AGRICULTURE AND ENVIRONMENT COMMITTEE

Members present:

Mr GJ Butcher MP (Chair)
Mr AJ Perrett MP
Mrs DE Farmer MP
Mrs J Gilbert MP
Mr R Katter MP
Mr JE Madden MP
Mr EJ Sorensen MP

Member in attendance:

Mr IP Rickuss

Staff present:

Mr R Hansen (Research Director)
Mr P Douglas (Principal Research Officer)

PUBLIC BRIEFING—AUDITOR-GENERAL REPORT 16 OF 2015-16: FLOOD RESILIENCE OF RIVER CATCHMENTS

TRANSCRIPT OF PROCEEDINGS

WEDNESDAY, 12 OCTOBER 2016

Brisbane

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Committee met at 8.33 am

BIRD, Ms Daniele, Assistant Auditor-General, Performance Audit, Queensland Audit Office

BROWN, Mr Darren, Director, Performance Audit, Queensland Audit Office

CHAIR: Welcome. I will start by introducing the committee members today. My name is Glenn Butcher. I am the chair of the committee and the member for Gladstone. To my left is Mr Tony Perrett, the member for Gympie and the deputy chair; Mrs Julieanne Gilbert, the member for Mackay; to my right, Mr Robbie Katter is not here yet, but he is on his way; Mr Jim Madden, the member for Ipswich West; Ted Sorensen, the member for Hervey Bay; and also joining us today is Mr Ian Rickuss, the member for Lockyer. He has sought leave to be part of today's hearings and is joining us.

The purpose of these briefings is to assist the committee in its consideration of report No. 16 titled *Flood resilience of river catchments*. We will start with an opening statement from the Queensland Audit Office followed by questions from the committee. At a quarter past 9, we will hear from the departmental officers about the implementation of recommendations from the audit. I now welcome Daniele Bird, Assistant Auditor-General, and Darren Brown, the Director, Performance Audit. For the benefit of Hansard, when you speak, can you please state your names and positions. I remind everyone that this briefing is being broadcast live to all who watch. I also remind those people and committee members that if you have a mobile phone or other electronic device to either switch it off or turn it to silent. Daniele and Darren would you like to start with an opening statement?

Ms Bird: Thank you, chair. We would love the opportunity to brief you on report No. 16 of 2015-16 titled *Flood resilience of river catchments*. This audit was in our strategic audit plan for a number of years. It was included in our plan as a topic suggested by the parliament. The Finance and Administration Committee had written to us and suggested that the condition of the river catchments has a critical bearing on the magnitude and speed of downstream flooding during extreme weather events and proposed that we examine whether best practice approaches were being followed in the management of the catchments in the upper reaches of the Brisbane and Bremer rivers. I will pass over to Darren Brown, who will give you a brief overview of the objective of our audit, our conclusions and recommendations and then over to you for questions.

CHAIR: No problem at all.

Mr Brown: Our report was tabled in parliament in April of this year. The objective of the audit was to determine the effectiveness of flood resilience activities in the Bremer, Lockyer, mid and upper Brisbane River catchments. Our main focus was at the catchment scale, specifically looking at the coordination, funding, resourcing and capability of agencies; the identification, assessment and prioritisation of risk; and whether flood risks were effectively managed. We audited the Department of the Premier and Cabinet, the Department of Infrastructure, Local Government and Planning, the Department of Natural Resources and Mines and four councils being the Ipswich City Council and the Lockyer Valley, Scenic Rim and Somerset regional councils.

In general, we found a positive increased effort and spending on building flood resilience by the four councils within their own council areas. There remains, however, an overall lack of accountability and shared responsibility across the councils and the state government. We concluded that integrated catchment management was missing and that was what was needed to achieve greater resilience across the catchments.

Integrated catchment management recognises and balances the relationships and factors impacting on the complex ecosystems within the catchments. It acknowledges that it is often not possible to adjust one factor without affecting another factor. It promotes the need for a coordinated approach across all levels of government and promotes community and private enterprise engagement, recognising that the inclusion of private landholders, the community, and private sector are critical to the achievement of outcomes.

We concluded that the state government and councils better understand their flood risk than they did in 2011 and that all of the councils are better prepared than what they were then. This is because they have acted to identify flood risk primarily through the analysis of historical data and recent flood information, through their local knowledge and through flood maps and flood studies.

However, presently, in the four catchments, no one entity is responsible for leading and coordinating cross-boundary risks, priorities and activities. This has meant that neither the contributing entities nor the broader public have a consistent clear and comprehensive understanding of what needs to be done, how it will be achieved and by whom. The concept of shared responsibility has not been realised with funding and resources not effectively allocated or prioritised across the catchments. That means that the funding and activities are not necessarily directed to the greatest catchment risks. It also presents a missed opportunity to integrate flood risk management with other elements of catchment management, such as water quality, biodiversity and leisure activities.

The key activity across these catchments is the Brisbane River Catchment Flood Study. The Brisbane River Catchment Flood Study program is a response to a recommendation from the Queensland Floods Commission of Inquiry. The program has three elements, being the flood study itself, the flood plain management study and the flood plain management plan. The total budget for the program at the time of audit was $5 million and that includes $3 million for the flood study itself and a total of $2 million for the flood plain management study and the flood plain management plan.

The complexity and work required for the flood study has meant that, at the time of the audit, it was not likely that all elements of the program will be delivered to the standard intended with the current funding that was in place. This means that either additional funding would be needed or the scope of the flood plain study and plan components would need to be constrained to fit within the remaining budget rather than what was necessarily needed to achieve the best possible outcomes.

The area covered by the program consists of the Lockyer and mid and lower Brisbane and Bremer catchments. It is a significant step forward for the government in identifying and assessing floods risks across the Brisbane River catchment. There is, however, a risk of some seeing the program as a solution to flood risk. Instead, it is one of many elements in effectively managing flood risk.

Furthermore, the studies do not address the needs of all of the catchments that we audited. Without the government adopting a unified catchment scale approach to identifying, assessing and managing flood risks, the benefits of the Brisbane River catchment flood studies might not be realised to their full potential.

We concluded that the state government and councils are not effectively regulating the construction of new levee banks and the modification of existing ones. This was because no process is in place to gain assurance over self-assessable levees and there is a lack of knowledge of existing levees, which hampers agencies. The lack of knowledge makes it impossible for councils to determine new from existing levees. It means that they cannot accurately differentiate works intended to maintain the condition of an existing levee, which is not subject to regulation, from work to construct a new levee or modify an existing one, which is subject to regulation. Levees constructed without state and council knowledge could potentially impact on the accuracy of flood modelling, because they are not included in the model. Similarly, not assessing the veracity of applicants' self-assessments potentially limits the accuracy of information input into the flood models. Without accurate and up-to-date knowledge, flood models and studies may be less effective.

We made four recommendations as a result of this audit. We recommended that, in the absence of stand-alone catchment management authorities, the Department of Instructure, Local Government and Planning coordinate flood resilience activities and funding in the four catchments and, as a matter of priority, establish what funding is reasonably required to complete all elements of the Brisbane River catchment flood study. We recommended that the four councils develop flood plain management plans in accordance with recommendation 2.12 of the final report of the Queensland Floods Commission of Inquiry and we recommended that the Department of Natural Resources and Mines and the four councils work together to effectively and economically regulate council levee banks. In brief, that is a summary of the report and I am happy to take any questions that the committee might have.

CHAIR: No worries at all.

Mr Brown: Thank you.

CHAIR: You comment in the report on the need for a catchment-wide approach to improve flood resilience and how councils need to contemplate spending resources upstream and outside their own electorates and boundaries to achieve benefits for the whole community. Can you explain what that means to the committee?

Mr Brown: Essentially, we found that councils are predominantly looking at and assessing their risk within their own council boundaries. What one council might rate at their No. 1 risk might be a lower-level risk when you combine all of the risks across the catchment. Applying for grant funding from the state based on the council's assessment of its risk within its own area is not necessarily identifying the best spend for those government grants at the catchment scale. It may be that one council is particularly better than another council at putting in applications for grant funding and might be more successful in achieving grant funding than another council. There is no assessment across those councils as to what is the highest priority in terms of mitigating the risk in the catchment.

CHAIR: Is there any other area where you see that that is done and is successful as part of your reporting and other avenues? Is that done anywhere elsewhere where people look outside their own boundaries to look for grants?

Mr Brown: In other jurisdictions it is done differently. We mention in the report that there are jurisdictions which have catchment management authorities. The operations of those catchment management authorities differ from one jurisdiction to another, and in some cases the catchment management authority is responsible for identifying the risks across the catchment and prioritising the funding in accordance with those risks.

CHAIR: That was not made as one of your recommendations to do that?

Mr Brown: To establish catchment management authorities?

CHAIR: Yes, and to lock that in across-the-board?

Mr Brown: We did recommend—

Ms Bird: The outcome.

Mr Brown: Yes, we are focused on the outcome, being integrated catchment management. As a key component of that, prioritisation of funding was also a part of that recommendation.

Mr RICKUSS: I have a supplementary to that. Of those councils that you mentioned, Ipswich is by far the biggest council. Admittedly, it could probably take a bit of the lead on that, but Brisbane City Council is also quite dramatically affected by the water flow. I think everyone is aware that Brisbane almost ran out of water in 2013. The smaller councils—Somerset, Lockyer and Scenic Rim—are really going to struggle to do a lot in those DNR management areas. What is missing from the recommendations is that Ipswich and Brisbane city councils have to take the lead in integrated catchment management. It is a lot easier to levy every water user $10 than try to get a few landholders to pay $100,000 to repair the riparian land.

Integrated catchment management really does affect the whole of South-East Queensland. It improves the quality of Moreton Bay, it improves the quality of drinking water and so on. I realise you have talked about integrated catchment management, but by concentrating on just those four councils you have omitted the elephant in the room which is the Brisbane City Council, which is by far bigger and uses more water than anyone else.

Mr Brown: Yes, certainly, but our recommendations are focused on the agencies that we audited. However, the report does identify that in talking about integrated catchment management we are talking about an integration of all stakeholders. I mentioned when I was talking about integrated catchment management that that means landowners, the private sector and any other councils that may have a stake in terms of managing the—

Ms Bird: They were just the ones that were in scope.

Mr RICKUSS: What I am getting from a lot of smaller councils in particular and probably even Ipswich is that they do not have the skills to manage this. DNR used to manage a lot of the levees and river management facilities. The state government has abrogated its need to do that and pushed it back to the councils. Do you not feel that there should be a more concerted effort from DNR to take back control of some of those issues?

Mr Brown: That relates to our recommendation 4, which was that DNR and the four councils get together to work out what the best model is to achieve the best outcomes in regulating the levees. We certainly heard from councils that it is an area of difficulty for them and concerns around the support that was being provided to them from the state government.

Mr RICKUSS: I feel you are being a bit soft on the councils. Google maps are now very accurate and have been very accurate for the last few years. They can tell where there is a new levee or an old levee. I own about 1.5 kilometres of riparian land on Lockyer Creek and I have a shed pad there. I have been going to build a shed. I can see where I have changed part the pad, and that is over approximately the last five years. I do not think that argument holds up any more about them not having access to good data on levees. If you go to Google maps or DNR maps, they are there now.

Mr Brown: The main issue is not that it is not possible. The main issue is that you need to start building your baseline and you need to start creating a register of what currently exists and then build on that moving forward.

Mr RICKUSS: The neighbours are pretty good at telling you when someone is building a levee across the creek that is going to flood them too.

Mr Brown: Yes. The issue is in terms of providing sufficient evidence of a sufficient standard to be able to prove that someone has breached the regulations.

Mr PERRETT: I note from your audit that there are different understandings of what flood resilience means amongst some of the councils. Can you give an example of the different understandings of flood resilience amongst these local authorities?

Mr Brown: It does vary quite considerably. Some focus resilience purely on their ability to respond when a flood occurs, whereas others are more about preventing areas from flooding where possible, preventing people from being affected by flooding by town planning and those sorts of things. The range of understanding between councils did vary to some extent and even within the state government, and that came down to a lack of integration in terms of agencies getting together and coming to a common agreement as to what they are talking about when they are talking about flood resilience.

Mr PERRETT: I would assume a lot of it would link back to their local disaster management plans.

Mr Brown: It does.

Mr PERRETT: I have spent many years in local government, particularly in the Gympie electorate. As deputy mayor of the Gympie region, we had a fairly advanced flood management plan for the local area. That was expanded after the 2011 flood to some of the other areas that experienced flooding, but a lot of it linked back to managing the issue at the time. I wonder whether any of the four local authorities that are mentioned here have expanded that, particularly since the Queensland Floods Commission of Inquiry.

Mr Brown: That work has started to occur, and we talk about that particularly around ensuring that the infrastructure is there, roads are built to a better standard to be able to resist flooding or resist the impacts of flooding to enable people to be evacuated, to enable supplies to get through in terms of flooding. In terms of building that sort of resilience, we did see improvements in that area. Again, the issue comes back to the coordination of those efforts and whether that could be better coordinated and better managed. There are then all of the other aspects of integrated catchment management which would build on those starting blocks.

Mr PERRETT: I think one of the challenges for local government is that they do not see it as their core business, and I think that links back to what was indicated by the member for Lockyer. They manage a lot of issues on behalf of their residents, but flood management tends to be one of those things that they think about every now and then, not as their core business. I am not certain that the skill sets are there. The suggestion is that there needs to be a strong lead from the state or through a department—hence recommendation 4 to get some positive action.

Mr Brown: Sure. In terms of some of the skills that are needed, they are very specialist and very expensive. It would not necessarily be prudent for councils to bring those sorts of skills on staff. Where you have those sorts of skills that are needed, it may be better that they are coordinated through state government rather than through councils.

Mrs GILBERT: I wanted to ask about the levees. Can you explain to the committee the role of the department and councils in relation to the approval of the management of the levees? The member for Lockyer has said that we can see where the levees are.

Mr Brown: The primary responsibility for managing and regulating levees is with councils themselves. The Department of Natural Resources and Mines is supposed to play a supporting role. We provide detail on page 45 of the report on the levee banks. Specifically, in figure 3F we detail the three different categories of levees—level 1, 2 and 3. Level 1 is self-assessable by the applicant.

Level 2 requires a code assessment, and they are the primary responsibility of councils. Level 3 requires an impact assessment. The councils, with the Queensland government as a referral agency—that is, the Department of Natural Resources and Mines—are responsible for the level 3 ones. Again, with level 3 ones, the Department of Natural Resources and Mines plays a support role for councils.

Mrs GILBERT: In the level 2 levees that councils are responsible for, what are the biggest issues for councils to be able to manage and monitor those levees?

Mr Brown: Again, assessing some of those levees will require some specialist skills. There are the issues that I raised around the lack of knowledge about what is existing and what is not existing—what is new. Where they determine that it fits under the regulations and that a council needs to make an assessment of the levee, they quite often require specialist skills to be able to make that assessment, and that can be quite difficult and quite expensive. It also means that there are risks for the council in terms of not doing it properly, so they need to make assessments about what cost they go to in assessing those level 2 levees.

Mrs GILBERT: If they do not do it properly, is there a risk to the landholders and the area around them?

Mr Brown: There is in terms of level 2, because a level 2 is a levee that is assessed as having a potential off-property impact. In those levees, the assessment of the off-property impact is not going to affect a significant number of people. However, if that assessment is not correct, the potential is that more people than expected could be affected by the levee not being constructed properly.

Mr RICKUSS: I have a supplementary to that on the levees. I have heard from councils that there is no penalty for them not regulating levees, so they are not going to do it. It is as simple as that. Why get into a task that is too hard, they do not understand and they cannot do? Would you say that the legislation needs to be tightened up slightly so that councils are required to regulate levees appropriately?

Mr Brown: That would be a question best directed to the department around its ability to get councils to comply with the requirements of the act.

Mr SORENSEN: With regard to vegetation management, your report states—

Both the state government and councils have vegetation management initiatives, but they are not coordinated across the catchments and are not strategic.

Can you give us some information on that?

Mr Brown: We found that all of the councils had some level of vegetation management programs. Again, it is similar to the issues that we talked about in terms of integrated catchment management. They are looking at the risks and the opportunities within their own council boundaries, which to some degree is natural and expected. The problem is that those programs are not necessarily directed to the watercourses and there is no follow-up of those programs to ensure that what is intended to be achieved with those programs is actually being achieved.

There is no consideration or assessment of the best placement and the best targeting of those vegetation management programs across the catchment. The assessment of whether all of the activity should go into the upper reaches or whether some of it should go into the upper reaches and different locations within the catchment is not being done. That is what we talk about in terms of strategic focus of those programs not being there.

We did meet with the Office of the Queensland Chief Scientist to discuss some of the benefits and risks of vegetation management. We make reference to a report from the Chief Scientist which talks about those issues. There are some potential benefits of getting that vegetation management right. There are also potential risks in not getting it right, so it needs to be coordinated and it needs to be strategic in the approach.

Mr SORENSEN: The floods at Boonah, and especially Gayndah, in the mainstream flattened all the vegetation, and there were some huge trees that went down. Then it goes into the waterways and gets tangled up with the bridges downstream. I know what you are talking about.

Mr Brown: Vegetation management really needs to be assessed in terms of where it is going to have the biggest impact, where it is going to have the least negative effects, where they should invest their resources and time, and how it should be monitored. It is not just about planting trees; it is about planting the right trees, clearing the wrong trees and maintaining them once they are actually planted.

Mr RICKUSS: It is almost that below-ground management as well, of the root system.

Mr Brown: Yes. In terms of being strategic, quite often the focus is on the riparian vegetation, which is very important, but there are also some benefits which the Chief Scientist highlights around more broadscale revegetation of slopes, for example, that feed into the catchments.

Mr RICKUSS: The secret to vegetation management is slowing the water down and having a small, slow flood over everywhere rather than trying to have a large flood over certain areas.

Mr Brown: Exactly.

Mr RICKUSS: Putting D9s into creeks does not work, I can tell you right now. The flood study that you were looking at needs funding of $5 million. Who should be funding that? Was that funder originally through DNR, or did Treasury fund that originally?

Mr Brown: The original $5 million was broken up between state and council funding. The state government provided 60 per cent of that, so $3 million. The number of councils, including the Brisbane City Council, contributed the remaining $2 million collectively.

Mr RICKUSS: Do you feel it is worth while spending the extra couple of million dollars to complete that properly, or whatever is required?

Mr Brown: We would recommend that they assess the impact—how much money is needed as a start. That is what we recommended—that, as a priority, they identify how much money they think they are going to need to achieve it to what it was intended to achieve and then make a cost-benefit assessment in terms of what could reasonably be achieved with less or more and come up with the options to make a decision about what level of funding is required.

Mr RICKUSS: That might be a good recommendation, Chair.

Mr MADDEN: I would like to begin by thanking you both for coming in today. I want to ask you if you considered certain things in the preparation of your report. There are five things which I will go through one by one. Firstly, did you consider the lack of continuity between these councils with regard to some basic town planning laws that directly relate to flood issues, such as minimum floor height? Some councils are using Q100, some councils are using highest known flood levels and some councils are using 1974. Did you consider that issue?

Mr Brown: We did consider that and we do talk about that in the report. To some extent, in terms of the flood levels, the Brisbane River Catchment Flood Study will address some of that for the areas that the catchment flood study covers because that will all be at the one flood height. Yes, we did look at that at the integration and that is an issue in the integration—

Mr MADDEN: Did you settle on one of the three—highest known flood level, 1974 or Q100?

Mr Brown: No, we did not. We only go as far as saying it should be consistent.

Mr MADDEN: Secondly, and this is probably following on from what my friend the member for Lockyer raised, I am a former councillor with the Somerset Regional Council. The issue with us was not identifying new levees; the problem with us was the repairs of levees or the sneaking up of the heights. Did you investigate how we can determine heights of levees on an ongoing basis?

Mr Brown: Again, the only way that can be determined is by establishing a register of what currently exists and moving forward from there and including that level of detail in the register to say, 'We have identified this levee at this property and it is at this particular height built to this standard.'

Mr MADDEN: Thirdly, did you consider the issue of grazing on riverbanks and whether that should be banned?

Mr Brown: No, we did not look at that.

Mr MADDEN: It might be a bit off the state government radar, but did you look at some sort of regulation of insurance of properties that have been subject to flooding?

Mr Brown: No, we did not go into that.

Mr MADDEN: I thought it might be a bit off your range.

Mr Brown: Yes, it was outside our scope.

Mr MADDEN: Finally, in relation to local disaster management groups—and I was a delegate for the Somerset local disaster management group so I am well aware of how they operate—do you see any ongoing role for LDMGs beyond the period of a flood with regard to considering issues of resilience?

Mr Brown: Definitely.

Mr MADDEN: Did you consider that in your report?

Mr Brown: Yes, we do talk about that in the report.

Mr MADDEN: They are my questions.

CHAIR: You made four recommendations. As part of your systems, do you go back and review whether your recommendations are endorsed? What mechanism do you use to see if your recommendations are actually adopted?

Ms Bird: We have what we call a follow-up process. Each year we do 10 to 12 new performance audits and we also do one or two follow-up audits. Those follow-up audits are selected out of writing out to the auditees of reports from about 18 months ago for their status of the implementation of our recommendations. We then make an assessment as to which one would be beneficial for us to go and do a follow-up audit. That is a full-blown audit. Otherwise, the recommendations generally for most of the entities would go to their audit committees and it is the actual agency's audit committees that then build those into their follow-up process through their audit committees. We do not do 100 per cent follow-up of our recommendations, but we do have that cycle basis through a number of them.

Mr RICKUSS: I notice in the responses from the councils that some of them were fairly agreeable with most of your reports but some of them were quite dogmatic in your approaches to the reports. Do you go through those responses? What is your assessment of those responses?

Mr Brown: Our process is designed to enable the agencies that we are auditing a number of opportunities to assess our findings, assess drafts of our report and provide comments about any disagreement or any differing views they may have around each particular finding. We went through that process in this audit. We provide a full and detailed acquittal to the agencies in terms of what a particular finding was, what their comment on that finding was, what our assessment on their comment was and what position we are going to take in terms of reporting it. Sometimes that might mean we ask agencies to provide additional evidence to support what they are saying. If they provide that evidence, we will assess that evidence and make a determination as to whether the finding stands or whether it needs to be adjusted.

Mr RICKUSS: Did you feel anything needed adjustment in your report because of some of the comments that you received?

Mr Brown: We always go through some level of adjustment. Sometimes it is purely around wording, technical terminology or some of those things. We did use subject matter experts in this audit as well to assist us with some of the terminology or industry terms. Probably one of the biggest areas of differing views was around the value of vegetation management.

Mr RICKUSS: Like I say, D9s do not work in creeks. I can verify that.

CHAIR: Can I ask one final question. Through your report you mention there is no significant way of tracking levees and, as you said, we do not even know exactly what is out there. Can you explain to the committee some of the things that the councils are doing to monitor those levees and get some history on them? Is it paper? Is it computers? Is it an app?

Mr Brown: It varies from council to council.

CHAIR: So they are all different?

Mr Brown: They are all different. Some do very little in that respect; others do a little bit more.

CHAIR: There is no register of any levees?

Mr Brown: To some extent, whether that register sits at a state level or a council level, there would be value in the state government discussing with councils as to how that register would be set up and where the best place for it to sit would be.

Mr RICKUSS: Just on that, Glenn, there has been a lot more activity from just neighbours. Prior to the 2011 floods and the 2013 floods, we were concentrating more on bushfires rather than floods and people were not really worried. All of a sudden, levees started to be built and neighbours have started to take a lot more notice of it now because of the impacts it could have on them. I think councils are basically aware of anything that has happened since 2011. Like I say, the Google data does give you some pretty good information if you really want to find things out.

Mr Brown: We do mention in the report that there are other tools like LiDAR and other tools that could be used. It can be very expensive so it may be that we say that we start from a point in time and move forward, rather than trying to go back and identify everything. Again, that is something for state government and councils.

Mr RICKUSS: South-East Queensland catchments did do a lot of that LiDAR after the flood events in South-East Queensland.

Mr Brown: Yes, and also you get periods of drought where the focus on flooding might drop off to some extent. We raise that in the report as a need to maintain that momentum through those periods.

Mr MADDEN: I have one final quick question on appendix A of your report. Do I read it right that you sought a response from four councils—Ipswich, Lockyer, Scenic Rim and Somerset—but the Ipswich City Council chose not to respond?

Mr Brown: Under our act, we are required to provide agencies up to 21 days to provide a formal response to a draft of the report, and we provided that to all of the agencies. During that 21-day period, the Ipswich City Council chose not to provide a formal response to the audit. Some time after that—on 4 July—they wrote to the Auditor-General to provide a response. That was some months after the audit had been tabled. My understanding of the reasoning for that was that council elections occurred some time just prior to the tabling of the audit and the council determined they would not respond until the council had sat and had time to consider.

Mr MADDEN: So their response is not incorporated in your report?

Ms Bird: No, it was not received in time.

Mr MADDEN: Was it considered in the preparation of your report?

Mr Brown: Their formal response was not considered because we did not have a formal response from them. Having said that, they responded to us throughout the drafting of the report in terms of the number of opportunities we provided to councils to respond to our findings. They provided feedback to us and comments to us right throughout the audit process.

Mr MADDEN: And that is through meetings?

Mr Brown: Through meetings and some letters. We sent out earlier drafts of the report, and they provided responses to us on those earlier drafts of the report.

Mr MADDEN: Do you have any comment to make about the fact that they are the only council that did not provide you with a response within the appropriate period of time?

Mr Brown: We would like agencies to formally respond to our reports prior to us tabling them, but at the end of the day it is a matter for the individual agencies whether they do or not.

Mr MADDEN: I will not press that. Thank you.

CHAIR: Thank you very much. I now invite the departmental officers to come forward.

DOWNES, Ms Mandy, Executive Director, Operations Support, Natural Resources, Department of Natural Resources and Mines

JOSEPH, Mr Saji, Director, Strategic Water Programs, Policy and Program Support, Department of Natural Resources and Mines

PARTON, Ms Kathy, Deputy Director-General, Strategy, Governance and Resilience, Department of Infrastructure, Local Government and Planning

MOON, Mr Brendan, Chief Executive Officer, Queensland Reconstruction Authority

CHAIR: Good morning. Halfway through this hearing the member for Mackay will be stepping out and the member for Bulimba will be changing place with her. Would you like to make an opening statement about the audit and the implementation of any recommendations that were made in that audit?

Mr Moon: Thanks for the opportunity to provide the committee with an update of the Queensland Reconstruction Authority's role in the implementation of the relevant recommendations of the QAO report. As you may be aware, the Queensland Reconstruction Authority is now the lead agency responsible for disaster recovery, resilience and also mitigation policy in Queensland following cabinet's recent review of the disaster management roles and responsibilities in Queensland. We are now working collaboratively with state agencies, local government and community groups in order to improve risk reduction and build resilience throughout communities here in Queensland. We not only assist communities recover and rebuild following natural disasters but also have, by virtue of our experience in the rebuilding of those communities, developed experience in what is required in terms of resilience policy and what is required in terms of mitigation activities across the state. We are taking a holistic approach to this responsibility and we are engaging not only with state agencies but also with local government in particular.

The Queensland Reconstruction Authority has drafted an updated strategy for disaster resilience for Queensland. This is not only just flood related. It deals with an all-hazards approach to all risks that our communities face here in Queensland. That strategy is out for consultation as we speak, not only to agencies but also we are engaging very, very heavily with the Local Government Association of Queensland and other community groups.

If I can focus more specifically on the QAO report recommendations, I am pleased to report on the progress of the implementation of those recommendations. Both the Department of Infrastructure, Local Government and Planning and QRA have jointly established the Queensland Flood Resilience Coordination Committee. We recognise there is a need to coordinate our flood resilience activities across the state. I am happy to table the terms of reference for that particular committee.

The QRA is also leading the implementation of a best practice approach to the management of our flood warning gauge network here in Queensland to ensure people in flood prone communities across Queensland have appropriate warning of flood events. In 2015, a statewide performance review of the Queensland flood warning gauge network was completed. The review identified that the Bureau of Meteorology uses data from some 3,500 gauges across the state and there are some 54 entities that own and operate those gauges. Importantly, it also identified priority locations for improved early flood warning infrastructure so that our communities better understand the risks that they face during the time of flood.

The QRA, in conjunction with the Queensland Fire and Emergency Services, the Queensland Police Service and also local government and the Bureau of Meteorology, is working with more than 40 priority councils that were identified as part of that review in order to establish their needs in terms of providing an adequate warning network for their communities. We continue to provide follow-up support for those communities and a number of these councils we have assisted in the formulation of funding applications for the current round of funding under the CRF and also Natural Disaster Resilience Program. We continue to work with local government and also with the department of local government on those matters.

Since the last hearing on the QAO report into flood resilience of river catchments, the QRA has also assumed the program management role of the Brisbane River flood study in conjunction with the Department of Infrastructure, Local Government and Planning. The purpose of the study is to provide an up-to-date and consistent and agreed set of hydrologic and hydraulic models for the Brisbane River catchment through the project. I am pleased to report we are delivering on the recommendations of the QAO report into the resilience of river catchments.

There are four phases to this project. There is the detailed data collection and also the detailed hydrologic and hydraulic flood modelling. These are due for submission in February 2017. They are currently undertaking a technical peer review of those studies. Phase 3 will be the integration of the outputs of that modelling and bodies of work into a strategic flood plain management study. This will then inform the strategic flood plain management plan. It will be at a regional scale on a catchment-wide scale. The outputs of that study will inform local catchment plans at a local government level. This phase is expected to be delivered by December 2017. Phase 4, which is the local flood plain management plan, focuses on the development of detailed flood management plans by councils based on the recommendations from the strategic overarching catchment level flood plain management plan. They are expected to be completed late 2018.

The QRA is currently also undertaking a review of the capability and the capacity of councils across Queensland in all areas relating to flood plain management and also resilience in catchments. As part of our strategic approach, we have commenced a performance review of the adoption of councils of the flood plain management mapping kit and also we are following up on the implementation of the Floods Commission of Inquiry recommendations that were the responsibility at a local government level. We are seeking to understand and get an awareness of the use and the adoption of the existing flood plain mapping programs and their incorporation into planning and also to other schemes that are operating at a local council level. We are trying to get an understanding also of the existing practices, whether councils have a flood risk management policy or plan, their practices and how they operate at a catchment scale. Certainly, we are also following up on the progress and successes and challenges in implementing the Floods Commission of Inquiry recommendations so that we may better target assistance to those that need the requisite capability.

We are also continuing to look at the adequacy and the appropriateness of the Bureau of Meteorology flood warning classifications in respect of local government areas. Results of this review will be available in December of this year. These results will be used to help councils better target additional projects to support local government resilience activities. The QRA intends to continue to work across all agencies and also with local government to ensure that the recommendations of the Queensland Audit Office report are actually implemented.

CHAIR: A lot of what you are talking about is implemented. In terms of the study coming out in 2018, is that timely enough seeing as we will probably have two full summers in that period before any of this information is given to councils. Then councils need to deal with it after that which could bring us to 2019 and 2020. It seems a fair gap. We could potentially have four summers before we start implementing some of these recommendations and the study that you are doing.

Mr Moon: All councils are involved in this process. We do have a steering and implementation committee that consists of not only all of the councils within the study area—all of the councils are currently involved in this study and the state agencies are also involved in this process. There have been a number of products already produced as part of the study in terms of the disaster management implications for this and they are being incorporated across the state disaster management framework.

I would also mention that it is a complex study. It is four local government areas. It covers a catchment size of some 13,500 kilometres and is recognised as one of the most complex hydrologic and hydraulic studies in Australia. We continue to work with councils and also state agencies. We are also working with industry now. We have an expression of interest process out with industry at this particular point in time where those industry bodies with the relevant expertise who are able to use the results and the outputs of the flood management modelling are able to incorporate them into a strategic level plan for the whole catchment.

CHAIR: Thank you very much for that answer. I believe I have jumped the gun and I have missed allowing Mandy to make her opening statement as well. Mandy, can you make your opening statement and then we will collectively ask you questions as we were meant to. I apologise, Mandy.

Ms Downes: I thank you for this opportunity to provide a statement on behalf of the Department of Natural Resources and Mines. As you heard, the Queensland Reconstruction Authority takes the lead role in coordinating disaster and flood management policy and delivery in Queensland. The Department of Natural Resources and Mines supports the authority with these efforts through policy responsibility for regulation of levee banks, ongoing support to local governments with the *Guide for flood studies and mapping in Queensland*, provision of flood related information via the FloodCheck web portal, and operation and management of the departmental water monitoring network to support the Bureau of Meteorology flood warning system. As part of my opening statement, I will provide

some background to the levees regulatory framework and an update on progress towards the implementation of water report recommendation No. 4. I will also give an update on the department's support for improved governance arrangements and catchment management initiatives in South-East Queensland catchments.

The commission of inquiry final report into the 2010-11 floods made a number of recommendations directly related to levees. The Queensland government has delivered on these recommendations with the commencement of a new levees regulatory framework to manage the construction or modification of levees. This framework commenced on 16 May 2014 following consultation with industry groups, local councils and the general community. The framework provides that levee banks that do not have an off-property impact can be self-assessed by the landholder. The construction or modification of levees that may have an impact outside of the property boundary will either be code or impact assessed depending on the risk the levee poses to life and property.

Under the framework, local councils are responsible for assessing levee applications, with certain issues being referred to the Queensland government for assessment where the levee has the potential to cause significant risk to life and property. Allowing councils to decide how they wish to implement the framework will enable them to make decisions about levees based on their vision for their local government area and their specific planning and management needs. Local councils already have responsibility for coordinating flood management strategies, as well as approving most land development applications that new levee banks are likely to be associated with. Guidelines are in place to assist levee proponents, local councils and consultants to interpret the codes. Information sessions were also held for local councils to assist them in understanding the framework and their responsibilities.

The Queensland Audit Office report on flood resilience of river catchments undertook an examination of the effectiveness of flood resilience activities and, as was previously mentioned, focused on the Bremer, Lockyer and mid and upper Brisbane River catchments. These areas fall under the Ipswich City Council, Lockyer, Scenic Rim and Somerset regional councils. In response to recommendation No. 4, DNRM stated that it would engage with the four councils in relation to the implementation of the framework and this would include identification of training needs, its delivery, compliance matters, data collection requirements and identification of concerns that relate to implementation of the levees framework. This would also include identification of state and local government follow-up actions.

The department is committed to complete this activity by the end of June 2017. The department will hold meetings in coming weeks with the four councils, the Local Government Association of Queensland and other relevant government agencies. Following this, we will develop recommendations to address the issues raised in consultation with councils. The department will seek commitment from state and local governments by March 2017 to resource and implement the final recommendations.

In relation to catchment management—this is an issue that has been raised this morning and also in the report—the Department of Natural Resources and Mines recognises that the management and governance of rivers, water bodies and their catchments are integral to the sustainable economic growth of the region. As highlighted in the audit report, strategic planning for the investment and prioritisation of catchment management initiatives and oversight of on-ground implementation activities in South-East Queensland were areas for improvement.

In 2014 the Department of Natural Resources and Mines explored options to potentially use the statutory framework of the River Improvement Trust Act 1940 to constitute an entity or entities to enhance governance arrangements and improve delivery coordination for river catchments in South-East Queensland. In 2015 the department sought the views of local government in the South-East Queensland region and other key stakeholder entities. Feedback from these entities at that point in time was that there was no consensus around, across or between both tiers of government and non-government stakeholders about what constitutes an appropriate governance structure.

In August 2016, the deputy director-general from the Department of Natural Resources and Mines met with the executive officer from the Council of Mayors SEQ to discuss progress and options for governance of catchments in South-East Queensland. At the meeting it was agreed to postpone further discussions around governance mechanisms as the Council of Mayors SEQ were utilising the Resilient Rivers Initiative to promote partnerships with strong leadership and prepare a regional strategy including an agreed investment prioritisation framework, with a focus on keeping the soil on the land and out of the waterways, protecting the region's water security and improving the climate resilience of the region.

The initiative recognises that a collaborative cross-jurisdictional approach to managing the catchments in South-East Queensland is vital to ensuring the future economic, social and environmental health of the region. The government will continue to work with the Council of Mayors SEQ and other key stakeholders to support the best possible arrangements to enhance resilient river outcomes across South-East Queensland.

In addition to working towards improved governance arrangements, the Queensland government has invested in catchment management activity initiatives, such as Healthy Waterways and Catchments, to deliver programs and initiatives to address key pressures impacting waterways in South-East Queensland. Healthy Waterways and Catchments was also granted flood relief and remediation funds from the department's Queensland Regional Natural Resource Management Investment Program to carry out specific riparian works, among other flood related activities. The Department of Natural Resources and Mines will continue to work with Healthy Waterways and Catchments to progress positive catchment management outcomes for South-East Queensland. The department also looks forward to continuing the positive working relationship with the Queensland Reconstruction Authority as the lead agency for disaster recovery, resilience and mitigation.

CHAIR: Thank you very much. I go back to the Brisbane River Catchment Flood Study, which we have talked about with the last group that we had through. How important is the Brisbane River Catchment Flood Study to ensure that Brisbane is actually protected from future floods going forward? Is it the answer that we have been looking for? Obviously we heard from the auditor's office. It sounds as if they are looking for it to be finalised and finished. Is that the answer to a lot of our issues?

Ms Parton: It is certainly a very important piece of work. It is a very broad piece of work. The fact that it covers the entire catchment is something new for the area, that we would be considering flood risk on a catchment-wide scenario. There will be recommendations that come out of the flood modelling, so what is being done now in terms of things that can be done to reduce the flood risk. I think it is a little bit too soon to look ahead and see what those things would do. Any mitigation obviously needs to be considered based on its benefits and costs. We would need to look at that once the modelling and recommendations have come out of that study.

Mr Moon: If I may add, Mr Chairman, it is a reality here in Queensland and in the environment that we live in that we will never ever flood-proof the towns that we live in on the floodplains in Queensland. However, I think the key elements of any resilience strategy are that we do understand the risks that we face, that we do invest certainly in our institutional arrangements so that we can manage those risks, and also to provide a clear pathway for the future into how we manage those risks. Importantly, we also should invest in disaster-risk reduction and build our infrastructure back better and also our communities better. A whole-of-catchment approach to this, rather than an individual local government area approach or a community approach, I think will go part of the way to that. Certainly, our message is that we will never flood-proof Queensland, but we will certainly put in place the structures that we can deal with and manage and mitigate the effects of that.

CHAIR: I must congratulate the department because, even in my own electorate, the work that it is doing with the councils in supplying funding to start on that journey is much appreciated. We are actually starting to see some benefits already. I just add that comment.

Mr PERRETT: My question is for Mr Moon. A very important part of that process is local governments adopting flood heights as part of their town plans or plans for their areas. Have the four councils in this area adopted minimum flood heights to inform future development and, if they have, what are they? Are they Q40, Q100? I am interested to know, because it is very important. As you have probably heard me say before, my previous experience is in the Gympie Regional Council and I have some very valuable information around Gympie city. I am interested to know what those four councils are doing.

Mr Moon: I cannot advise on the individual councils, but I can say that a key output of the modelling that is being conducted as part of the Brisbane River Catchment Flood Study will inform a flood height line and also a preferred line across the catchment. One of the key work packages is understanding the impact of particular flood heights on the various floor heights around the catchment, so that we understand the economic impact of particular flood heights and the adoption of those lines on the impact to infrastructure throughout the catchment. That is yet to be drawn out of the study and will occur at some stage mid next year. In terms of the individual flood heights that councils are currently adopting, I would have to table that at a later time.

Mr PERRETT: I would be interested to know, because I think it is very valuable information that prevents a lot of the issues that we have now. This morning we have been talking about what has happened in the past 100 years where development has occurred and then, ultimately, the problems we have. I would be most interested to know what those councils are doing. If that information is available, I think that will help our considerations.

CHAIR: Mandy, on the levee regulatory framework that you are doing, similar to what these guys are doing, do you have a terms of reference for what you would be looking for and what is happening in that space? Can you provide that to us?

Ms Downes: I will ask Saji to respond to that.

Mr Joseph: The regulatory framework for levee banks came into effect on 16 May 2014. That provides for managing or assessing the impacts of new levees or the modification of existing levees. As it relates to recommendation 4 of the QAO report, the department in the coming weeks will engage with the relevant councils in terms of the implementation of the regulatory framework for levees, understanding their training requirements and how that could be better delivered. Also, it will be an opportunity for the department to understand what some of the compliance matters are and also data collection requirements, to better empower those councils in terms of effectively managing the framework.

CHAIR: That sounds good, but this morning we have also heard that councils do not actually know what levees are out there. How are we going to adopt this framework when we do not even know what levees are in each of the local council areas?

Mr Joseph: Existing levees are not part of the current regulatory framework. As you pointed out, there is really limited information in terms of where those levees are. Even if you know the existing levees and their locations, it is really difficult to determine when they were constructed, let alone the rules that were applicable for the construction of those levees at that point in time. When the government legislated this framework, the intent was not to retrospectively apply new rules on existing levees.

CHAIR: Shouldn't they be the ones that we should be worried about, because we do not know if they are to a standard? Obviously they are still there and they are doing the job, but my concern would be that they are the ones that we should probably be looking at more closely, rather than the ones we know will be built to a certain standard.

Mr Joseph: As it relates to South-East Queensland, we heard from Brendan in terms of the work that is being done as part of the Brisbane River Catchment Flood Study. The hydraulic model component of the flood study has taken on board the LiDAR topographic survey data undertaken in late 2014 and early 2015. It is expected that the levees that were in existence at that point in time are captured. That means that the hydraulic modelling outputs will take on board the impacts of those existing levees as the flows move through the catchment.

Mr RICKUSS: Mr Moon, you said the flood study will be completed. Will you fund the extra flood studies? The audit report says that there is not enough funding at the moment. Do you have the appropriate funding to do that?

Mr Moon: In terms of the outstanding deliverables for the Brisbane River flood study, we are in the process of identifying the final costs for that. That is why we are currently engaging with industry, with those bodies that are able to deliver on this particularly technically challenging piece of work. We have identified a source of funding that will deliver on that.

Mr RICKUSS: I am curious: are you talking with the Ports Corporation or something like that? Is that the type of industry people you might be dealing with?

Mr Moon: No, currently we are dealing with specialised consulting companies that are skilled in dealing with flood models.

Mr RICKUSS: You have the funding in place to appropriately do that; that is good to hear. On the levies, as I have said before, and I am sure you have heard me say it, Saji, the council officers, senior officers and even councillors say, 'There's no penalty. I'm not going to go jail and the council will not be fined', so it starts to become a very low priority if you are under a bit of pressure to do other work, doesn't it? The problem with levees at the moment, as I see it, is that they sit with council. I have read category 1, category 2, et cetera. I was very proactive in trying to make Mr Cripps make it even tougher than he did. I was very involved in that. Do you feel that that sort of information should be a bit tougher on councils, so that with levees should be a legislative framework that they have to do this or that?

Mr Joseph: The levees regulatory framework clearly identifies the local councils as the assessment manager for categories 2 and 3, with category 3 being referred to the Queensland government for assessment under the state's interests code. It is anticipated that councils would comply or are required to undertake their roles in an effective manner. From the department's perspective, we continuously engage with councils. We have dedicated people who are able to take on calls from local councils to explain how the implementation of the framework should evolve. Soon after the regulatory framework came into effect, we undertook a series of information sessions in various parts of the state, basically to communicate in terms of how the consultants and also the flood practitioners can make use of the codes and the guidelines that we have all developed as part of effectively implementing this framework.

Mr RICKUSS: One of the larger councils did not even respond to the audit report, because there was no requirement to respond. There is no requirement and they have no penalty if they do not police the levees. That is what I am pointing out.

Mr MADDEN: I am a former councillor of the Somerset Regional Council, I live in the Somerset region and a large part of my electorate takes in the Ipswich area. I have the audit report in front of me and you have mentioned the flood report. I hear a lot of talk about councils. Appendix A lists who the audit report asked for submissions from. What concerns me is that major groups do not appear to have been consulted about flood resilience and yet they are integral to flood resilience. Seqwater recently spent over $600,000 on a one-bank stabilisation project on the mid Brisbane River. QUU are just about to build a new sewage treatment plant at Lowood above the flood level. Seqwater spent over $1 million rebuilding the weir at UQ Gatton. TMR would have spent something like half a million dollars repairing the bridge over the Lockyer Creek in the electorate of the member for Lockyer, on the Gatton-Esk Road. Energex had a substation wiped out in Lowood.

Do you have any concerns that this audit and apparently the flood study did not seek any advice from the entity that controls both Somerset and Wivenhoe dams, is currently putting skin in the game and is doing heavy lifting restabilising banks of the mid Brisbane River? They do not have a submission in the audit, yet we have submissions from the Lockyer Valley Regional Council, the Scenic Rim Regional Council and the Somerset Regional Council. Do you share my concerns that, with regard to both the audit report and the flood management report, those agencies do not appear to have been asked to comment on this audit?

Mr Moon: In relation to Seqwater and a number of the other water entities, they are included as part of the Brisbane River Flood Study and sit on certainly the implementation committee so they are consulted as part of the study. Certainly I think you have touched on a point, and Queensland government has moved to address this, in terms of pulling together a strategy for disaster resilience that actually incorporates a collaborative approach across all agencies with an input into this space.

Mr MADDEN: It is just that we are talking about doing something in the future and Seqwater are doing it right now. There are a whole range of areas of the mid Brisbane River where we have banks slumping and banks wiped away and one by one Seqwater are working on that, but we are almost not talking about that, are we? No-one has mentioned that. They are already doing what we are hoping to do, which is build resilience in the river system. I just wanted to make that point. It is of concern to me. I am pleased to hear that they were at least consulted with regard to the flood plan. Thank you.

Mr SORENSEN: Following on from bank restoration, I owned a property on the Mary River up at Gundiah and the next door neighbour's property of about nearly five acres in one flood just slipped. No matter what you do you are not going to stop that, are you? From a planning point of view, having been the mayor of Hervey Bay, I see a lot of developments go on in flood plains above certain levels which act as a retention basin. I do not understand why we allow development on those sorts of areas. They act a retention basin because they are wide. The developer comes in and he puts a concrete drain straight down the middle of it all and just rushes the water down. With town planning in the future we have to make sure that we look at that. Why stuff up a good retention basin, a natural retention basin, by putting a concrete drain through it? Would you like to comment on that? I am talking about in the future.

Ms Parton: The state obviously has a role to play in setting the tone for planning for council. The state planning policy includes a lot of information and requirements that councils have to incorporate into their local plans around storm surge and things like flood mapping. They are required to have flood mapping to a certain level and to take account of it into their local plans. I suppose what the state policy cannot really account for is that local variability. Councils do have the ability to set

local planning guidelines based on their local requirements for their communities. While the state sets the tone in terms of saying you do need to take account of flood heights, where development happens in local communities is really for councils to develop in consultation with their community.

Mr SORENSEN: I can understand where each developer has to retard the water as it comes down the stream, but when everything is full it just gets down there a lot quicker.

Ms Parton: In terms of development assessment, the state certainly plays a large role in looking at proposals for developments that are referred in, but for them to be referred they have to have a state interest. There has to be an identified interest. Water is certainly one, impact on the river systems is one and so the state does look at that in the planning process and would play a role in providing conditions for a developer that they would have to abide by that council will implement under their plan. There is a role for the state to play in terms of making recommendations or putting conditions on development that happens in areas like that.

CHAIR: The report talks about vegetation management and that the state government and councils have vegetation management initiatives. They both have it, but they are not coordinated across the catchments and are not strategic. Can you tell the committee what vegetation management initiative departments are responsible for and how they coordinate these initiatives run by other departments and councils?

Ms Downes: In relation to the vegetation management, it is a critical issue in terms of flood mitigation measures. Across the catchments, and particularly in the South-East Queensland catchment, the Resilient Rivers Initiative is actually putting together catchment action plans and part of that will include vegetation management responsibilities.

CHAIR: Does that help coordinate it across local councils and state departments?

Ms Downes: The Resilient Rivers Initiatives, the COMSEQ entity that is looking after the coordination of the river catchments in the area, they cover the 11 councils within the region so they will be responsible for prioritising the works associated with flood mitigation measures, which would include the catchment action plans. Vegetation will be one of those elements.

Mr RICKUSS: There are a lot of gauges in South-East Queensland but they are owned by DNR, local government and the Met Bureau. Is there any looking at trying to bring them under the umbrella of one body? I know there are a couple that are broken in the Lockyer at the moment. I do not know who owns them. I could probably find out. Is there any chance of bringing them under one umbrella? In the 2011 floods it was highlighted that the Met Bureau really dropped the ball because they decided one gauge was broken because it had gone up higher than its previous levels, yet the independent storm chasers at 12 o'clock were warning Grantham was going to flood. The Met Bureau put out a warning at 5 o'clock. It flooded at 4. Are we looking at how we can bring all that information together better under one body?

Mr Moon: In relation to the actual management of the gauge network, as the initial study on the gauge network identified, there were some 3,500 gauges throughout Queensland owned and operated by 54 entities. Within that population of gauges there are a variety of gauges which are what we call manual read and also the more technical real-time feed, the ALERT gauges, as well. What we are finding is that with the changing demographics of the Queensland population, especially in the rural areas, the ability to read some of those manual gauges, for example, can be compromised into the future as people move off the land or as land parcels become joined with others. Part of our discussions with council, as part of our work in the flood warning network gauge, and councils are actively engaged with this in the western catchments we find, is how they operate and manage those gauges. There may be some gauges in the far-flung reaches of one particular council area where they will employ officers from another council to actually manage and maintain those gauges. That conversation is certainly going on in other parts of Queensland. As part of the Brisbane River Flood Study it was recognised that the Brisbane River is probably one of the most gauged networks in Australia. There has not been that coordinated discussion about how it may be managed into the future.

Mr RICKUSS: May I suggest that that probably is a bit of a priority. I can find out more information in the Lockyer by ringing up some of the older farmers I know around the ridges than looking at the gauges and they are telling me different things that are happening to the gauges. We have evacuated town when we did not need to evacuate town at one stage because there was this enormous flood coming that really was not coming. It can save a lot of angst and a lot of hassle at times. Particularly in South-East Queensland I would not imagine that it would be too hard to bring that together a bit further. As you say, some of these gauges might have to be automated a bit more to ensure that. Are you also looking at the lights on the flooded streams, the ones that are activated

by the floodwater itself? Two backpackers in the Lockyer Valley were drowned because they did not know the road and the lay of the land and two of them were travelling to work at 4 o'clock in the morning and it was dark and both drove into a flooded stream and unfortunately drowned in the 2013 floods three years ago. Are you managing those or is that more local council?

Mr Moon: Certainly it is local councils. In our interaction with local councils—we were in Thargomindah and also Quilpie a couple of weeks ago—and as part of their applications for funding they are looking at how they control access to those roads in the far south-west as floodwaters rise, yes. Councils are well across the technologies that are out there and they certainly are investigating options to better manage their roads during the time of floods.

Mr RICKUSS: I honestly feel that at times the police probably should have greater ability to fine people quite heavily for driving into flooded water. When you drive past a flooded sign and then you have got to be rescued to me you pay the penalty, not only of losing your car—most of them get insurance cover on that anyway. I feel that they are driving past these red signs that say 'road flooded' and then expect someone to put their life at danger to drag them out.

Ms Parton: I certainly agree, Mr Rickuss. The government has done a lot of work in terms of working out the reasons why people do drive into floodwaters. One of the main reasons, the research has shown, is that they do not have a back-up plan. They might have to pick the kids up from somewhere and they just do not have an option. The government has done a fair bit of work in terms of setting up a website where you can plan in advance of disaster season: this is my regular route, what other routes could I take to get to a particular place. That is available on mobile technology so people can actually look it up while they are sitting there if they have access to mobiles. There is some work that we have been doing in addition to the usual storm season preparedness.

Mr RICKUSS: That is on the Get Ready site, is it?

Ms Parton: That is available through the Queensland Fire and Emergency Services website but there would be a link on the Get Ready site as well.

Mr RICKUSS: I did not realise that. That sounds like it is worthwhile for local members to advise people of in their local areas.

CHAIR: That does bring to a close our hearing today. I thank the department for their answers to the questions we asked. The briefing is now closed. Thank you very much.

Committee adjourned at 9.56 am