dam was the only source of domestic water supply for Canberra at the time.
1938—1961	Hardwood logging of native timber supplemented the pine industry. Evidence of old forestry camps, such as Condor Hut, Laurel Camp and Blue Range Hut, remain today.
1958—1961	Construction of Bendora Dam provided an alternate water source for Canberra.
1966—1968	Construction of Corin Dam, the highest Dam in the Cotter Catchment, further secured Canberra's water supply.
2003	The devastating wildfire of 2003 destroyed most of the plantations and left large parts of the Lower Cotter Catchment devoid of vegetation.
2003—2013	ACT Parks and Conservation Service, ICON Water, Greening Australia and the community formed partnerships to revegetate the fire devastated landscape.
2007	The <i>Planning and Development Act 2007</i> —provides the overarching legislative framework to protect the ACT's potable water catchments. The Act makes the protection of existing and future domestic water supply the highest objective of the Lower Cotter Catchment.
November 2009—October 2013	Construction of the enlarged Cotter Dam expanded the storage capacity of the Cotter Reservoir from 4 Gegalitres (GL) to approximately 78 GL. Construction of the enlarged dam makes the need for effective catchment in the Lower Cotter Catchment more apparent.
2014	The <i>Nature Conservation Act 2014</i> declared the Lower Cotter Catchment as a reserve giving the ACT Government the power to better protect it.
2015	Small plantations of pine continue to be managed. However, once harvested, these areas will be returned to native vegetation.
2016—onwards	ACT Parks and Conservation Service is working to restore the native ecology of the Lower Cotter Catchment Reserve with the goal of securing the future water supply of Canberra.

<sup>68</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015; [http://www.tccs.act.gov.au/data/assets/pdf\\_file/0011/856082/Timeline-artwork.pdf](http://www.tccs.act.gov.au/data/assets/pdf_file/0011/856082/Timeline-artwork.pdf); Submission No. 1—Professor Ian Falconer.

## 4 THE AUDITOR-GENERAL

### INTRODUCTION

- 4.1 The Committee heard from Dr Maxine Cooper, the ACT Auditor-General, and an accompanying official on 31 March 2016 to discuss the Audit report on the restoration of the LCC.

### MATTERS CONSIDERED

- 4.2 During the hearing a presentation was delivered which provided an overview of the Audit. Some of the key matters highlighted included:
- The LCC is an area of approximately 5,800 hectares with quite unstable soil and is quite steep in parts.<sup>69</sup>
  - The highest goal of the Catchment is protection of water quality, though this was not clear to all stakeholders as the Audit was conducted.<sup>70</sup>
  - Measures of success include the turbidity of water; landscape recovery and diversity; and native revegetation.<sup>71</sup>
  - The four auditees were TAMS (land manager); Icon Water (potable water supply); Environment Protection Agency (environment protection and water policy); and Environment and Planning Directorate (land planning and water policy and assistance for the Conservator of Flora and Fauna). As the Audit developed, the auditors realised that the Emergency Services Agency and the Rural Fire Service were important too.<sup>72</sup>
  - The LCC restoration works since the fires 'represent a really significant achievement for a cooperative approach across several agencies and the community volunteers. However, it needs to continue.'<sup>73</sup>
  - The Audit concluded that the LCC 'was exposed to significant risks; that is despite the improvement in water quality, the significant risks are interrelated and could, under adverse conditions, accumulate and could lead to a catastrophic failure of the water catchment.'<sup>74</sup>

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<sup>69</sup> *Transcript of evidence*, 31 March 2016, p. 56.

<sup>70</sup> *Transcript of evidence*, 31 March 2016, p. 56.

<sup>71</sup> *Transcript of evidence*, 31 March 2016, pp. 57; 58.

<sup>72</sup> *Transcript of evidence*, 31 March 2016, p. 58.

<sup>73</sup> Dr Maxine Cooper, *Transcript of evidence*, 31 March 2016, p. 59.

<sup>74</sup> Mr Brett Goynes, *Transcript of evidence*, 31 March 2016, p. 59.

- 'Wildfire is the most significant risk, which will increase with climate change, and requires persistent and effective management efforts.'<sup>75</sup>
- '... on sediment in the lower Cotter catchment, the biggest contributor to sediment is roads.'<sup>76</sup>

4.3 Following the presentation, the Committee sought more information about some of the matters that were discussed.

4.4 With regard to the Blue Range and the wildlings, the Committee asked how important it was that this be controlled and how quickly it should be done. The Auditor-General advised:

Given that it is on the north-western side of the city where the major winds come from, we think it is absolutely critical. We respect that it is a difficult problem but it is a problem that should be continually worked on. It is not just about the lower Cotter; it also has a knock-on impact into the urban area.<sup>77</sup>

4.5 The Committee asked the Auditor-General whether it would be acceptable to have a transition phase with some pine, as long as there is good cover. The Committee heard:

Audit would say water quality is the key objective. In order to protect that water quality, you may have to put up with weeds for some time while you get native regeneration. That is far better than having the sediment move.<sup>78</sup>

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<sup>75</sup> Mr Brett Goyne, *Transcript of evidence*, 31 March 2016, p. 60.

<sup>76</sup> Mr Brett Goyne, *Transcript of evidence*, 31 March 2016, p. 61.

<sup>77</sup> Dr Maxine Cooper, *Transcript of evidence*, 31 March 2016, p. 63.

<sup>78</sup> Dr Maxine Cooper, *Transcript of evidence*, 31 March 2016, p. 63.

## 5 RESPONSIBLE MINISTERS

### POLICE AND EMERGENCY SERVICES AND ENVIRONMENT AND CLIMATE CHANGE PORTFOLIOS

#### INTRODUCTION

- 5.1 The Committee heard from the Minister for the Environment and Climate Change and for Police and Emergency Services—Mr Simon Corbell MLA—and accompanying agency and directorate officials on 15 March 2016 to examine matters relating to restoration of the LCC.

#### MATTERS CONSIDERED

##### ENVIRONMENT AND CLIMATE CHANGE PORTFOLIO

- 5.2 In his opening statement, the Minister discussed aspects of the Audit report that were within his areas of responsibility. He explained that as Minister for the Environment and Climate Change he was addressing two of the Auditor-General's 12 recommendations. These were recommendation 2 relating to reviewing the management agreement between the Conservator of Flora and Fauna and Icon Water and recommendation 6 regarding the review of the *Water Resources Act 2007* to reflect the Environment Protection Authority's current role.<sup>79</sup>
- 5.3 In relation to recommendation 2—the Minister advised that the Conservator of Flora and Fauna was reviewing all existing management agreements with Icon Water and ActewAGL and that officer level negotiations with Icon Water about this had commenced. The Minister also explained that the Conservator was negotiating a new management agreement under the *Nature Conservation Act 2014* with Icon Water to reflect recent changes to legislation and to the division of assets between Icon Water and ActewAGL. The Committee heard that the new management agreement was likely to narrow the scope of application to the Canberra Nature Park and environs and that if it was determined that further agreements were required these would be developed as site-specific instruments. The Committee also heard that the management agreement will include Icon Water's activities in the LCC, particularly in relation

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<sup>79</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, p. 2.

to the use of access roads, the clearing of log booms, and the stockpiling and management of wood debris removed from these booms.<sup>80</sup>

- 5.4 In discussing recommendation 6— the Minister pointed out that section 64 of the *Water Resources Act 2007* requires the Environment Protection Authority to coordinate policies in relation to water resources and to promote an integrated approach to water resource management, environmental protection and water catchment management.<sup>81</sup>
- 5.5 The Minister explained that while the policy function for this is in EPD’s environment division, regulatory functions have been incorporated into Access Canberra. It was also explained that EPD will revise the governance arrangements that support the EPA in implementing the legislation and responsibility for catchment management to reflect current practice.<sup>82</sup>
- 5.6 The Committee heard that EPD had undertaken an initial review of EPA’s policy role under the *Water Resources Act*. It also heard that governance arrangements and any minor legislative amendments required are being considered to clarify the roles of the EPA and EPD in relation to water policy matters. The Minister advised that any required changes to legislation would be brought forward in the second half of 2016.<sup>83</sup>
- 5.7 The Committee was interested to hear more about water policy coordination that was referred to in recommendation 6. It was advised that a review relating to this was now complete and it was expected that legislative changes, confirming that water policy remains within the EPD, would be introduced later in the year.<sup>84</sup>

## POLICE AND EMERGENCY SERVICES PORTFOLIO

- 5.8 As for the responsibilities of the ESA, the Minister emphasised that fire management was of the utmost concern to government. The Minister pointed to the impact of bushfire and fire management in the catchment on water quality as well as to the significant work that had been undertaken to rehabilitate the Catchment, an area that was highly prone to a fire event. For the Minister, the management of the Blue Range was of particular concern due to the rapid regrowth of native vegetation, pine plantation and wildlings since the 2003 fire and this area presents extremely high fuel hazards. He told how \$5.1 million had been allocated over four years for fire management activities in the LCC.<sup>85</sup> Later in the hearing the Committee

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<sup>80</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, p. 2.

<sup>81</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, pp. 2; 3.

<sup>82</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, pp. 2; 3.

<sup>83</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, pp. 2; 3.

<sup>84</sup> *Transcript of evidence*, 15 March 2016, pp. 4; 5.

<sup>85</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, pp. 3; 4.

asked for a breakdown of how these funds would be spent and the Minister agreed to seek this information from TAMS.<sup>86</sup>

## GOVERNMENT RESPONSE(S)/PROGRESS TO AUDIT RECOMMENDATIONS

### REVIEW OF GOVERNMENT RESPONSES TO AUDIT RECOMMENDATIONS

- 5.9 The Committee noted that a number of the Audit recommendations were that matters be reviewed or developed. It also noted that most of the reviews were now complete and asked whether arrangements had been put in place to monitor progress. The Committee was advised that the arrangements put in place between the Conservator and Icon water in response to recommendation 2 would be monitored to see how well it was working. It heard that arrangements would be reviewed in the light of particular objectives—such as water quality or the protection of particular species. The Committee was told that most of the reviews recommended were the responsibility of TAMS but that monitoring would be involved and adjustments made if necessary.<sup>87</sup>

#### STATUS UPDATE—RECOMMENDATION 1—DEVELOPMENT OF A CODE OF CATCHMENT MANAGEMENT

- 5.10 The Committee referred to recommendation 1 of the Audit regarding the development of a code of catchment management and asked about the role of EPD or ESA in working towards this. The Committee was advised:

EPD would be involved at different levels. Our conservation research unit are very heavily involved in management of flora and fauna, and threatened species in particular. They are also very involved in fire management. They provide their advice on the bushfire operation plan, not just about fire but also about other hazard reduction methods like slashing, for example.

The policy area would be very much involved in the code of practice, along with the Conservator of Flora and Fauna. The conservator can be involved in developing guidelines for conservation management. That is a new role for the conservator under the new Nature Conservation Act. My understanding is that some of these guidelines may be combined. There are a couple of recommendations around guidelines, so there is some discussion about having an aggregated guideline rather than separate guidelines. At this point it is probably better for TAMS to answer, but I do not think we have anything drafted to discuss at this point.<sup>88</sup>

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<sup>86</sup> *Transcript of evidence*, 15 March 2016, p. 12; refer to response to QToN #3, 15 March 2016.

<sup>87</sup> *Transcript of evidence*, 15 March 2016, p. 7.

<sup>88</sup> Dr Annie Lane, *Transcript of evidence*, 15 March 2016, p. 16.

- 5.11 The Committee inquired further about the involvement of EPD given the scope of works around water quality, bushfire hazard and construction work. It heard that EPD was on a multi-directorate working group that ‘will continue to work through the recommendations and come up with some of its own recommendations and guidelines.’<sup>89</sup>

STATUS UPDATE—RECOMMENDATION 2

- 5.12 The Committee referred to the status update in relation to recommendation 2 of the Audit and requested advice on the time frame for the review by the Conservator of Flora and Fauna of all existing management agreements with ActewAGL and Icon Water. The Committee heard:

We have had a number of good discussions and productive meetings with Icon Water. We have a draft document that both parties are currently considering. We feel we are not far away from agreeing on the process and the conditions within that document. As I mentioned before, it is with respect to the maintenance and the inspection activities of Icon Water around their various assets and at their various sites. It is also about working in conjunction with TAMS, of course, as the land manager. There are really three main parties involved in developing that agreement.

I would estimate that we would have that agreement finalised certainly by the middle of this year. We have had some initial discussions with ActewAGL, looking at their maintenance requirements around their equipment. Those discussions are in the early stages.<sup>90</sup>

- 5.13 The Committee asked whether the new agreement was likely to narrow the scope of applications for Canberra Nature Park and environs. The Committee was advised that it would cover all of the ACT except for the Murrumbidgee to Googong water transfer pipeline. It was also advised that there are three offset properties which are managed for different purposes. It was agreed that further information would be provided to the Committee about the reasons for excluding the three offset properties—whether that be because they are in private ownership, whether they are managed for particular species or both, or for some other reason.<sup>91</sup>

STATUS UPDATE—RECOMMENDATION 7—DEVELOPMENT OF A RISK PLAN

- 5.14 The Committee was interested to hear whether the risk plan developed in response to recommendation 7 of the Audit report had been tabled. It was advised that a draft had been discussed at a meeting of the Directors-General water group but that further discussion was required about the plan and the prioritisation of the risks. The Committee heard that the draft

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<sup>89</sup> Dr Annie Lane, *Transcript of evidence*, 15 March 2016, p. 16.

<sup>90</sup> Dr Annie Lane, *Transcript of evidence*, 15 March 2016, p. 17.

<sup>91</sup> *Transcript of evidence*, 15 March 2016, p. 17; refer to response to QToN #2, 15 March 2016.



plan needed to be finalised in consultation with relevant agencies but in the view of EPD it has been a very thorough and comprehensive piece of work and it had been a good outcome to date.<sup>92</sup>

STATUS UPDATE—RECOMMENDATION 8—ROLE OF EPD IN THE DEVELOPMENT OF A PLAN OF MANAGEMENT FOR THE LOWER COTTER CATCHMENT

- 5.15 The Committee referred to the development of a plan of management for the LCC that was proposed in recommendation 8 of the Audit report. The Committee asked whether EPD would provide input to guide the community on permitted and prohibited activities in the area. The Minister explained that while TAMS was the lead agency, EPD was engaged in the risk assessment process. An official advised:

We do work together on developing those management plans. We provide some of the research input and the policy overview. TAMS need to implement the plan, so they have an important role to play in providing their feedback. Certainly, the plan will include what is allowed in terms of recreation and what is not allowed, and what activities are prohibited and those that are managed.<sup>93</sup>

- 5.16 The Committee asked whether there was a clear statement of the responsibilities of each agency to finalise the plan of management. An official from EPD explained:

The plan of management is still being finalised, but we have a directors-general working group, and that starts with us each bringing our relative expertise. EPD brings policy responsibility for environmental matters, ESA brings both policy input for emergency management and operational oversight, and TAMS brings land management expertise. We expect that those relative areas of strength would be reflected in the plan of management as it is documented and formalised. So, yes, we all bring our bits together and we all recognise the strongest elements of our contribution, where we take the lead role.<sup>94</sup>

STATUS UPDATE—RECOMMENDATIONS 9 AND 10

- 5.17 The Committee referred to the government's response to recommendations 9 and 10 of the Audit report noting work 'around how you restore and maintain ... fire trails.' The Commissioner explained:

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<sup>92</sup> *Transcript of evidence*, 15 March 2016, pp. 7; 8.

<sup>93</sup> Dr Annie Lane, *Transcript of evidence*, 15 March 2016, p. 19.

<sup>94</sup> Mr Gary Rake, *Transcript of evidence*, 15 March 2016, p. 19.

We are very much engaged, as is EPD, with the intergovernmental working group that is working through the risk plan, as well as the other issues in relation to access management across the trail network. We are very comfortable that, through that process, that particular group is able to bring forward further recommendations and actions for the directors-general water group on how we manage those issues across government.<sup>95</sup>

#### STATUS UPDATE—RECOMMENDATION 12

- 5.18 The Committee requested an update on the government’s response to recommendation 12 of the Audit report, including advice about the development of terms of reference and consultation for a review to be undertaken by the Commissioner for Sustainability and the Environment. In the discussion that followed the Committee heard that although initial scoping had been undertaken by the Commissioner’s office terms of reference for the review had not been drafted. The Committee asked whether the report would be available by December 2017 as the Audit recommended and the Minister responded: ‘I do not have any advice that says otherwise.’<sup>96</sup>

## BUSHFIRE AND FIRE MANAGEMENT

### RISK OF BUSHFIRE BURNING THE WHOLE CATCHMENT

- 5.19 The Committee referred to a statement included on pages 20 and 21 of the Audit report indicating that the Commissioner of the ESA had ‘noted that effective fuel reduction in the LCC does not stop the risk of bushfire burning the whole catchment.’ It asked what would stop the risk of bushfire in the whole catchment.<sup>97</sup>

- 5.20 The Commissioner responded:

Under drought or dry conditions nothing would stop a bushfire of significance burning out that whole catchment. It is entirely dependent on a number of factors, apart from the fact that hazard reduction is not done, the most important being the current and antecedent weather conditions. If we receive an extended period of dry weather and we go into a bushfire season, even at relatively low levels and even where hazard reduction has been carried out in years past, it is possible for the catchment to burn out under those extended dry conditions.<sup>98</sup>

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<sup>95</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 11.

<sup>96</sup> *Transcript of evidence*, 15 March 2016, pp. 12; 13.

<sup>97</sup> *Transcript of evidence*, 15 March 2016, p. 8.

<sup>98</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 8.

THE BLUE RANGE AND AREAS WITH EXTREME FUEL LOADS

- 5.21 Discussion followed about Blue Range and whether there were other areas in the LCC with extreme fuel loads.
- 5.22 The Committee asked how many controlled burns had been undertaken in the Blue Range and what the status was on fuel loads. The Committee was advised that additional hazard reduction burns were undertaken in the area in March 2015 and that more were planned for the current year. As to the fuel load, the Commissioner advised:
- It is always very hard to judge exactly in terms of tonnes per hectare. Certainly, some of those areas are starting to, in general terms, head towards what we call extreme fuel levels, that is, very high levels of fuel that, on a bad fire day, would be uncontrollable. That is the case. Certainly, those fuel levels are increasing every year.<sup>99</sup>
- 5.23 In response to further questioning, the Commissioner explained that while traditionally extreme fuel levels were considered as being anything above 12 tonnes per hectare, the layering of fuel was also an important consideration.<sup>100</sup>
- 5.24 As to whether areas in addition to the Blue Range had extreme fuel levels, the Commissioner advised:
- It is working towards that ... the longer we go from a major fire like 2003, the higher the levels of fuel will continue to go, and you will see more levels heading towards extreme. With the catchment... it does increase every year.
- 5.25 To assist, the Commissioner undertook to provide the Committee with a map showing areas of the Territory with extreme and other categories of fuel levels.<sup>101</sup>
- 5.26 The Committee was interested to hear more from the Commissioner about the logistical issues in the Blue Range that make fire management in the area complex. According to the Commissioner:
- The Blue Range is an area which, in its history, was all pine forest, most of which was significantly burnt out during the 2003 fires. Since that event we have seen significant pine wildling regrowth in that area which is leading to this extreme fuel hazard. As the report discusses, undertaking traditional hazard reduction burning is very difficult and very different from how we would normally ascribe it in the Australian bush.<sup>102</sup>

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<sup>99</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 8.

<sup>100</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, pp. 8; 9.

<sup>101</sup> Refer response to QToN #4, 15 March 2016 and Exhibit #1 tabled 31 March 2016.

<sup>102</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 9.

5.27 The Commissioner explained that hazard reduction burning in the Blue Range was problematic due to the regrowth of pine wildlings intermixed with blackberry and other weeds. As a result, you 'end up with a fire that will not travel through or you end up with a fire that is too intense, which, of course, could ultimately go against the outcomes of water quality and turbidity that we are trying to achieve.'<sup>103</sup>

5.28 The Committee asked the Commissioner what powers he had to direct TAMS as the manager to reduce the fuel loads. The Commissioner responded:

We have powers where required in relation to the reduction of fuels for land managers. Principally, though, we reflect that through the strategic bushfire management plan....

Principally, when it comes to my specific powers in relation to fuel management on TAMS land, every government agency or land manager is required to produce a biennial bushfire operations plan. So every two years they submit a plan to the Commissioner of the Emergency Services Agency outlining the proposed works for that period. TAMS choose to do that annually. Every year, they provide a bushfire operations plan so that they can be proactive in continuing to update that program. It is a requirement of me as the ESA commissioner to approve that bushfire operational plan, and it is certainly what I and previous commissioners have done in relation to the works that come through that.<sup>104</sup>

#### PREVENTING THE BURNING OF REVEGETATED AREAS PLANTED TO STABILISE ERODIBLE SOIL

5.29 The Committee noted that the Audit report stated that particular care needed to be taken to prevent hazard reduction burns from continuing into revegetated areas which have been planted to stabilise erodible soil. The Committee asked how this would be achieved.

5.30 The Commissioner advised that breaking up blocks into smaller, more manageable areas can enable hazard reduction works to be undertaken. However, he added that significant manual-type work using machinery and hand tools is required to remove hazards in the Blue Range. According to the Commissioner:

...we have to avoid the perverse outcomes of having too many trails or too intense fires. It has to be very carefully managed in relation to when you put prescribed burns into those areas. ... Unless the weather conditions are absolutely correct, there is a risk of escape of fire during a prescribed burn.<sup>105</sup>

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<sup>103</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 10.

<sup>104</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 10.

<sup>105</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, pp. 10–11.

STRATEGIC BUSH FIRE MANAGEMENT PLAN

- 5.31 The Committee asked whether the strategic bush fire management plan was the overarching approach to managing fires whether they be in the Blue Range, Lower Cotter or elsewhere. The Commissioner explained that the strategic bushfire management plan 'is the highest level document in terms of policy and planning.' He told the Committee:

...as we went through the planning process, ESA, TAMS, and EPD all agreed in relation to the significant actions that we have embedded into the strategic bushfire management plan, which is about continued prescribed burning across those managed lands—recognising, of course, that we still have to meet the outcomes of water quality for now and into the future as those are done.<sup>106</sup>

ACCESS TO FIRE TRAILS FOR FIRE PREVENTION AND THE POTENTIAL DAMAGE TO WATER QUALITY

- 5.32 The Committee noted that access to fire trails was important for fire prevention but wondered how the issues of potential damage to water quality was dealt with in the water catchment area. The Minister responded:

Generally speaking ... land management agencies or fire management agencies are very cognisant of working in a water catchment area. This comes down to decisions that they make minute by minute, hour by hour, in terms of how they conduct work on the ground in a water catchment area. They have to be aware of the impact of their activities on the catchment and on water quality. The most obvious one that comes to mind is in the context of firefighting or managing hazard reduction burns. They have to be cognisant, for example, of the types of chemicals that are used, say, in a bushfire—firefighting foam or whatever it may be—to limit or avoid impacts on water catchments. These are matters that land managers have to take into account day to day as they undertake activities inside the water catchment area. TAMS and RFS personnel are well versed in these requirements because similar requirements exist in other parts of the catchment, for example, in the upper Cotter catchment inside Namadgi proper.<sup>107</sup>

- 5.33 An official from EPD added:

In a general sense, where we have placed a priority on the quality of the water catchment, as a general proposition, we would prefer to have fewer well-built and well-maintained roads—well designed, well built and well maintained. In balancing the matrix of obligations, we are trying to minimise the number of roads, but we need to

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<sup>106</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 12.

<sup>107</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, p. 13.

make sure that they provide safe and appropriate access for fire management and fire prevention, as well as fire response.

In thinking about what that might mean, we prefer to build roads that run across the contour rather than straight up and down. It minimises erosion. On the major roads that will be used for fire management, we are thinking about the construction weight, whether it can carry a heavy vehicle, and whether it can carry a heavy vehicle through different weather conditions. We are also thinking about how we manage the vegetation on either side so that we minimise the risk to our crews of being caught in a burnover situation. That sort of matrix comes together. The roads will be categorised. We will have major roads, minor roads. Some of them will be locked down only for use in management activities or fire response. Others will be open more frequently through the year.<sup>108</sup>

- 5.34 Noting that the Catchment area had become larger, the Committee asked whether ‘some of the older roads no longer do what they were supposed to do or need to be replaced, changed, closed or rehabilitated.’ An official from EPD responded:

As a general proposition we are closing more roads than we are opening. But where there are key roads a lot of effort is being put in to making sure that they are upgraded where necessary, particularly drainage points to minimise erosion, and that they are subject to routine maintenance.<sup>109</sup>

- 5.35 The Committee was then advised that major roads are constructed and maintained to a high standard.<sup>110</sup>

#### FUEL REDUCTION BURNS

- 5.36 The Committee discussed the number of burns undertaken in the LCC area in 2014–15 and it was suggested that five burns had been planned but not all were completed. It was noted that this was a question for TAMS.<sup>111</sup>

- 5.37 As to the general conditions for fuel reduction burns, the Committee asked whether the coming year was likely to be more favourable for fuel reduction burns. The Commissioner advised:

It is always very hard to predict because we are trying to predict the weather. We have had a very dry February-early March period. Whilst we are seeing some positive signs of getting some moisture, the most recent advice from TAMS is that that window of opportunity has not yet opened up; that is, it is still too dry and potentially too hot,

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<sup>108</sup> Mr Gary Rake, *Transcript of evidence*, 15 March 2016, pp. 13–14.

<sup>109</sup> Mr Gary Rake, *Transcript of evidence*, 15 March 2016, p. 14.

<sup>110</sup> *Transcript of evidence*, 15 March 2016, p. 14.

<sup>111</sup> *Transcript of evidence*, 15 March 2016, pp. 14; 15.

given some of the weather conditions we have had. TAMS assure me, and I think this is the most important point, that they have all of their planning arrangements in place. They have all of their environmental approvals in place. They have all of their containment lines prepared. They have all of their prescribed burn plans ready to go. So when weather conditions are suitable, they are ready to start burning. That is all I can ask from them as commissioner in relation to that.<sup>112</sup>

- 5.38 The Committee asked whether ESA had a view about how many controlled burns could happen in the next year. The Commissioner advised that he receives information from TAMS through the Bushfire Council and was confident that the fire maintenance experts within TAMS were doing a very good job of monitoring and assessing fuel conditions. As to whether there will be more opportunity for controlled burns than last year, the Commissioner advised that it was hard to tell, as much depends on the weather and the land managers being prepared, with the support of ESA.<sup>113</sup>

#### IMPACT OF RAINFALL ON THE NUMBER OF BOP CONTROLLED BURN ACTIVITIES

- 5.39 The Committee noted the Audit finding that above-average rainfall in autumn had made it difficult to complete BOP controlled burn activities in the ACT during three of the past four years. The Commissioner advised:

Yes, that has been the case over the past couple of years. Again it gets back to the ability to get that right window of opportunity for weather. From time to time opportunities are taken in the springtime to undertake prescribed burning activity. But that is extremely challenging because with the onset of summer, particularly in bushland areas, you can have, some months later, sparks come out of burning tree roots and those sorts of things, and that would pose a significant risk. When it comes to the conditions within the lower Cotter, as we talked about before, it is exacerbated further. Not only is it the weather conditions that are challenging; it is also the types of fuels that TAMS are attempting to hazard reduce. That narrows that window of opportunity even more.<sup>114</sup>

#### RECREATIONAL ACCESS IN THE WATER CATCHMENT AREA

- 5.40 The Committee asked whether the Government was considering further restricting recreational access in the water catchment area. It heard that recreational access was considered as part of a risk assessment approach. The Minister advised that risks associated with access were considered along with other risks. An official added that recreational activities and their potential effects on the environment and fire management risks are taken

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<sup>112</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 15.

<sup>113</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, pp. 15; 16.

<sup>114</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 18.

into account. In response to a specific question about kayaking, the Committee was advised that it was not permitted in the dam.<sup>115</sup>

- 5.41 The Committee enquired about the progress of reviews relating to fire trails by TAMS, ESA, EPD and Icon Water. The Commissioner advised that the reviews were progressing well.<sup>116</sup>

#### RESPONSIBILITY FOR GATES AND OTHER CONTROL STRUCTURES

- 5.42 The Committee asked whether it was clear who was responsible for examining gates and other control structures and how ESA provided advice to TAMS regarding how access to these areas could be improved. The Committee was advised that ESA has very good working relationships with TAMS on these matters. According to the Commissioner:

The first and most important part is that all fire vehicles have access to the appropriate fire trails and the gate system through keys to allow them to access those fire trails by necessity across all parts of government managed land. We continue to work very closely not only through on-ground conversations with RFS and TAMS but also more formally through the ACT Bushfire Council. Views from both sides are brought forward when we are all sitting around the table and can talk about those matters at a high level.<sup>117</sup>

#### VOLUNTEERS

- 5.43 The Committee noted that many volunteer groups like Greening Australia want to assist in the restoration of the area and it asked how this was managed. The Minister responded:

...Certainly, the restoration of the Cotter catchment, in terms of physical labour and tree planting, has been driven by a very significant volunteer effort over at least half a decade following the fires. That was led by Greening Australia, and that was supported by a series of funding initiatives both federally and from the ACT government. That has led to a significant replanting across the catchment. That project is now complete, so there is no further significant tree planting occurring within the catchment now. But that only ceased a couple of years ago.

Essentially, there has been almost a decade of replanting effort by Greening Australia and volunteers. Moving forward, these will be matters for TAMS to manage as the land manager, in terms of their engagement with volunteer groups such as Greening Australia and others. As I understand it, there is an ongoing relationship but it is not on the scale that it was immediately following the fires.<sup>118</sup>

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<sup>115</sup> *Transcript of evidence*, 15 March 2016, pp. 5; 6.

<sup>116</sup> *Transcript of evidence*, 15 March 2016, p. 11.

<sup>117</sup> Mr Dominic Lane, *Transcript of evidence*, 15 March 2016, p. 11.

<sup>118</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, p. 18.



- 5.44 When asked whether volunteers would work under the umbrella of the greater codes and management plans for the Catchment area, the Minister advised:

Yes. Volunteer groups will be out there. If they are engaged in particular land management tasks, they are working within the planning framework that has been put in place by TAMS and sits within the broader government planning framework. That is true.<sup>119</sup>

## PLANNING AND LAND DEVELOPMENT PORTFOLIO

### INTRODUCTION

- 5.45 The Committee heard from Mr Mick Gentleman MLA, Minister for Planning and Land Development and accompanying directorate officials on 31 March 2016 to discuss matters pertaining to the restoration of the LCC.

### MATTERS CONSIDERED

- 5.46 In his opening statement the Minister pointed to the importance of the Cotter in providing the ACT's potable water supply. He emphasised the need to ensure land management activities in the LCC 'serve to minimise soil loss by erosion, maximise the area under stabilising vegetation and avoid human-induced impacts on water quality.'<sup>120</sup>
- 5.47 The Minister highlighted that the Government had accepted all 12 recommendations of the Audit report and had 'moved quickly to ensure relevant directorates are activated to respond in a coordinated way.' According to the Minister:

The government announced a total of \$7.8 million over four years in the 2015-16 budget to be appropriated to TAMS to address the priorities on ground works within the lower Cotter catchment. This investment has allowed work to commence on the repair of the erosion control structures to better protect water quality to deliver further fuel management activities, such as removal of pine tree regrowth which poses an increased fire hazard, repair fire trails; control pest plants and animals; increase staff presence in the area to ensure illegal activity is minimised; and complete a management plan for the area.

Since then the government has also announced a single conservation agency to be structured and completed in July this year, and it is tasking me as the Minister for Planning and Land Management to go through that program. The single conservation

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<sup>119</sup> Mr Simon Corbell MLA, *Transcript of evidence*, 15 March 2016, p. 18.

<sup>120</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 30.

agency in EPD will, particularly in relation to the lower Cotter catchment: lift up the planning and management structures into a more strategic role and be responsible directly to the minister; enhance implementation of the Nature Conservation Act 2014, which creates the statutory roles of the Conservator of Flora and Fauna and the Parks and Conservation Service; strengthen ongoing management of parks and reserves within an environment and catchment management context rather than the previous municipal operational function, if you like; and maintain strong relationships between conservation and the planning of our city. That is a change in the way we have previously looked at that management.<sup>121</sup>

## BUSHFIRE AND FIRE MANAGEMENT

### ESTIMATED OVERALL FUEL HAZARD ASSESSMENT

5.48 During the hearing, in response to an earlier question taken on notice by Minister Corbell, an official circulated copies of maps, including one showing estimated overall fuel hazard loads.<sup>122</sup> It was emphasised that the map presented ‘a mosaic of fuel hazard’ with five categories—low, moderate, high, very high or extreme. The Committee heard that TAMS was also ‘looking at the use of alternative models to try and refine our capacity to understand hazard.’<sup>123</sup>

5.49 During discussion the Committee asked what constituted an ‘extreme’ fuel load. The Committee heard:

An extreme fuel load, if you were to look at the profile, would typically have trees with a lot of bark, exfoliating bark. It would have a strong shrub layer. It would have a lot of fuel resting on the ground, a lot of fine fuels. It may have also a lot of coarse fuels, such as fallen timber and so on. Staff have a mechanism by which they have a photo reference as to what is extreme, what is very high, what is high, what is moderate, what is low and what that looks like. Over time you see the difference as it changes. It moves from one category into the other.<sup>124</sup>

### WORKS PLANNED FOR THE BLUE RANGE TO REDUCE FUEL HAZARD AND BUSHFIRE RISK

5.50 A directorate official highlighted works that have been and are planned in the Blue Range area to reduce the fuel hazard and bushfire risk. The official explained:

There are a number of works that we have completed in this area as well as works that are in progress and works that are planned. As far as completed works are concerned,

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<sup>121</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 31.

<sup>122</sup> Refer Exhibit #1, tabled 31 March 2016.

<sup>123</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 32.

<sup>124</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 33.

we have created a fuel break that runs through the middle of that area, and that is specifically to widen an existing track to 30 metres. That is across a length of about two kilometres.

That provides us, as the land manager, with the capacity to have an effective break, for land management reasons but also for fighting fires. That is something that we have been able to deliver. That has involved the pruning and what we call lifting of some of the pines, so removing the lower branches of the pine trees. If fire was to get in, it would not just quickly take and go. It is a tactic to improve the fightability of fires, if you like. We have thinned about 10 hectares of pine wildling regrowth, and we have also maintained another approximately 15 kilometres of roads in that area.

We have a lot of works in progress and I will summarise them as being more of the same, but also the construction of more strategic advantage areas in that area—in other words, widening existing roads along the length of the road. That breaks up the environment, so it means that if there was a fire on its way, we would have the capacity to present gaps in the fuel which strategically would be of advantage to us.<sup>125</sup>

- 5.51 In response to questioning, the official told the Committee that there would be a couple of hundred hectares of pine wildlings and that it was anticipated that a hundred hectares of pines would be removed next year.<sup>126</sup>
- 5.52 The Committee asked about the Blue Range and the approximate area of wildlings and other vegetation. On notice, the Minister advised that the approximate size of the Blue Range is 464 ha, which is comprised of pine wildling regrowth (231 ha); commercial pine (107 ha); and native vegetation and bare area (126 ha).<sup>127</sup>
- 5.53 The Committee referred to the funding that will be required for the maintenance of the Catchment and sought advice about the availability of Commonwealth funds of \$93 million over the next five years. The Minister explained that this matter was 'being looked after by Minister Corbell as the key environment minister for government in the territory. The funding has been, as I understand, successful to government, but there are a number of program plans, if you like, that need to be finalised before the funding can be spent and transferred across.'<sup>128</sup> Further information was provided on notice.<sup>129</sup>

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<sup>125</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, pp. 33–34.

<sup>126</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 34.

<sup>127</sup> Mr Mick Gentleman MLA, Response to QTON #1, 31 March 2016.

<sup>128</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 35.

<sup>129</sup> Mr Mick Gentleman MLA, Response to QTON #2, 31 March 2016.

## WORK WITH NSW

- 5.54 The Committee noted the cross-border nature of the Blue Range and asked what work was being undertaken with NSW in relation to fire hazard. The Minister advised:

There is quite a bit of work that the directorate has been doing with councils and the New South Wales government in looking at cross-border operational activities. I have not got a figure on how much New South Wales is spending in that area but I can say that the relationship between us and New South Wales is quite good.<sup>130</sup>

- 5.55 An official added:

I can let you know that in New South Wales right as we speak they are planning a very large hazard reduction burn in the Brindabella national park to our west. A lot of that land is also privately owned land and there is a requirement from private landowners to also mitigate fuel. In determining our response we are very cognisant of what our colleagues are doing. And we talk. We understand the sorts of fuel hazard programs they have and how they might impact on decisions that we might make in our own jurisdiction.

But it is true to say that routinely we help each other out. We have our own firefighters that will help them deliver work on their side of the border. On occasions they help us as well.<sup>131</sup>

- 5.56 The Committee was interested to hear what made it difficult to remove pine wildlings in the Blue Range at Point 6 on the map—whether it was just the terrain or whether physical resources was also an issue. An official advised:

The terrain is overwhelmingly, I believe, the reason why we have the nature of fuel we have there now, and resources. The terrain remains. We have got some resources now. We believe that by using a bit of ingenuity and calling on the experience of our colleagues in other areas we stand a very good chance of coming up with a cost-effective way to deal with the risk.

Most likely it will mean a number of different options. It could include mechanical; it could even include burning. And it may have to happen over a number of years. But the end game is to reduce the risk.<sup>132</sup>

## THE BLUE RANGE AREA IN THE IMMEDIATE FUTURE

- 5.57 The Committee asked what was likely to happen in the Blue Range area in the immediate future in relation to the fuel loads and pine wildlings. An official explained:
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<sup>130</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 35.

<sup>131</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 36.

<sup>132</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 36.

Next year we are going to create more strategic fuel breaks. I made reference to those 30-metre wide breaks in the landscape. We are going to create more of those. We are going to remove another 100 hectares of pine wildlings. This is all associated with this trial. I am loath to say that we will get rid of this much by this much and that it will be at a particular location, because in some ways it really does depend on what the trial tells us. But we do have funding to commence, if you like, the dismantling of the density of pines that are in that area. That will happen within the next 24 months. We have got funding to do that.<sup>133</sup>

5.58 In response to further questioning, it was explained that the following would occur in the next 24 months:

The creation of fire breaks. We go in there and we look at the existing roads, both within Blue Range and immediately adjacent, and we look to see whether we can widen those fire trails. The pine trees along the roadsides are lifted. So we remove the biomass along the lower levels. That is all helping us to create a fire break. We will go in there and we will physically remove wildlings. I reckon it will be about 100 hectares associated with these trials. But once we have the word on the trials, we would be in a better position to roll it out across the whole Blue Range. Of course, that will be a process which I envisage will take—it is hard to say exactly but I doubt we could do it in one year. It would probably be over a number of years.<sup>134</sup>

5.59 An official advised that two kilometres of 30-metre wide strategic breaks had been put in place with a view to fitting in another six kilometres or more next financial year. Consideration would also be given to widening One Stick Road for about four kilometres. It was explained:

We are also looking at other roads, with up to 20 kilometres of specific maintenance work along the roadside. Again, we are looking at the pines, looking at the vegetation and removing the fuel load along the roadside. We are also going to upgrade about another five kilometres of roads. That will all happen in the next 12 to 24 months.<sup>135</sup>

5.60 In relation to fire, the Committee asked when the Warks Road burn will be completed. It was advised:

It may not need to be completed at all. The reason we did not get to that one was that we assessed the area hazard as a whole and found that we got the strategic advantage we needed from those other burns that we completed. The area around that burn, Mr Smyth, is regenerating eucalypt. Some of it is quite low to the ground. We just do not think we would get the strategic advantage in pursuing that burn.

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<sup>133</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 42.

<sup>134</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 43.

<sup>135</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 43.

What we will do, though—it will remain there within the context of our strategic planning, and year on year we will assess it on its merits. So it may be looked at next year. But, again, that depends on the regional picture as to whether we deliver that one or not.<sup>136</sup>

#### MONITORING AND MAINTENANCE OF SEDIMENT CONTROL MEASURES

- 5.61 The Committee referred to findings of the Audit report concerning the monitoring and maintenance of sediment control measures, culverts and sediment ponds, and the finding of Professor Falconer that gabions had not been adequately maintained. The Committee asked why this would occur if sufficient resources were available. The Committee was told:

Since the budget appropriated money to TAMS we have commenced a program to deal with exactly what you have described. We have just recently completed a risk process which has helped us elevate the critical erosion and sediment control works we need to do. We have got \$300,000 to deliver that this year. In fact, we have already completed the desilting of one dam and we are in the process of completing work on two more. We are in the process of understanding which gabions in which creek lines we should attack next, the ones that will give us the best bang for our buck if we go and fix them.

The money we have got for weed control helps immeasurably. So does the money that we have spent in closing roads. For example, after the construction of the dam, we ended up with roads that led into the dam that were flooded out. So we spent a lot of that money in rehabilitating the road surface and returning it to a grassy area. That will help quite markedly in reducing sediment inflows into the dam.

We are working with the University of Canberra to get sampling sites along the catchment so that we can (a) understand where all the sediment is coming from—we think we know but this will give us some harder evidence—and (b) be sure that our remediation is having an effect.<sup>137</sup>

- 5.62 In discussion which followed the Committee heard that gabions were being inspected with a view to determining which ones should be given priority maintenance so that available resources are used in the best way. An official explained that a number of gabions are no longer catching sediment and only a limited number of gabions were still active. The official explained:

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<sup>136</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, pp. 43–44.

<sup>137</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 37.

...we are going through and on a risk basis determining whether that gabion is still an active gabion that is performing a purpose or whether it is just a relic from gabions that were put in place post 2003.<sup>138</sup>

- 5.63 The Committee inquired how the growth of pine wildlings is mitigated after pine removal or how revegetation takes place in a way that reduces regrowth. The Committee was advised:

The end game is to improve water quality. That is what we are wanting to do: improve water quality. As a land management agency, we would like to see that improvement of water quality also come with an improvement in the natural environment. But it is a secondary issue. I would want to be shown an argument where it was justifiable to go to the added expense, time and effort of re-establishing a native cover to a particular area. I suppose what I am saying is that we are open to there being alternative cover if the issue of fire fuels can be managed and if the issues of water quality can be managed. That opens up an analysis of what will be there once the pines are taken out. ...Some pines may come back over time. They may be mixed with a native mix. The issue is to deal with the fuel hazard and to deal with water quality. As a land manager we may need to accept that there may be pines in there. If we can demonstrate that that deals with the fire fuel hazard and it deals with water quality, at least in the short term we may have to accept that. I am hopeful that given the nature of that area, surrounded as it is by Namadgi national park, in our removing the pines, we will get a degree of reinvasion of desired native species.<sup>139</sup>

- 5.64 The Committee was interested to hear about any work being undertaken to address excessive erosion close to the water in the Catchment area. A directorate official responded:

There has been a lot of work done already on revegetating around the Cotter Dam, with 40,000 trees planted across 60 hectares in 2012-13. Another 3,000 trees were planted in five hectares in 2013-14 and another 2,000 trees in 2014-15. The majority of that work has happened on those lower reaches around the dam. Where it is particularly steep, where we have those hill slopes that are extremely steep, this is the crux of the problem and it is why they have been left, in my opinion. They are difficult. The solution was not an obvious one; it was an expensive one; and hence our move now to look to those steep slopes and try and crack the nut as to what combination of works we can do to stabilise them.<sup>140</sup>

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<sup>138</sup> Mr Neil Cooper, *Transcript of evidence*, 31 March 2016, p. 39.

<sup>139</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, pp. 39; 40.

<sup>140</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 46.

## BETTER COORDINATION ACROSS EXECUTIVE AGENCIES

5.65 The Committee asked for an update as to how various committees and codes of practice would result in better coordination. The Minister explained that bringing land management under EPD and the formation of a single conservation agency will result in a better management process.<sup>141</sup> Officials referred to the directors-general water group and how an inter-directorate working group meets regularly to progress a response to the Audit report's recommendations.<sup>142</sup> The Director-General of TAMS explained further:

...we work very cooperatively with the other agencies. There is our official directors-general steering group. There is a cluster group that consists of EPD, TAMS and transport Canberra, plus other invited guests. We also discuss these issues. They are not off the agenda. We work collectively to get the very best outcomes. It is not just an item that is addressed at a particular meeting; it is ongoing interaction between officers at all levels.<sup>143</sup>

5.66 As to the relationship with Icon Water and its involvement, the Minister stated:

There is a strong relationship with Icon Water. They have done quite a bit of the work that occurred, as Mr Iglesias said, after the 2003 fires. A lot of that work in regard to sediment control was done with Icon Water. Those relationships continue both at the D-G level and at my level. We meet with representatives from Icon Water very regularly, probably monthly. Of course, the working groups meet with them as well.<sup>144</sup>

5.67 The Committee referred to Professor Falconer's view that there be a formal deed between the appropriate ACT agency and Icon Water regarding the management of the LCC. The Committee was interested to know whether a written agreement was in place and asked that it be provided advice about any agreements between Icon Water and any ACT Government agency concerning the management of the LCC.<sup>145</sup>

5.68 The Committee referred to the \$7.8 million to be provided over four years for the restoration of the LCC and requested a budget breakdown for this expenditure and information on what it is to be spent on in each of the four years. A directorate official agreed to do so.<sup>146</sup>

## RECREATIONAL ACCESS

5.69 The Committee discussed with the Minister and officials whether the development of a recreation plan for the LCC was being considered. The Committee referred to Professor

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<sup>141</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 40.

<sup>142</sup> Mr Gary Byles and Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, pp. 40; 41.

<sup>143</sup> Mr Gary Byles, *Transcript of evidence*, 31 March 2016, p. 41.

<sup>144</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 41.

<sup>145</sup> *Transcript of evidence*, 31 March 2016, pp. 41; 42; refer to response to QToN #4, 31 March 2016.

<sup>146</sup> Refer to response to QToN #5, 31 March 2016.



Falconer's view that recreation in the LCC needed to be managed. Officials agreed to provide the Committee with a copy of a 2010 plan that dealt with recreational pursuits in the area.<sup>147</sup>

5.70 In relation to trail bike riding the Minister stated:

There is a process in operation now for closing off the areas to trail bike riders to ensure that we do not see extra erosion occur. That is in process now, I understand.<sup>148</sup>

....There are areas that are sensitive, especially in relation to soil disturbance activities like trail bike riding through creeks and those sorts of things. If we can ascertain areas for those trail bike riders to go that do not damage the creeks, then we are in a much better place.<sup>149</sup>

#### VOLUNTEER CONTRIBUTIONS IN RESTORATION OF THE CATCHMENT

5.71 The Committee referred to the voluntary work by Greening Australia. The Committee asked whether there were ongoing discussions with the organisation about engagement for further restoration work. A directorate official explained:

Currently, we still have an agreement with Greening Australia to deliver revegetation in the Cotter catchment. That is coming to an end. We have a little bit of money in the appropriated funds to TAMS—just a little bit. Once we understand the need for the revegetation, if we believe that it is not going to come back of its own accord and if we are going to hold those hill slopes and we need to revegetate, we will be able to provide an informed bid to government to get hold of those funds.

We have a great relationship with Greening Australia. As a parks service, if we see an immediate need, we prioritise that and we absorb that. That may well be the case in certain pockets within the lower Cotter catchment. I suppose my answer to your question would be that revegetation is part of the solution. As to who we would use and exactly where we use it, that remains to be seen.<sup>150</sup>

5.72 The Committee asked about the transition from pines to native vegetation and what mix of revegetation would be acceptable. During discussion a directorate official explained:

The point I am trying to make is that we may not be in a position where we can transition from pines to native vegetation, and as a land manager we have to accept that there will be a different mix for a period of time. We have to ask ourselves, "If that is delivering the water quality and the fuel management, can we tolerate that at least for the time being?" I would hope it would not be with African lovegrass. That would be problematic. But it may be with lots of other lower priority weeds that serve to hold

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<sup>147</sup> Refer to response to QToN #6, 31 March 2016.

<sup>148</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 43

<sup>149</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, pp 44–45.

<sup>150</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 45.

the catchment together. As far as we can, where it is practically possible, we will look to make the desired transition. But in making those sorts of decisions, we have to be practical. I am not closing the door on the fact that at least for a period of time we may have a less desired mix of revegetation in those areas.

... If we were to get fields of St John's wort or African lovegrass, we would treat those, because they are noxious weeds and we cannot tolerate them. But if we were to get something like fleabane, some thistles or some of the other weeds that we know are transition weeds, that is something that we may tolerate.<sup>151</sup>

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<sup>151</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 46.

## 6 THE ACT COMMUNITY

### VIEWS OF SUBMITTERS

#### INTRODUCTION

- 6.1 This section considers views about the Auditor-General's performance audit of the restoration of the LCC—as expressed in submissions.

#### SUBMISSION BY EMERITUS PROFESSOR IAN FALCONER

- 6.2 In his submission, Professor Falconer acknowledged his work as a consultant for the Audit and explained that the comments in his submission 'are not incompatible with that Report, but an emphasis on the recommendations.'<sup>152</sup>
- 6.3 The Submission explained that Professor Falconer investigated the Strategic Management Plan (2007) up to the present on behalf of the Auditor-General. The Submission expressed the view that it 'was a comprehensive and effective management plan' that was drawn up after the 2003 bushfire had 'burnt out the majority of the catchment' resulting in the water being 'unusable for potable water supply.'<sup>153</sup>
- 6.4 The Submission pointed out that the construction of the enlarged Cotter dam on the lower catchment made 'the need for effective catchment management ... apparent.' According to the Submission: 'Investigation of the 2015 condition of the Lower Cotter Catchment demonstrated that several areas within the implementation of the 2007 plan required attention, as reported by the Auditor General.'<sup>154</sup>
- 6.5 The Submission explained that in the early part of the restoration of the catchment following the fires, significant funds were available through ACTEW and Parks, Conservation and Lands 'to manage erosion, reconstruct the road system, facilitate replanting and control weed and pine wildling growth.'<sup>155</sup>
- 6.6 According to the Submission, however, while TAMS and Greening Australia had undertaken some effective work on road maintenance and planting, 'major erosion control, pine wildling

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<sup>152</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 1.

<sup>153</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 1.

<sup>154</sup> Submission No. 1, Emeritus Professor Ian Falconer, pp. 1; 2.

<sup>155</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 2.

control and blackberry control have not been undertaken at *[an]* adequate level since 2009.’ The Submission pointed out:

The consequence is a degraded, eroding catchment with high wildfire risks and extensive weeds, resulting in a significant overall risk to the quality of the water for potable supply, as outlined in the report.<sup>156</sup>

6.7 The Submission attributed the absence of activity over the last six years to the lack of an ‘effective budget’ and the absence of ‘effective executive coordination across agencies.’<sup>157</sup>

6.8 The Submission expressed endorsement of the three key recommendations of the Audit, and also highlighted two additional requirements ‘without which progress in remediation of the catchment will be ineffective.’<sup>158</sup> According to the Submission, these additional requirements are:

1. Provide an adequate budget to undertake the actions required and
2. Control pine wildling regrowth to reduce fire risk, in association with ESA undertaking controlled burning.<sup>159</sup>

6.9 Professor Falconer noted that commencing burning of the highest risk areas by ESA in 2015 ‘was a highly positive action for risk management.’ However, the Submission also noted:

...much of the upper part of the catchment is infested by pines. These need progressive removal as they are a high fire risk, enhance weed invasion and suppress native plant recolonization. The best outcome for water quality and quantity in the lower Cotter catchment is native vegetation, which reduces erosion, enhances biodiversity and restores the natural environment.<sup>160</sup>

6.10 The Submission emphasised that in order to meet nationally based standards for the quality of drinking water supply, ‘source water protection is critical for economic and reliable management of supply.’ The Submission noted that:

With the lower Cotter catchment now a major supply resource for the ACT and surrounding NSW, it is essential that there is funded, capable management. Whether this should be entirely in the hands of Icon Water, or under a formal Deed between the appropriate ACT agency and Icon Water, requires resolution for the benefit of the community.<sup>161</sup>

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<sup>156</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 2.

<sup>157</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 2.

<sup>158</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 2.

<sup>159</sup> Submission No. 1, Emeritus Professor Ian Falconer, pp. 2; 3.

<sup>160</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 3.

<sup>161</sup> Submission No. 1, Emeritus Professor Ian Falconer, p. 3.

SUBMISSION BY GREENING AUSTRALIA CAPITAL REGION

- 6.11 The Submission by Greening Australia responded to various aspects of the Audit report and included a copy of *Regreening the Cotter—A Decade of Community Repair Work in Our Water Catchment*, a document produced by Greening Australia in 2015.
- 6.12 In its submission, Greening Australia welcomed the Audit report and noted its 'extremely thorough ... treatment of both on ground issues and administrative arrangements' pertaining to the restoration actions in the Lower Cotter Catchment. The Submission particularly welcomed the report's 'recognition of the extensive efforts of volunteers, coordinated by Greening Australia' as well as recognition given by Dr Falconer of the substantial positive impact of revegetation work by Greening Australia on water quality issues in the catchment.<sup>162</sup> Noting this recognition, the Submission proposed that consideration be given to an additional recommendation—that:
- Additional sites be identified in the Cotter catchment with a view to extending the previous programme of native planting and habitat restoration in partnership with the local community.<sup>163</sup>
- 6.13 Greening Australia highlighted its involvement in the restoration of the LCC commencing in 2004 as well as its ability to harness the support of nearly 15,000 volunteers to revegetate over 500 hectares of the Catchment. In its submission Greening Australia advised:
- We have established a huge volunteer base during this period, of keen, knowledgeable Canberrans, able and ready to continue their work. We have no current funding to continue works in the Lower Cotter catchment, meaning these community members are no longer able to be actively engaged in helping in the catchment. These volunteer workers not only benefit the health of the catchment, helping reduce erosion and improving biodiversity, but are a large group of Canberrans with direct personal investment and commitment to their water catchment, through their hands on work.<sup>164</sup>
- 6.14 The Submission expressed the view that there were areas of the LCC identified by Greening Australia and TAMS 'which would be suitable for community-led restoration events.' According to the Submission, these included 'some of the areas referred to in Recommendation 9' of the Audit report. The Submission added that 'removal of unmanaged pine areas presents a fantastic opportunity to re-engage the community in the Lower Cotter Catchment.'<sup>165</sup>

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<sup>162</sup> Submission No. 2, Greening Australia Capital Region, p. 1.

<sup>163</sup> Submission No. 2, Greening Australia Capital Region, p. 1.

<sup>164</sup> Submission No. 2, Greening Australia Capital Region, p. 1.

<sup>165</sup> Submission No. 2, Greening Australia Capital Region, p. 1.

- 6.15 In its submission, Greening Australia also pointed to other ways in which the organisation could assist in restoration work. This included that it had ‘expertise in restoration with ... *[its]* specialist bush regeneration crews’.
- 6.16 The Submission also noted the ‘various riparian zones in need of remediation and replanting works, identified as an ongoing need by the Auditor General’s assessment of the Strategic Management Plan.’ According to its submission, Greening Australia had 20 years experience in stream restoration work. It also identified that there was ‘scope for further targeted revegetation works and small debris spreading as a means of ‘soft’ erosion control, as a low cost alternative to more expensive erosion control works before these areas become more advanced gully erosion problems.’ Greening Australia also expressed the view that ‘there may need to be maintenance of previous restoration areas, through targeted weed control activities.’<sup>166</sup>
- 6.17 The Submission responded specifically to Recommendation 11 of the Audit report as follows:
- ...if there is a necessity to close parts of the trail network, we have experience in the Lower Cotter catchment with remediation works on ex-fire roads. We have expertise with a range of direct sowing techniques, including improvement of native understorey establishment. This would be a key component to reducing erosion and runoff issues from these roadways subsequent to closure.<sup>167</sup>
- 6.18 Greening Australia welcomed recommendation 12 of the Audit and ‘the opportunity for strategic thinking into the next decade by the Commissioner for Sustainability and the Environment.’ It also indicated that it ‘would welcome the opportunity to contribute to this process.’<sup>168</sup>
- 6.19 In its submission, Greening Australia also highlighted its experience with Indigenous cultural connections in the region and that it ‘would like to see such cultural engagement as a core part of future community engagement in the Lower Cotter Catchment.’ It also noted the ‘substantial benefits to water quality, biodiversity and community awareness that can be achieved.’ It suggested that there be a public event to launch the next phase of restoration works in the water catchment area.<sup>169</sup>

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<sup>166</sup> Submission No. 2, Greening Australia Capital Region, p. 2.

<sup>167</sup> Submission No. 2, Greening Australia Capital Region, p. 2.

<sup>168</sup> Submission No. 2, Greening Australia Capital Region, p. 2.

<sup>169</sup> Submission No. 2, Greening Australia Capital Region, p. 2.

## VIEWS OF WITNESSES

### INTRODUCTION

6.20 The Committee heard from a number of key interest expert(s) and organisation(s) on Thursday 31 March 2016.

### EMERITUS PROFESSOR IAN FALCONER

6.21 The Committee heard from Emeritus Professor Ian Falconer, an independent water quality consultant, on 31 March 2016 to examine matters relating to the restoration of the LCC.

6.22 In his opening statement, Professor Falconer outlined how he was an independent water quality consultant and had been engaged by the Auditor-General for the Audit which examined restoration of the LCC. Professor Falconer told the Committee that the management plan of 2007 which the Audit reported on was 'a very good plan' and 'covered all the salient features required for the management of a catchment.' He noted the very valuable work that had been undertaken on the restoration of the catchment between the 2003 fires and the finalisation of the plan. He expressed the view that it was critical to maintain the catchment and 'to maintain the water quality in that dam to a level which is perfectly useable on a continuing basis for drinking water supply.'<sup>170</sup>

6.23 However, Professor Falconer expressed the view that maintenance of the Catchment 'has slipped' due to the lack of both effective funding for maintenance work and of 'effective executive direction.' He said that while improvements were made to roads in the Catchment in the last six years, pine wildlings have regrown (which is a fire problem), erosion has occurred, and there has been 'very large weed invasion.'<sup>171</sup>

6.24 Professor Falconer recommended that an independent risk assessment be undertaken of the Catchment. He expressed the view that the Catchment has a huge risk from fire and from erosion which will impact on the quality of water for drinking purposes. He recommended that work be overseen by 'a capable executive management group' which has a budget to undertake the necessary work.<sup>172</sup>

### MOST EFFECTIVE BODY TO PROVIDE DIRECTION

6.25 The Committee was interested to hear Professor Falconer's views about the most effective body to provide the direction required. For Professor Falconer, the matter was debatable—

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<sup>170</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, pp. 21; 22.

<sup>171</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 22.

<sup>172</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 22.

Icon Water has responsibility for maintaining source water protection and TAMS is responsible for land management. However, he emphasised that if the work was to be done by joint agencies ‘there has to be a deed of agreement which sets out who does what and who has executive power.’<sup>173</sup>

- 6.26 Later in the hearing, the Committee sought to clarify whether Professor Falconer agreed with the Government’s approach to bring various agencies together—Icon Water, TAMS, EPA, EPD and ESA—‘working in single step.’ Professor Falconer replied:

Yes, given that there is a finite, concrete agreement between the parties, and it is budgeted. There is no reason why that should not work if it has an adequate budget and a decent deed of agreement that clarifies the roles of the parties.<sup>174</sup>

#### THE EFFECT OF PINE WIDLINGS

- 6.27 The Committee was interested to hear about the pine wildlings in the Catchment and the best way to ensure they do not return. Professor Falconer advised that the effect of the pine wildlings was very severe and that they presented ‘a huge fire risk’. As to a solution, Professor Falconer indicated that two options were available—either physically remove them or burn them and stop the regrowth. According to Professor Falconer:

You have to chop them out. There is no magic cure for it because you want to revegetate with stable native vegetation, grassy woodlands or simply eucalypt forest. That is the ultimate aim, because you get better water quality and you get better water volume if you can regenerate the catchment into a grassy woodland or light eucalypt cover. Pines take up lots of water, they wreck the soil for growing anything else and they are a fire hazard. My view is that they are a disaster in a drinking water catchment.<sup>175</sup>

- 6.28 The Committee noted that the Government had a plan underway to implement pine wildling removal trials within the Blue Range area to determine what removal methods best align with the preservation of water. It asked whether there were ‘better ways of removing these wildlings.’ Falconer stated:

It is not easily defined. If it is on a modest slope, you could probably push them over. You still have to burn them. If it is on a steep slope, you probably have to get in there with a chainsaw or something like that. Alternatively, you can burn the whole lot, if you can do it in a controlled manner, and then you control regrowth. I have no very strong feelings about it; it depends on terrain and whether you can actually stop the fire once you have started it, because fires generate winds and heat, and spread and throw

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<sup>173</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 23.

<sup>174</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 24.

<sup>175</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, pp. 23–24.



embers everywhere. Emergency Services do burn in that area. Since they got my report we had a discussion with Dominic Lane, and he has started doing some very useful burning.<sup>176</sup>

6.29 Professor Falconer added:

It is not easy and it is not cheap, whichever way you do it. But what you cannot do is what they did last time after the fires. They windrowed all the dead sticks and rubbish into vertical windrows going up the slope, let them dry for a couple of years and then set light to them. They generated burnt earth growing straight up and down, which is just an erosion gully waiting to happen. It was absolutely atrocious management.<sup>177</sup>

AFRICAN LOVEGRASS

6.30 The Committee noted that African Lovegrass was spreading in the Territory and that while 'it may be a reasonable erosion control plant' it 'also has a very high fire risk.' It asked Professor Falconer whether he had undertaken much work around the issue and the Committee was told:

I do not know of any actual research that has been done on those aspects. Certainly, because it has tall stems and large seed heads, it is a fire risk. It will carry grass fire really well. I have not noticed any extensive areas of African lovegrass in that catchment, but I was not specifically looking for it. I think it is highly likely it will get there because it is being carried in by mowers and agricultural machinery. That is how it gets spread up and down the roads.

It certainly would stabilise the soil. It is a deep-rooted, tough plant, like our own native tussock grasses. It is an interesting one, but I am sure that the people that are interested in conservation of the natural ecosystem would hate to see an area covered in African lovegrass, just like they hate to see it covered in blackberries, which is the case now.<sup>178</sup>

6.31 With regard to blackberries, Professor Falconer advised:

They do burn. They are not hugely inflammable, not like pine wildlings, but they will burn. And they do stabilise the soil, though they are an invasive pest.<sup>179</sup>

6.32 The Committee asked whether the removal of pine wildlings created a risk of weeds moving in and Professor Falconer explained:

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<sup>176</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 24.

<sup>177</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, pp. 24–25.

<sup>178</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 25.

<sup>179</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 25.

Inevitably it results in lots of bare soil. What you really have got to do—I have no doubt they will be doing it—is reseed, either by aerial reseeding or by running a harrow through followed by a seeder, to get lines of regenerating wattles and eucalyptus. You have always got the problem of revegetation after you have cleared.<sup>180</sup>

- 6.33 In Professor Falconer’s view, whichever way the wildlings were removed, the land needed to be ‘adequately revegetated.’ As to how revegetation should occur, Professor Falconer advised that to some extent it depends on what is burnt, adding:

One of the earlier burns in 2015, which was in a critical area on the edge of Blue Range, was almost all eucalypt forest in the first place. Under those conditions, if it is a relatively cool burn it will regenerate itself and you do not have to do anything because there will be enough regeneration of the trees from epicormic growth and so on. There will be enough seed in the ground to restore the shrub layer. So you probably do not need to do much at all if it is eucalypt. But if you are burning out an area of regrown pines and you are just left with ash and soot, you have got to put some effort into regenerating the vegetation because there is no native vegetation there.<sup>181</sup>

#### SEDIMENT CONTROL

- 6.34 The Committee asked Professor Falconer what needs to happen in relation to sediment control and was told:

When the money was available just after the fire, the executive committee which managed it put in a whole series of sediment control ponds. Where there was a gully which was clearly eroding, they put in a dam, essentially, usually a rock gabion with wire on it, across the gully to trap sediment coming down the gully. This works so long as you actually maintain it.

What has happened is that in the catchment, where the gullies have carried a lot of sediment, the sediment control ponds have filled right up; so that raised the level and it is just going straight over the top. They are not doing anything at all. What you have got to do, in fact, is get a front-end loader in and dig it out.

Other ones that were put in got overwhelmed by some heavy storms. The water cut round the sides and just basically turned it into an area of gully erosion with magnitudes up to the size of this room. There was just mega gully erosion in places. It was just lack of management and ongoing attention.<sup>182</sup>

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<sup>180</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 26.

<sup>181</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 27.

<sup>182</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 27.

#### INVASIVE WEEDS

- 6.35 The Committee also sought Professor Falconer's views about what needed to be done regarding invasive weeds and was told:

Unfortunately, everywhere it is an ongoing problem in perpetuity really. I have been observing things like St John's wort there. Seed lives in the ground for about 10 years. You have really got to keep at it. It is the same with blackberries. If you are going to control blackberries, it is no use spraying them just once and going away for five years. You have just got to hit them every year until you have got the population right down. It is an ongoing and costly job.<sup>183</sup>

#### RECREATIONAL MANAGEMENT

- 6.36 The Committee asked Professor Falconer whether the use of motor vehicles was an issue or whether big rain events contributed to erosion gullies. In his response, Falconer emphasised the need for a recreational management plan for the area:

A lot of the roads were closed to motor vehicles in the remedial work after the fires. Most of the roads that went straight up and down, for example, were closed and have been shut off with pine logs, debris and so on, so that they are filling in, not eroding. Vehicular use is an issue, but if vehicles stay on the roads it is not a problem. The difficulty is four-wheel drives and trail bikes hurtling about all over the place. And they do. Even though a lot of the roads are locked, the trail bike riders just ride around the barriers, of course.

While I was out there with a ranger doing the survey, two trail bike riders came through an area which was closed to trail bike riders. They were not riding on the tracks and roads at all; they were just riding through the bush. This brings me to an issue which I have not accented, but there has to be a recreational management plan for it. It is not my province, but obviously you cannot afford to have people lighting camp fires in a high risk fire area and you cannot afford to have people defecating in a drinking water supply. You have got to control recreational use.<sup>184</sup>

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<sup>183</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 28.

<sup>184</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, pp. 28–29.

## GREENING AUSTRALIA CAPITAL REGION

### INTRODUCTION

- 6.37 The Committee heard from Mr Hugh Wareham, Director of Conservation and Head of Government Relations at Greening Australia Capital Region on 31 March 2016 to discuss matters in relation to the restoration of the LCC.

### MATTERS CONSIDERED

- 6.38 In his opening statement, the Director of Conservation expressed support for the Audit report and was pleased that the restoration work undertaken by volunteers from Greening Australia in the LCC had been recognised. The Director proposed that an additional recommendation be made—i.e., that the program of previous revegetation work that has been undertaken in partnership with the community be extended. The Committee was told that while Greening Australia did not currently have any funds for work in the LCC it had an ongoing community engagement program and had ‘identified a number of potential sites, in partnership with TAMS, that could be suitable for community-led restoration.’<sup>185</sup> The Committee was referred to the *Regreening the Cotter—A Decade of Community Repair Work in Our Water Catchment* report which provides a summary of Greening Australia’s work with the community.

### MAP OF IDENTIFIED SITES

- 6.39 The Committee asked if a map of identified sites could be provided and the Director agreed to provide this but indicated it would be ‘a mixture of sites across the catchment.’<sup>186</sup> The Committee was advised there was potential to plant up to an additional hundred hectares, as well as ‘some habitat enhancement work where planting activity had already been carried out.’ Further, ‘if there was some extensive pine removal, the figure would perhaps increase more.’<sup>187</sup>

### SURVIVAL RATES

- 6.40 The Committee noted that the average survival rate of planting was 83 per cent and asked whether this was a good outcome and was told it was ‘a pretty good survival rate...and one that we think demonstrates our skills.’ It was acknowledged that survival could vary with the species planted and climatic conditions and that tube stock had a higher survival rate than

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<sup>185</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 48.

<sup>186</sup> Refer response to QToN #7, 31 March 2016.

<sup>187</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 49.

seed planting.<sup>188</sup> Later, the Committee was told that survival rates could fluctuate by year but 'they have been in excess of 75 per cent, which is a pretty high survival rate.'<sup>189</sup>

#### VOLUNTEERS

- 6.41 The Committee asked whether other groups apart from Greening Australia had such large volunteer numbers. The Director explained that Greening Australia was not the only organisation but it had a large volunteer base, a long history of working with the community, and a track record.<sup>190</sup>
- 6.42 The Committee asked whether the volunteers removed pine wildlings, some of which were now three and four metres. It heard that the volunteers weren't involved with work that needed chainsaws and that the focus was on smaller scale.<sup>191</sup>
- 6.43 The Committee was interested to find out about volunteer turnover and demographics. It heard that there were some longstanding volunteers but the organisation gets new volunteers quite regularly. As for the demographic, it 'tends to be older semi-retired or retired people, but it is surprising the number of young mums or younger people who are keen on volunteering and can fit it in with their work-life balance...'<sup>192</sup>
- 6.44 The Committee asked about the work of volunteers in weed removal. It heard:
- Our general approach is getting the conditions right for re-establishing native vegetation, doing spot weed control and making sure that we do the right preparation to give the natives the best chance of survival, but not large-scale weed removal or tackling big bramble thickets and things like that.<sup>193</sup>

#### GROUND STOREY SPECIES

- 6.45 The Committee was interested to know whether Greening Australia propagated ground-storey species and sold them to nurseries. It was advised that it does not tend to sell on the commercial market and generally grew plants for its own projects.<sup>194</sup>

#### MONITORING AND WEEDING BY VOLUNTEERS

- 6.46 The Committee inquired whether volunteers checked the progress of plantings and cleared out invasive weeds. It heard that it depends on what the organisation is funded to do but the
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<sup>188</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, pp. 49; 50.

<sup>189</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 52.

<sup>190</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 50.

<sup>191</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 51.

<sup>192</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 51.

<sup>193</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 52.

<sup>194</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 52.

preference is to be involved in ongoing maintenance and to check survival rates and that this is generally built into a project proposal.<sup>195</sup>

#### WHETHER AN AGREEMENT IS CURRENTLY IN PLACE

- 6.47 The Committee asked about the relationship between government organisations and Greening Australia and whether there was currently a financial agreement in place. It was advised that a current agreement was not in place but that Greening Australia was keen to extend its work in the LCC as part of a future agreement. It also heard that Greening Australia had ‘a very strong relationship with ACT parks’ and is keen for revegetation work to continue.<sup>196</sup>

#### COSTS

- 6.48 The Committee asked what costs were involved ‘as a volunteer organisation with a not-for-profit status.’ It heard that while working with volunteers was cost-effective, costs were incurred—for example, with regard to protective equipment, briefing volunteers, coordinating and managing activities, making sure the work is done properly and safely, and nursery costs. Costs were higher for planting and growing tube stock compared with planting seeds.<sup>197</sup>

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<sup>195</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 52.

<sup>196</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 53.

<sup>197</sup> Mr Hugh Wareham, *Transcript of evidence*, 31 March 2016, p. 53.

## 7 COMMITTEE COMMENT

- 7.1 The overarching objective of catchment management is the protection of water resources. In the case of catchments that are sources of domestic water supply, the protection of water quality is of paramount importance. Every catchment has its own unique characteristics that generate respective risk profiles and which should be used to identify, prioritise and underpin management strategies to achieve catchment objective(s). Of equal importance is a sustainable funding model for catchment management.
- 7.2 The unique history and characteristics of the LCC are detailed in Chapter three. The Committee notes that a number of key aspects concerning the role and importance of the LCC, as a source of domestic water supply for the Canberra community, include:
- Construction of the Cotter Reservoir in the LCC in 1915–1918. The Dam was the only source of domestic water supply for Canberra.
  - The *Planning and Development Act 2007* provides the overarching legislative framework to protect the Territory's potable water catchments. The Act makes protection of existing and future domestic water supply the highest objective of the LCC.
  - Construction of the enlarged Cotter Dam expanded the storage capacity of the Cotter Reservoir from 4 Gigalitres (Gl) to approximately 78 Gl. The construction of the enlarged dam formed part of the Territory's water supply security. Its construction makes the need for effective catchment in the LCC more apparent.
- 7.3 The Audit emphasised that the highest goal of the LCC is protection of water quality. The Auditor-General also noted this objective was not clear to all stakeholders as the Audit was conducted.<sup>198</sup>
- 7.4 The Committee notes that the Audit identified a number of areas of concern relating to restoration of the LCC. To address these concerns, the Audit made 12 recommendations which were all agreed to by the Government. The Audit concluded that priority should be given to important and ongoing work in the LCC, including—:
- the inspection and maintenance of erosion control structures;
  - a review of the LCC road and fire trail network;
  - review of three areas of unmanaged pine plantation that present a fire risk;
  - controlling the major weeds;
  - completing a statutory plan of management for the LCC;
  - finalising controls on public access to the catchment; and

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<sup>198</sup> *Transcript of evidence*, 31 March 2016, p. 56.

- raising community awareness of the importance of access restrictions in protecting the water supply.<sup>199</sup>
- 7.5 As to the quality of the restoration undertaken to date and impetus for work that remains ongoing, an expert witness told the Committee that the LCC Strategic Management Plan of 2007 which the Audit had reported on was ‘a very good plan’ and ‘covered all the salient features required for the management of a catchment.’ The witness acknowledged that valuable work had been undertaken on the restoration of the Catchment between the 2003 fires and the finalisation of the Plan. The witness expressed the view that it was critical to maintain the Catchment and ‘to maintain the water quality in that dam to a level which is perfectly useable on a continuing basis for drinking water supply.’<sup>200</sup>
- 7.6 The Committee acknowledges that cooperation across agencies and community volunteers in the restoration of the LCC has resulted in the achievement, or part achievement, of almost all twenty-nine management actions outlined in the 2007 LCC Strategic Management Plan.<sup>201</sup> Notwithstanding, the Committee emphasises that further work remains.

## BUDGET AND FUNCTIONAL CHANGES

- 7.7 The Committee notes that since presentation of the Audit report a number of significant aspects relating to management of the LCC have occurred:
- 7.8 Firstly—as part of the 2015–16 Budget, the Government appropriated to the Territory and Municipal Services (TAMS) Directorate a total of \$7.8 million over four years to actively manage and protect the LCC. The Minister for Planning and Land Development elaborated:
- This investment has allowed work to commence on the repair of the erosion control structures to better protect water quality to deliver further fuel management activities, such as removal of pine tree regrowth which poses an increased fire hazard, repair fire trails; control pest plants and animals; increase staff presence in the area to ensure illegal activity is minimised; and complete a management plan for the area.<sup>202</sup>
- 7.9 Secondly—the Government announced the creation of a single conservation agency within the Environment and Planning Directorate (EPD) from 1 July 2016. The Minister explained:
- The single conservation agency in EPD will, particularly in relation to the lower Cotter catchment: lift up the planning and management structures into a more strategic role and be responsible directly to the minister; enhance implementation of the Nature

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<sup>199</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 4.

<sup>200</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 22.

<sup>201</sup> ACT Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.

<sup>202</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 31.



Conservation Act 2014, which creates the statutory roles of the Conservator of Flora and Fauna and the Parks and Conservation Service; strengthen ongoing management of parks and reserves within an environment and catchment management context rather than the previous municipal operational function, if you like; and maintain strong relationships between conservation and the planning of our city. That is a change in the way we have previously looked at that management.<sup>203</sup>

7.10 The Committee welcomes the funding allocation in the 2015–16 Budget, and across the outyears, for active management and protection of the LCC. Further, the creation of a single conservation agency coupled with implementation of a number of Audit recommendations should assist with improving coordination across the multiple executive agencies with responsibilities in the Catchment.

7.11 Notwithstanding, the Committee remains concerned that in the absence of a sustainable funding model, despite the improvement in water quality, in the main attributable to the restoration works that have taken place post the 2003 bushfires, the ongoing risk profile for the Catchment remains significant. The Auditor-General commented:

...the lower Cotter catchment was exposed to significant risks; that is despite the improvement in water quality, the significant risks are interrelated and could, under adverse conditions, accumulate and could lead to a catastrophic failure of the water catchment.<sup>204</sup>

7.12 The Committee acknowledges that the finalisation of the Plan of Management for the LCC (as recommended by the Auditor-General<sup>205</sup>) will form the basis for a sustainable funding model. The Committee notes that the Auditor-General recommended that the Plan be finalised by July 2017. As to progress with regard to finalisation of the Plan, the Committee was told:

The plan of management is still being finalised, but we have a directors-general working group, and that starts with us each bringing our relative expertise. EPD brings policy responsibility for environmental matters, ESA brings both policy input for emergency management and operational oversight, and TAMS brings land management expertise. We expect that those relative areas of strength would be reflected in the plan of management as it is documented and formalised. So, yes, we all bring our bits together and we all recognise the strongest elements of our contribution, where we take the lead role.<sup>206</sup>

7.13 Given the significance of the Catchment to the Territory's water supply, the Committee is of the view that a sustainable funding model for management of the Catchment should be

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<sup>203</sup> Mr Mick Gentleman MLA, *Transcript of evidence*, 31 March 2016, p. 31.

<sup>204</sup> Mr Brett Goyne, *Transcript of evidence*, 31 March 2016, p. 59.

<sup>205</sup> Recommendation 8.

<sup>206</sup> Mr Gary Rake, *Transcript of evidence*, 15 March 2016, p. 19.

developed beyond the 2015–16 Budget and outyears to ensure that an adequate budget is provided for the ongoing work required to implement the finalised plan of management for the LCC now and into the future.

## Recommendation 1

**7.14 The Committee recommends that the ACT Government implement a sustainable funding model for management of the Lower Cotter Catchment (LCC) through the Plan of Management for the LCC.**

7.15 The Committee notes with regard to the Catchment and its overriding objective being protection of water quality that primarily two stakeholders are involved—Icon Water which has responsibility for maintaining source water protection and the Government agency (formerly TAMS) which has responsibility for land management.

7.16 The Committee further notes that with regard to appropriation lines—costs of managing the Catchment appear to fall within the responsibility of the land manager’s budget. The Committee acknowledges that this may not be entirely accurate but in the absence of a transparent link between the revenue from selling water and the costs of catchment management, the full costs appear to fall to the Government agency with responsibility for land management.

7.17 The Committee believes that improved transparency with regard to budget inflows and outflows for the management of the LCC and how these flows are apportioned across the primary two stakeholders involved—Icon Water which has responsibility for maintaining source water protection and the Government agency(ies) with responsibility for land management—would strengthen a sustainable funding model.

## Recommendation 2

**7.18 The Committee recommends that the ACT Government improve transparency with regard to budget inflows and outflows for the management of the Lower Cotter Catchment and how these flows are apportioned across the two primary stakeholders involved—Icon Water which has responsibility for maintaining source water protection and the Government agency(ies) with responsibility for land management.**

## PROGRESS ON IMPLEMENTATION OF RECOMMENDATIONS

7.19 The Auditor-General made 12 recommendations to address the Audit findings—designating three of the 12 as high priority. As at 11 February 2016, the Government had completed one of the 12 recommendations, eight recommendations had commenced and were in progress with varying timeframes to completion, with the remaining two not yet commenced. Key actions in progress to address the Audit findings<sup>207</sup> include:

- Development of agreed standards and processes for works to be undertaken on Controlled Land—*Code of Practice: Practical guidelines and standards for co-operation for maintenance works*.
- Establishment of an inter-directorate working group with representation drawn from TAMS, EPD, the ESA in the Justice and Community Safety Directorate, and Icon Water to oversight a whole of Government response to the recommendations of the Audit report, and provide the following to the Directors-General Water Group: (i) terms of reference for the operation of the inter-directorate working group; (ii) an implementation plan, referenced against the relevant audit report recommendations; and (iii) reporting protocol back to the DGs Water Group; and (iv) progress reports against implementation plan milestones.
- Commencement of a review of the *Water Resources Act 2007* (the Act) to determine if amendments are required to reflect the current administrative and policy arrangements for water resource management as detailed under section 64 of the Act.
- Development of a draft Risk Plan to be progressed by the LCC inter-directorate cross-agency working group.
- Development of a draft Plan of Management for the LCC.
- Planning and implementation of pine wildling removal trials within the Blue Range area to determine what removal methods best align with the preservation of water quality. These trials are being designed and implemented in collaboration with Icon Water.
- Commencement of work to identify high priority erosion and sediment control structures as well as sources for erosion and completion of studies to determine the root causes of these issues together with appropriate rectification works.

7.20 The Committee emphasises that it is the action taken by applicable agencies to implement Audit recommendations that is all important, in helping achieve better efficiency and improving accountability of the Government, not the recommendations *per se*.

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<sup>207</sup> Submission No. 3—ACT Government.

- 7.21 The Committee has carefully considered the progress update for each of the recommendations reflecting their status (February 2016) as received from the Minister for Transport and Municipal Services together with evidence from its public hearings. The Committee notes that work against each of the recommendations has taken place, and progress has been achieved, with one complete and ongoing, and others at various stages of progress—i.e., either close to completion, or well underway.
- 7.22 The Committee is generally satisfied that the lead Directorate for the Audit report has either addressed, or is in the process of addressing, those matters identified by the Audit as requiring attention. Further, where action is pending, the Committee believes the Directorate has signalled a credible intention to follow through with implementation. However, the Committee emphasises that notwithstanding the progress to date and commitments to follow through with implementation, management of the Catchment is an ongoing matter now and into the future.

### Recommendation 3

- 7.23 The Committee recommends that the ACT Government report to the Assembly, by the last sitting day in March 2017, on the progress of the Government’s implementation of the recommendations made in Auditor-General’s Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, that have been accepted either in-whole or in-part. This should include: (i) a summary of action to date, either completed or in progress (including milestones completed); and (ii) the proposed action (including timetable), for implementing recommendations (or parts thereof), where action has not yet commenced.**

#### REPORT ON RESTORATION OF THE LOWER COTTER CATCHMENT

- 7.24 The Committee notes that recommendation 12 is directed to the Commissioner for Sustainability and the Environment. Specifically, it states that the:
- The Commissioner for Sustainability and the Environment should evaluate the restoration of the Lower Cotter Catchment against the Management Goals contained in the Strategic Management Plan, and report to the Minister for the Environment on priorities to be identified for the next decade, by December 2017.
- 7.25 Greening Australia Capital Region welcomed this recommendation and ‘the opportunity for strategic thinking into the next decade by the Commissioner for Sustainability and the Environment.’ It also indicated that it ‘would welcome the opportunity to contribute to this process.’<sup>208</sup>

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<sup>208</sup> Submission No. 2, Greening Australia Capital Region, p. 2.

- 7.26 The Government advised in its Submission<sup>209</sup> that work against recommendation 12 had not commenced.
- 7.27 In evidence, the Committee sought an update on the Government's response to recommendation 12, including advice about the development of terms of reference and consultation for the evaluation. The Committee was told that although initial scoping had been undertaken by the Commissioner's office, terms of reference for the evaluation had not been drafted. The Committee asked whether the report would be available by December 2017 as the Auditor-General recommended and the Minister responded: 'I do not have any advice that says otherwise.'<sup>210</sup>

## Recommendation 4

- 7.28 The Committee recommends that the responsible Minister inform the ACT Legislative Assembly by the last sitting day in March 2017 on progress with regard to the Commissioner for Sustainability and the Environment's evaluation of the restoration of the Lower Cotter Catchment.**

## CURRENT ISSUES AND RISKS TO THE CATCHMENT

### THE EFFECT OF PINE WILDLINGS

- 7.29 The Committee understands that pine wildling growth is a significant risk to the Catchment. The Audit report, along with written and oral evidence, emphasised the importance of controlling pine wildling regrowth to reduce fire risk.
- 7.30 As to options available for removal and to stop regrowth, an expert witness told the Committee:
- You have to chop them out. There is no magic cure for it because you want to revegetate with stable native vegetation, grassy woodlands or simply eucalypt forest. That is the ultimate aim, because you get better water quality and you get better water volume if you can regenerate the catchment into a grassy woodland or light eucalypt cover. Pines take up lots of water, they wreck the soil for growing anything else and they are a fire hazard. My view is that they are a disaster in a drinking water catchment.<sup>211</sup>

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<sup>209</sup> Dated 11 February 2016.

<sup>210</sup> *Transcript of evidence*, 15 March 2016, pp. 12; 13.

<sup>211</sup> Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, pp. 23–24.

- 7.31 The Committee understands that, in many cases, the pine wildling regrowth is located in terrain that is difficult to access and on slopes that have the potential, pending the removal treatment, to generate significant erosion gullies. The Committee acknowledges that pine wildlings present a significant fire risk coupled with the detrimental impact they can have on water and soil quality. Notwithstanding, to avoid generating additional risks, options for removal and prevention of regrowth need to be carefully considered.
- 7.32 The Committee is aware that the Government has implemented pine wildling removal trials within the Blue Range area to determine what removal methods best align with the preservation of water. The trials are being designed and implemented in collaboration with Icon Water.<sup>212</sup>

## Recommendation 5

- 7.33 The Committee recommends that the ACT Government inform the ACT Legislative Assembly by the last sitting date in 2016 as to progress on the pine wildling removal trials within the Blue Range area. This should include detail on: (i) key milestones; (ii) trial outcomes concerning identification of removal methods that best align with the preservation of water; and (iii) a proposed timeline for implementation of pine wildling removal within the Lower Cotter Catchment.**

### ACCESS AND RECREATION USAGE

- 7.34 In the case of access to catchment areas for recreation usage, the Committee understands that only recreational activities compatible with the protection of water quality should be permissible.
- 7.35 The Committee acknowledges that the Audit concluded, amongst other things, that priority should be given to important and ongoing work in the LCC, including: (i) finalising controls on public access to the Catchment; and (ii) raising community awareness of the importance of access restrictions in protecting the water supply.<sup>213</sup>
- 7.36 The Committee notes that the 2007 LCC Strategic Management Plan states:
- Access to water supply catchments is a key management issue and relates to the multiple barrier approach for the prevention of catchment contamination. Now that water is being extracted from the lower Cotter for Canberra's domestic water supply, the extent of public access and associated recreational activities that are appropriate and consistent with the protection of water quality will need to be considered. An

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<sup>212</sup> Submission No. 3—ACT Government

<sup>213</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 4.

access strategy based on a risk assessment will be prepared. This may result in restrictions on access and some recreational activities that were previously allowed in the catchment.<sup>214</sup>

- 7.37 In evidence, the Committee discussed with the Minister and officials whether the development of a recreation plan for the LCC was being considered. The Committee was subsequently provided with a copy of a draft LCC Recreation Strategy (January 2010).<sup>215</sup>
- 7.38 The Committee is concerned, given the importance of managing access to the LCC, that the recreation strategy, as identified in the 2007 LCC Strategic Management Plan remains in draft form.

## Recommendation 6

- 7.39 The Committee recommends that the ACT Government prioritise the finalisation of the Lower Cotter Catchment Recreation Strategy. The Strategy, amongst other things, should include: (i) identification of controls on public access to the Catchment; and (ii) strategies to raise community awareness of the importance of access restrictions in protecting the water supply.**

### COMMUNITY INVOLVEMENT

- 7.40 The Committee acknowledges that a significant number of experts, community groups and individuals have an ongoing interest in the management of the Catchment.<sup>216</sup>
- 7.41 The Committee notes that the 2007 LCC Strategic Management Plan states:
- Opportunities for partnerships and collaborative projects and programs with the scientific community and community groups will be encouraged and promoted. Programs will include research and monitoring, revegetation and restoration programs, heritage protection and restoration, interpretation and education projects.<sup>217</sup>
- 7.42 The Committee also acknowledges that a significant amount of restoration work in the Catchment has been undertaken by volunteers coordinated by Greening Australia.
- 7.43 In its submission, Greening Australia highlighted the organisation's heavy involvement in the restoration of the LCC commencing in 2004 as well as its ability to harness the support of

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<sup>214</sup> ACT Government. (2007) *Lower Cotter Catchment Strategic Management Plan* (final), January, p. xiii.

<sup>215</sup> QToN No. 6—31 March 2016.

<sup>216</sup> ACT Government. (2007) *Lower Cotter Catchment Strategic Management Plan* (final), January, p. xiii.

<sup>217</sup> ACT Government. (2007) *Lower Cotter Catchment Strategic Management Plan* (final), January, p. xiii.

nearly 15,000 volunteers to revegetate over 500 hectares of the catchment. In its submission Greening Australia advised:

We have established a huge volunteer base during this period, of keen, knowledgeable Canberrans, able and ready to continue their work. We have no current funding to continue works in the Lower Cotter catchment, meaning these community members are no longer able to be actively engaged in helping in the catchment. These volunteer workers not only benefit the health of the catchment, helping reduce erosion and improving biodiversity, but are a large group of Canberrans with direct personal investment and commitment to their water catchment, through their hands on work.<sup>218</sup>

7.44 The Audit report and an expert witness gave recognition to the substantial positive impact of revegetation work undertaken by Greening Australia in the Catchment.<sup>219</sup>

7.45 The Committee notes that in its submission, Greening Australia proposed an additional recommendation, that:

Additional sites be identified in the Cotter catchment with a view to extending the previous programme of native planting and habitat restoration in partnership with the local community.<sup>220</sup>

7.46 The Committee understands that there are further areas of the LCC identified by Greening Australia and TAMS 'which would be suitable for community-led restoration events.' Further, some of the areas identified are referred to in Recommendation 9 of the Audit report. Greening Australia expressed a view that 'removal of unmanaged pine areas presents a fantastic opportunity to re-engage the community in the Lower Cotter Catchment'<sup>221</sup> and provided on notice further detail regarding some potential sites in the LCC that it considered as suitable for planting or for enhancement planting. The Committee notes that the information was provided with the expectation that the sites would need to be further discussed and confirmed with the ACT Parks and Conservation Service.<sup>222</sup>

7.47 In evidence, the Committee sought to ascertain from responsible Ministers whether the replanting and restoration program undertaken by Greening Australia would be extended. The Committee was told:

Currently, we still have an agreement with Greening Australia to deliver revegetation in the Cotter catchment. That is coming to an end. We have a little bit of money in the

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<sup>218</sup> Submission No. 2, Greening Australia Capital Region, p. 1.

<sup>219</sup> Refer: ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015; Professor Ian Falconer, *Transcript of evidence*, 31 March 2016, p. 26.

<sup>220</sup> Submission No. 2, Greening Australia Capital Region, p. 1.

<sup>221</sup> Submission No. 2, Greening Australia Capital Region, p. 1.

<sup>222</sup> QToN No. 7—31 March 2016.



appropriated funds to TAMS—just a little bit. Once we understand the need for the revegetation, if we believe that it is not going to come back of its own accord and if we are going to hold those hill slopes and we need to revegetate, we will be able to provide an informed bid to government to get hold of those funds.

We have a great relationship with Greening Australia. As a parks service, if we see an immediate need, we prioritise that and we absorb that. That may well be the case in certain pockets within the lower Cotter catchment. I suppose my answer to your question would be that revegetation is part of the solution. As to who we would use and exactly where we use it, that remains to be seen.<sup>223</sup>

- 7.48 The Committee is of the view that Greening Australia has considerable experience in restoration, remediation and replanting work. The work on the ground in the LCC and its positive contribution to catchment outcomes is indicative of the expertise and experience the organisation would bring to any future restoration work in the Catchment.
- 7.49 Further, the Audit and the Committee's inquiry suggest that there is scope for further restoration, replanting and maintenance work in the LCC that would assist with the achievement of catchment management objectives. An agreement with a community based organisation such as Greening Australia would be consistent with the objectives of the 2007 LCC Strategic Management Plan with regard to community involvement, in that, 'partnerships and collaborative projects and programs with the scientific community and community groups will be encouraged and promoted'.

## Recommendation 7

- 7.50 The Committee recommends that the ACT Government consider extending the program of native planting and habitat restoration for the Lower Cotter Catchment in partnership with the local community and community-based organisations and groups.**

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<sup>223</sup> Mr Daniel Iglesias, *Transcript of evidence*, 31 March 2016, p. 45.



## 8 CONCLUSION

- 8.1 The overarching objective of catchment management is the protection of water resources. In the case of catchments that are sources of domestic water supply, the protection of water quality is of paramount importance. Every catchment has its own unique characteristics that generate respective risk profiles and these should be used to identify, prioritise and underpin management strategies to achieve catchment objective(s). Of equal importance is a sustainable funding model for catchment management.
- 8.2 The LCC has a unique history and specific characteristics that require careful and appropriate management to ensure the protection of the Catchment as a source of domestic water supply in the Territory.
- 8.3 The Committee acknowledges that cooperation across agencies and community volunteers in the restoration of the LCC has resulted in the achievement, or part achievement, of almost all twenty-nine management actions outlined in the 2007 LCC Strategic Management Plan.<sup>224</sup> Notwithstanding, the Committee emphasises that further work remains.
- 8.4 The Audit has therefore been important in setting out a framework for the management of the LCC now and into the future.
- 8.5 The Committee wishes to thank all of the organisations that, and individuals who, have contributed to its inquiry, by making submissions, providing additional information, and/or appearing before it to give evidence. The Committee is grateful that it was able to draw on a broad range of expertise and experience in its deliberations.
- 8.6 The Committee has made **seven** recommendations in relation to its inquiry into Auditor-General's report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*.

Nicole Lawder MLA

Chair

26 July 2016

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<sup>224</sup> ACT Auditor-General's Report No. 3 of 2015: *Restoration of the Lower Cotter Catchment*, May 2015, p. 3.



## Appendix A SUMMARY OF AUDIT REPORT RECOMMENDATIONS

The Audit report recommendations are reproduced in full below.

### **Recommendation 1—Developing a Code of Catchment Management**

A Code of Potable Water Catchment Management, to direct land management activities in the LCC, should be developed, in consultation with: Territory and Municipal Services, Icon Water, the Environment and Planning Directorate and the Environment Protection Authority, by December 2016.

A lead agency has not been nominated as it may be affected by a decision in relation to Recommendation 5.

(The Code of Potable Water Catchment Management could be based on a review of the ACT Code of Forest Practice 2005 and be used as a standard and a condition contained in environmental authorisations for the LCC. It should be consistent with the Australian Drinking Water Guidelines and consistent with provisions of the TAMS and ACTEWAGL, Code of Practice: Practical guidelines and standards for co-operation for maintenance works.)

### **Recommendation 2—Review of management agreement**

The purpose and intention of the Management Agreement between the Conservator of Flora and Fauna and Icon Water (ActewAGL Distribution)—as it relates to the Lower Cotter Catchment—should be reviewed by the Conservator to determine if the agreement should specifically exclude the Lower Cotter Catchment.

(There may be no substantial basis for the inclusion of the Lower Cotter Catchment, as its inclusion in the agreement is only needed if Icon Water's actions might conflict with the management objectives for the catchment, in particular, protecting the water supply. If the Conservator considers that an agreement is necessary, the reasoning for including the Lower Cotter Catchment should be documented in the agreement being developed.)

### **Recommendation 3—Implement the TAMS and Icon Water Code of Practice**

The ACT Code of Practice which guides maintenance works on Controlled Land should be implemented by the Territory and Municipal Services Directorate and Icon Water, giving particular attention to the information-sharing and approval processes for annual operations plans and works plans.

(If the Conservator of Flora and Fauna specifically excludes the Lower Cotter Catchment from the Management Agreement (Recommendation 2) then Icon Water and Territory and Municipal Services Directorate should develop a Memorandum of Understanding to integrate their activities using the ACT Code of Practice.)

**Recommendation 4—Review and finalise the Parks and Conservation Service Code of Sustainable Land Management**

The status of the draft Parks and Conservation Service, Code of Sustainable Land Management should be reviewed and either finalised or rescinded by the Territory and Municipal Services Directorate. If finalised, this should occur by October 2016.

**Recommendation 5—Review the management and coordination arrangements for the Lower Cotter Catchment****HIGH PRIORITY RECOMMENDATION**

New catchment management coordination and decision-making arrangements specifically for the Lower Cotter Catchment should be developed by the ACT Government and involve consultation with Icon Water, Territory and Municipal Services, Environment Protection Authority, Environment and Planning Directorate and Emergency Services Agency.

(The aim is to develop effective, streamlined coordination and decision-making arrangements at the high level, and to integrate these arrangements into the operational level. An important consideration is that the decision-makers must also have the authority to assign and commit the necessary resources to implement their decisions.)

**Recommendation 6—Giving effect to the Water Resources Act: Water policy coordination**

The Environment Protection Authority's role as articulated in section 64 of the Water Resources Act 2007 should be implemented or reviewed.

(The Administrative Arrangements for water policy should align with section 64 of the *Water Resources Act 2007* or if existing arrangements are maintained in that water policy is in the Environment and Planning Directorate, the *Water Resources Act 2007* should be amended.)

**Recommendation 7—Development of a Lower Cotter Catchment risk plan****HIGH PRIORITY RECOMMENDATION**

A cross-agency risk management process and plan for the management of the Lower Cotter Catchment in reference to the land managed as a drinking water catchment should be developed by the Territory and Municipal Services Directorate, in consultation with key stakeholders, in particular Icon Water, Emergency Services Agency and the Environment and Planning Directorate, by June 2016.

(Territory and Municipal Services should therefore take carriage of the risk process and plan which should be reviewed every three years or sooner if the risk profile merits review.)

**Recommendation 8—Finalise the plan of management for the Lower Cotter Catchment**

The Plan of Management for the Lower Cotter Catchment should be finalised, by the Territory and Municipal Services Directorate, by July 2017.

(Community consultation for the Plan of Management should be based on the knowledge that the key management objectives for the Lower Cotter Catchment have been decided and are contained in the *Planning and Development Act 2007* and the Territory Plan 2008.)

**Recommendation 9—Regrowth pine forest in and adjacent to the Lower Cotter Catchment**

An action plan for the removal of the regrowth and unmanaged remnant pine forests in, and adjacent to, the Lower Cotter Catchment should be developed and implemented by the Territory and Municipal Services Directorate. In the development of the plan and in implementing it consultation should occur with the Emergency Services Agency, the Environment and Planning Directorate, and Icon Water.

**Recommendation 10—Review of Lower Cotter Catchment road and fire trail network**

The road and fire trail network in the Lower Cotter Catchment should be reviewed and a road network improvement plan should be developed by Territory and Municipal Services in consultation with Emergency Services Agency, Icon Water and the Environment and Planning Directorate. The review should be completed by July 2016.

(The review should define the minimum road and fire trail network that balances the goal of access for fire fighting with the goal of minimising roads and fire trails so as to minimise erosion and sediment movement into the reservoir; and examine gates and other control structures that effectively restrict or control public access but allow access for fire fighting and service needs.)

**Recommendation 11—Remediation of sediment control structures in the Lower Cotter Catchment**

**HIGH PRIORITY RECOMMENDATION**

The effectiveness of sediment control structures in the Lower Cotter Catchment should be assessed to identify damaged and poorly functioning structures and pondage, and an action plan developed for implementing repairs by Territory and Municipal Services in collaboration with Icon Water.

**Recommendation 12—Report on restoration against the strategic management plan**

The Commissioner for Sustainability and the Environment should evaluate the restoration of the Lower Cotter Catchment against the Management Goals contained in the Strategic Management Plan, and report to the Minister for the Environment on priorities to be identified for the next decade, by December 2017.





## **Appendix B      LIST OF WRITTEN SUBMISSIONS**

Submission No. 1—Emeritus Professor Ian Falconer

Submission No. 2—Greening Australia Capital Region

Submission No. 3—ACT Government



## Appendix C COMMITTEE PUBLIC HEARINGS

The following witnesses appeared before the Committee at public hearings:

### **Public hearing of Tuesday 15 March 2016**

- Emeritus Professor Ian Falconer AO, DSc, Water Quality Consultant
- Mr Mick Gentleman MLA, Minister for Planning and Land Development
- Mr Gary Byles, Director-General, Territory and Municipal Services (TAMS) Directorate
- Mr Daniel Iglesias, Director, Parks and Conservation Service, TAMS
- Mr Neil Cooper, Manager Fire, Forests and Roads, Parks and Conservation Service, TAMS
- Mr Hugh Wareham, Director of Conservation (Canberra) Head of Government Relations, Greening Australia
- Dr Maxine Cooper, ACT Auditor-General
- Mr Brett Goyne, former Performance Audit Senior Manager

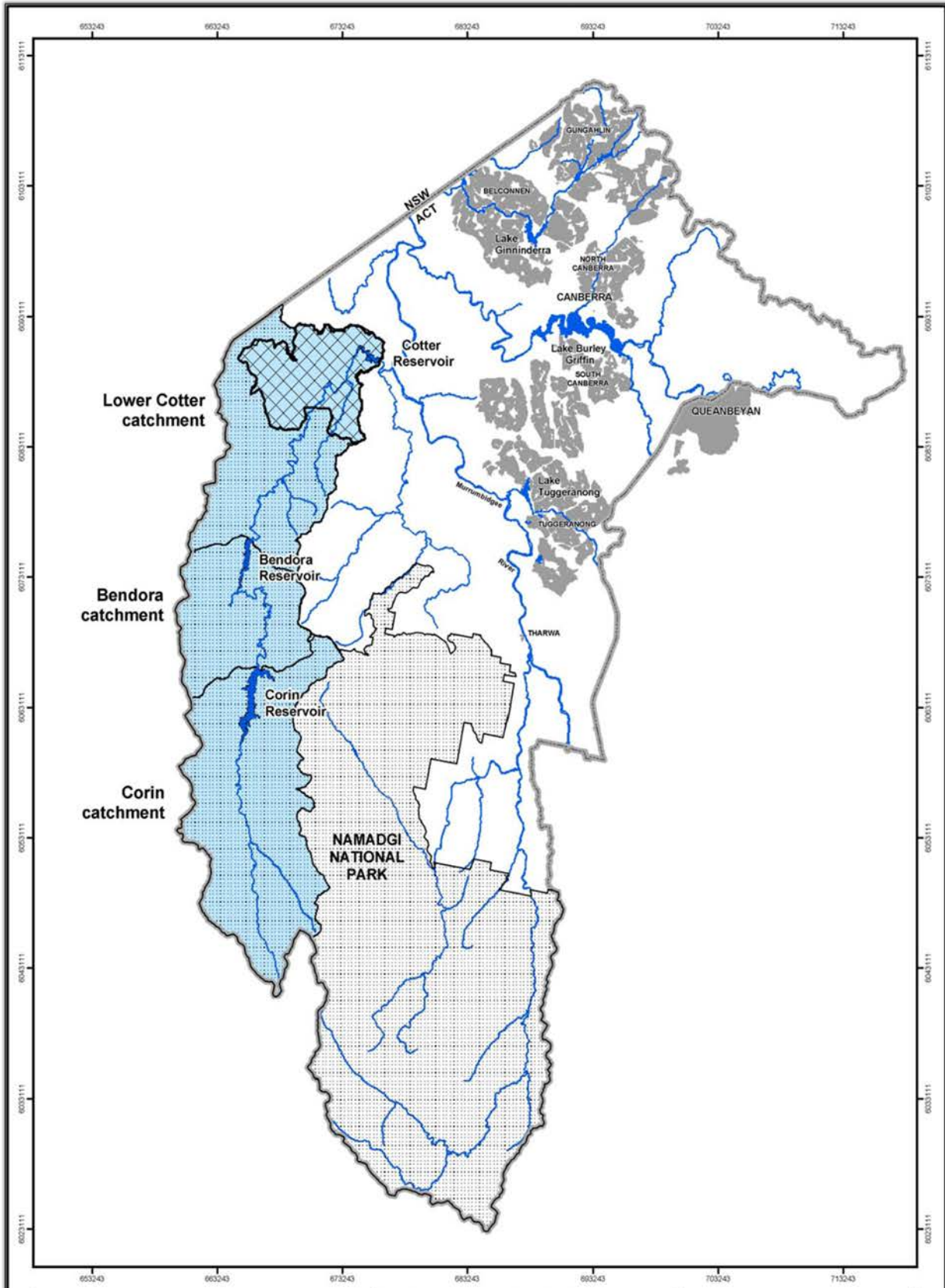
### **Public hearing of Thursday 31 March 2016**

- Mr Simon Corbell MLA, Minister for Police and Emergency Services and Minister for the Environment and Climate Change
- Mr Gary Rake, Deputy Director General, Environment and Planning Directorate
- Ms Annie Lane, Executive Director, Environment Division, Environment and Planning Directorate
- Mr Dominic Lane, Commissioner, ACT Emergency Services Agency, Justice and Community Safety



## **Appendix D    MAP OF THE LOWER COTTER CATCHMENT**





**Clean water  
Healthy landscapes**  
**MAP 1 Cotter Catchment**

**Legend**

- ACT / NSW Border
- Lower Cotter study area
- Roads required for fire management (indicative)
- Catchment areas
- Reservoir/Lake
- National Park
- Urban development

N  
3 1.5 0 3 Kilometres

**environment ACT**  
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**Date: 19 May 2006**

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