

# TRANSCRIPT

## LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

### **Inquiry into Climate Resilience**

Macedon – Tuesday 3 December 2024

#### **MEMBERS**

Ryan Batchelor – Chair

David Ettershank – Deputy Chair

Melina Bath

Gaelle Broad

Jacinta Ermacora

Wendy Lovell

Sarah Mansfield

Rikkie-Lee Tyrrell

Sheena Watt

#### **PARTICIPATING MEMBERS**

John Berger

Ann-Marie Hermans

Evan Mulholland

Rachel Payne

Aiv Puglielli

Richard Welch

**WITNESSES**

Luke Austin, Operational Delivery Manager, Wimmera Catchment Management Authority; and

Camille White, Flood Plain Manager, and

Rohan Hogan, Water and Environment Specialist, North Central Catchment Management Authority.

**The CHAIR:** Welcome back to the proceedings of the Legislative Council Environment and Planning Committee's Inquiry into Climate Resilience in Victoria. Welcome to some representatives from catchment management authorities.

All the evidence that we take is protected by parliamentary privilege as provided by the *Constitution Act 1975* and the Legislative Council standing orders, therefore the information you provide during these hearings is protected by law. You are protected against any action for what you say during the hearings, but if you go elsewhere and repeat those same things those comments may not be protected by this privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of the Parliament.

All evidence is being recorded, and you will be provided with a proof version of the transcript following the hearings, and those transcripts will ultimately be made public and posted on the committee's website.

Welcome. My name is Ryan Batchelor. I am the Chair of the committee and a Member for the Southern Metropolitan Region in the Legislative Council, and I will ask fellow committee members to introduce themselves.

**Sarah MANSFIELD:** Sarah Mansfield, Member for Western Victoria.

**Wendy LOVELL:** Wendy Lovell, Member for Northern Victoria.

**Melina BATH:** And Melina Bath, Eastern Victoria.

**Gaelle BROAD:** Hi, I am Gaelle Broad, Member for Northern Victoria.

**The CHAIR:** Online –

**Jacinta ERMACORA:** Jacinta Ermacora, Member for Western Victoria, coming to you from Warrnambool today – Glenelg–Hopkins catchment management area.

**Rikkie-Lee TYRRELL:** And Rikkie-Lee Tyrrell, Member for the Northern Victoria Region.

**The CHAIR:** Seamless. For the Hansard record if you could each state your name and the organisation you are appearing on behalf of, and then we will throw to opening statements. So Rohan, why don't we start with you and move down?

**Rohan HOGAN:** Rohan Hogan, Executive Manager Strategy and Partnerships at the North Central Catchment Management Authority.

**Camille WHITE:** Camille White, the Flood Plain Manager at the North Central Catchment Management Authority.

**Luke AUSTIN:** And Luke Austin, Operational Delivery Manager at the Wimmera Catchment Management Authority.

**The CHAIR:** Thanks very much for coming and for the distances that you have travelled today to get here; we really appreciate that. It is pretty straightforward. We will ask you to make an opening statement, and you can figure out how you are going to do it – paper, scissors, rock; I do not mind who goes first. Then we will get into questions after that.

**Rohan HOGAN:** All right. I will go first. Thanks for the opportunity to present to the Legislative Council's Environment and Planning Committee as part of your inquiry for climate resilience. My name is Rohan Hogan.

I am here with Camille White, our flood plain manager. North Central CMA is the leading natural resource management agency in north-central Victoria covering 13 per cent of the state. Our region includes the major population centres of Bendigo, Echuca, Swan Hill, Castlemaine, Maryborough, Kyneton and Woodend. Over the past 15 to 20 years the CMA has collaborated closely with partner agencies and communities to fund climate change adaptation. Our organisation is well positioned to provide the committee with valuable insights into the risks posed by climate change and the measures implemented in the North Central region to adapt.

Land managers and the wider community in the North Central region are well acquainted with the effects of climate change and climate variability. Observed impacts include extended dry periods and altered flood patterns. In recent years the North Central region has endured significant climate events such as the millennium drought and severe flood events in 2010–11, 2016, 2022 and 2024.

In addressing the committee, the CMA offers the following information and some recommendations. The CMA will continue to work with partners, traditional owners and community in dealing with challenges of climate change through implementation of the *North Central Regional Catchment Strategy* and sub-strategies like the flood plain management and waterways management strategies. To better prepare for the future challenges posed by climate change, the CMA also collaborated with partner organisations, TOs and community in 2015 to develop a comprehensive regional climate change adaptation mitigation plan. The North Central CMA is currently in the process of renewing the climate change plan to provide clear direction around challenges of climate change and natural resources.

The North Central CMA supports the recent amendments in the *Climate Change and Energy Legislation Amendment (Renewable Energy and Storage Targets) Act* in 2024 which require planning authorities to consider climate change in the preparation and amendment of planning schemes. While North Central CMA finds the overarching policy sound, it observes the lack of specific guidance necessary to aid local governments, catchment management authorities and the development industry in decision-making processes. The North Central CMA strongly advocates for the Victorian government to provide detailed guidance on the appropriate shared socio-economic pathway – or SSP – scenario to be utilised in assessing new developments. The choice of SSP scenario is particularly critical for the design of stormwater drainage and approval of development in flood-prone areas across Victoria. Thus uniform guidance for the Victorian government is essential to ensure statewide consistency to strike an appropriate balance in assessing the climate change-related risks to new development applications.

The North Central CMA strongly advocates for the continuation of the current initiative by the Department of Transport and Planning which supports councils incorporating flood studies into planning schemes. This initiative is set to conclude in June 2025, raising concerns as several flood studies are yet to be integrated. Furthermore, numerous ongoing flood strategies, which are crucial to considering climate change impacts, will not be completed by the June 2025 deadline.

We also would like to bring to the committee's attention a noteworthy research project undertaken by Arthur Rylah Institute in collaboration with Nature Based Resilience, Zoos Victoria and RMIT to create a nature-led community resilience toolkit. Nature-led community resilience is an innovative approach to emergency management that supports both people and nature following disasters by fostering a connection between people and nature's recovery. This approach helps individuals in their own recovery, instilling renewed hope for the future. As natural disasters become more frequent and extreme due to climate change, nature-led community resilience and recovery offers vital support to communities and people in their recovery through their involvement in conservation efforts. The North Central CMA strongly supports continued investment in climate change adaptation that will support communities and environments to adapt to the ongoing challenges of climate change. Thanks.

**Luke AUSTIN:** Yes, similar. Thank you for the opportunity to present. Wimmera CMA, similar to what Rohan mentioned there, are the leading natural resource management authority in the Wimmera region. What we have observed in our region – I will just give you some background for the Wimmera region. We cover approximately 10 per cent of Victoria and encompass 2.3 million hectares. Our landscape is dominated by broadacre cropping, covering 1.2 million hectares, or 53 per cent of our region. The gross value of that agricultural production in the Wimmera in 2015–16 was \$691 million.

It is probably safe to say that our region has really been the canary in the coalmine when it comes to climate change and how it continues to shape our region. We have seen many of the predicted consequences under various scenarios have been experienced. Over the last 30 years our annual rainfall has decreased by 9 per cent. Inflows are now half of what they were historically, so since 1997 our inflows are half to our storages. Dry years have occurred 12 times and wet years have occurred five times. Our rainfall has decreased in the autumn and spring months. The autumn break – we are experiencing that now about three weeks later, typically occurring in mid-May south of Horsham and late May or early June in central and northern parts of our region. We are experiencing more frosts, and they are occurring later in the growing season. We are also having more consecutive days above 40 degrees. In the last 15 years we have experienced one of the largest floods on record, and over the last 20 years we have had some of the biggest and most intense fires on the back of the millennium drought.

We are seeing direct impacts and compounding impacts. The direct impacts from flood, fire and drought are obvious, particularly those that impact on people, roads, property, business and with closures like school and childcare closures. Stormwater flooding in towns continues to be an issue as development increases and old infrastructure fails to cope with the high-intensity rainfall events we have been experiencing. In relation to flooding, we are finding that the flood studies are sound practice in planning schemes and the referrals from CMAs are currently working to protect people and property. At an emergency level the flood information from flood studies is vital to assist the emergency services in planning, but they also inform our community to prepare and act. This was evident in the latest 2022 floods we experienced. Councils are incorporating climate change into their planning schemes locally in managing floods; however, the conditions that are applied to the developments are inconsistently applied across the state as the policy is unclear.

The other thing we are seeing, particularly in the Wimmera, is those compounding impacts of these events. I will take for example in 2006 Gariwerd, the Grampians National Park, had a lightning strike at Mount Lubra which caused a fire in the Grampians National Park. That fire resulted in the loss of three lives and hundreds of buildings. Over the two-week period the Mount Lubra fire burned over 120,000 hectares and approximately 47 per cent of the Grampians National Park. Since 2006 the Grampians National Park has experienced another two large-scale fires, both caused by lightning. These fires have impacted roughly 85 per cent of the Grampians National Park, and the fires were so intense it took many years for vegetation to recover, particularly given we were in the middle of the millennium drought. What we saw then was that was followed by floods in 2010 and January 2011. The high intensity of the rainfall that occurred, coupled with bare earth created by the fires caused rockfalls and mini landslides, resulted in significant volumes of soil washed into our waterways, including Bellfield reservoir, which is located in Halls Gap within the Grampians National Park. This caused significant water quality problems within Lake Bellfield, which is a significant water supply for the Wimmera–Mallee pipeline, which provides water to about 10 per cent of Victoria.

The recommendations we support: we need clear guidance or policy on climate change and how CMAs are to condition development in the flood plain in relation to climate change that complements the council planning schemes. Really, what freeboards are required? Is the current freeboard still appropriate? There needs to be clear policy on stormwater infrastructure design in relation to climate change. What is the standard, and what is reasonable and appropriate? We need to incorporate inappropriate fire regimes to be considered as a significant threat to water by fire management agencies, and we need a mechanism to influence management to protect water quality and quantity. We are currently working on that with DEECA, but we need to be supported through policy and investment. The *Victorian Floodplain Management Strategy* needs to be reviewed. There is also an opportunity to improve community resilience by the reduction of green tape where there is a net overall gain. We have had a number of examples in our catchment where unfortunately we have had some resilience projects that have been delayed through significant green tape or completely not gone ahead for that reason.

We also feel that broadening the water grid will help the region as we experience these significant dry periods. Take, for example, the Wartook storage, which is Horsham's main water supply. It actually only has two years of capacity. When we have a long period of dry followed by flood, the infrastructure there overtops and fills; then we go back into a cycle of four-year drying. We have actually only got two years worth of water supply in that catchment and that is Horsham's primary water supply, which is our biggest regional city in the Wimmera. So we think, yes, broadening the water grid with some opportunities there would be recommended as well. Thank you.

**The CHAIR:** Wonderful. Thanks so much. I can start with you, Luke. What would that look like?

**Luke AUSTIN:** For Horsham?

**The CHAIR:** Yes.

**Luke AUSTIN:** There was a project put forward a number of years ago, which we think the water authority needs to revisit, and it is essentially a pipeline. The problem we have with Wartook being a small catchment is the two-year supply. It is a very closed catchment. There is no other way to bring water into that Wartook catchment. In addition to being Horsham's main water supply, it also gives a number of environmental benefits along the downstream waterways there. The Wimmera's only platypus population lives in those creeks downstream, so we are currently grappling with the trade-off between supply in Horsham and being able to still put our environmental water in those areas given that we have had significantly low inflows over the last 12 months. So really the solution there is probably a pipeline. We have got Rocklands Reservoir, which is just outside of our catchment. It could be brought back up into the system. We have seen significant gains through the contraction of the Wimmera–Mallee pipeline and associated pipelines in the region. But it is really just that Wartook catchment at this point in time that has been left off that grid, ultimately. So we really need a pipeline brought across from Rocklands to be able to supply Horsham if needed, and that would also give us a benefit then to provide environmental values along some of those areas as well. It is currently a channelised system, but it does not provide into Horsham directly.

**The CHAIR:** Right. There you go. I want to go to the incorporation of flood studies into planning schemes. Obviously, this committee's last inquiry was a pretty significant inquiry into floods and the October 2022 flooding events, and we tabled a reasonably comprehensive report a couple of months ago on that which went to this question quite considerably, so it is fair to say the committee is reasonably well versed on some of the issues. Maybe just expand a bit on how that process is currently tracking. You mentioned that the ministerial collection incorporation program is due to finish next year?

**Camille WHITE:** Yes, it ends in June 2025, the funding, so that is when councils have to have applied for funding before that date. It does not have to have been implemented, but they have to have applied for funding before that time.

**The CHAIR:** So that is funding to do the updated flood studies?

**Camille WHITE:** To do updated amendments.

**The CHAIR:** Amendments to the planning schemes?

**Camille WHITE:** That is correct. Yes.

**The CHAIR:** And what is your understanding of how that progress is going across –

**Camille WHITE:** It has been challenging. With the flood studies that are ready to go – because obviously there is an element where some of these flood studies have some age to them – putting them into the scheme, knowing what we know now about climate change and getting them in a form that can be included in the planning scheme, we have been working closely with council. We have had some good wins. We have got a really good example in Harcourt that we have actually been working with as part of the flood study that can be used for future flood studies. As part of the flood study you do engagement to the form that you need for planning scheme amendments, and council has recently applied to the minister to do a ministerial amendment. We are encouraging other councils, but we have got a lot of other flood studies on the go at the moment and they are not going to be in the position to be able to apply for funding before the deadline. But there are a lot of councils that still just have not applied, and they just are not resourced at the time. It is just –

**The CHAIR:** And who is providing the funding?

**Camille WHITE:** It is the Department of Transport and Planning.

**The CHAIR:** Right. There obviously can be a bit of a shock to residents, particularly when flood studies get updated, when the result of changes to the built environment and changes to our weather patterns mean that areas that are subject to inundation increase compared to studies that were undertaken in the past. How well have the communities in your catchment responded to that? And what have you found are the best, most

effective ways to bring communities along the journey to understand the change and the changing risk that climate change is bringing?

**Camille WHITE:** It has definitely been a challenge this year. Certainly communities understand what they have seen, and understanding what they have seen in terms of the mapping, it is far more believable if they have seen it. If they have not seen it, it is a bit harder.

**The CHAIR:** So if they have never experienced a flood in that area in the past, they are less likely to believe that it is true?

**Camille WHITE:** Less likely to believe that it is true – correct, yes. Also, we had a significant rainfall event at the start of this year, and the impact of climate change is far more felt on local drainage networks in urbanised areas than it is, say, necessarily in riverine flood plains. Where you have a small storm duration on a small catchment it has a far bigger impact, and they are seeing that far more frequently, an example being our Epsom–Huntly area of Bendigo. The current way that our drainage system has been designed – and these standards came about in 1975 – you pipe the one-in-five-year flood event, and the one-in-100-year gets carried overland. Effectively, the stormwater systems are doing what they designed to do, but we are seeing these events a lot more frequently. Residents are seeing this a lot more frequently in the roads, and it is a real struggle for them because it is becoming a far bigger impact to them more frequently. That is the challenge for them and that is the challenge for us, especially with new climate change figures being released in August this year. That is the recommendation. We said we need some guidance from the state about what shared socio-economic pathway to adopt in planning. It needs to come at a state direction because at the local level it is going to have significant implications for how we design stormwater and how we set conditions on development, and it needs to be at that state level. That is what they did in the 1970s – they got together, and they got some high-level people together and came up with a state policy. We have benefited because we have had really good planning in Victoria since 1975 as a result, but we are at this crisis point now about what we do with climate change.

**The CHAIR:** Great. Thanks very much. Ms Broad?

**Gaelle BROAD:** Thank you. I am interested in the flood studies that you have been talking about. The City of Greater Bendigo made a number of recommendations, but one of them was centralised flood studies and planning controls to improve statewide access to accurate flood modelling, ensuring that all regions have up-to-date data and protections. Do you fully support that type of approach? How would that sort of be different to what you are experiencing now?

**Camille WHITE:** There is definitely benefit to councils running flood studies rather than it being centralised. We have done it both ways – we have had the catchment management authority run a flood study, and we have had council run a flood study. There is definite benefit in the councils running it because quite often communities are looking towards mitigation as well, which is best placed to sit with the local council. I think the support that we provide in the technical support for councils to undertake these flood studies is working well. I think what happens then is, implementing into the planning scheme – there is definitely merit in making that more streamlined to get that into the planning scheme, absolutely, because as you would have seen, it takes some years to get a flood study into the planning scheme to then adopt. But I still think there is definite merit in council leading that flood study process because of that. The old way of doing it was you do a flood study and then you go and do a flood mitigation plan. The community: they want to see the mitigation plan; they want to see it go through. So it makes sense that council is leading that process so that it can get to the mitigation stage.

**Gaelle BROAD:** We often hear of that two-year delay for it to get in. Do you look at other states and how they do it? Why does it take so long, I guess, that whole process? Or is it done better elsewhere? How can we do it better?

**Camille WHITE:** Yes. In terms of taking some time, we can definitely do it better by engaging better with the community as the flood study is happening, and that is what we found recently with Harcourt. We have done some great work engaging with the community in developing the flood study, but it is not in the form that is needed to be adopted into the planning scheme. The big difference is when we do engagement we will do a public notice and we will do something in the local paper. We might do some flyers: ‘Come and talk to us about a flood study.’ But when you do the planning scheme amendment, individual landowners and tenants are

individually notified. It makes a big difference for an individual to get a letter with their name on it saying 'Come and talk to us', as opposed to just a generic flyer. That is what we found in Harcourt, because we actually did a couple of consultation processes as part of the flood study. We maybe got five people along to a meeting. As soon as an individual letter went out, they came along to the bowling club – here we go – and we had 50 people. Everyone who was affected by flooding in Harcourt came along to talk to us. So it does make a difference, how you engage, and I think that is appropriate. If we could do that better, engage with people in the form that they will take notice of, it is far more powerful, and that can streamline the process. And it is now with them to put that into the planning scheme, and we believe that is an appropriate process to do that way.

**Gaelle BROAD:** I understand that there is a whole body of work going on with flood mitigation in the region. Can you talk through – and that might be what Ryan was referring to as well – what work is underway at the moment?

**Camille WHITE:** In terms of flood mitigation? It is different for different communities. In our region, we are obviously looking at levees – the ownership and the future responsibilities for levees – but looking more at the urban scale, that is where the key projects are happening at the moment. Carisbrook is one we are supporting. Rochester is certainly re-looking at it.

In a lot of these towns flood studies were done after 2011, and it was very much, 'Oh, that was a very big flood. We're unlikely to get that in the future.' The key difference here is that we are seeing these more extreme floods more frequently, so it is a different approach in looking at, well, there are no things off the table anymore because we know that these floods are going to be more frequent, so we are being far more outreaching in our thought process in looking at and pushing the envelope about what options are possible to address risk. So there are a number of towns in our regions, like Creswick, Carisbrook, Rochester – they are the key ones where mitigation options are being considered. And Bendigo, obviously – they rely significantly on a levee system, so design work is happening to replace the levee system there.

**Gaelle BROAD:** So there are options and studies: is there actual sort of work that is happening?

**Luke AUSTIN:** After the 2011 floods the township of Warracknabeal implemented a flood levee system there, and that has now been implemented. That is a permanent levee system they can utilise for flood mitigation, so that was one of the options. That is a series of earthen embankments which council manage and also drop-in road blockages ultimately that reduce that risk for the town of Warracknabeal. That is our key one in the Wimmera at this stage.

**Camille WHITE:** Yes. Certainly, in our region, Donald has had mitigation works happen. We have had some works happen in Carisbrook to address overlay and flooding. Creswick has had mitigation works to address flooding as well. We have had design work in a number of other towns, so it is a combination of both on-ground works. Quambatook is another town. Yes, so as flood studies happen, it really is up to the community what works they want. So we have had a number of towns, and Bridgewater is an example where there was a solution there to protect some of the town from flooding, but the community did not want it to happen, so it has not progressed beyond that point. It is not our role to – we can tell you what is possible, but then it is for the community to decide whether they want to take it to the next step of actually construction.

**The CHAIR:** Thank you. Dr Mansfield.

**Sarah MANSFIELD:** Thank you. And thank you for appearing today and for the evidence you have provided. I was interested in a comment you made before about Planning having been done really well for a long time in Victoria but we have now reached a crisis point. I just want to understand – what do you mean by that, and I guess what happens if we do not change?

**Camille WHITE:** Yes. In terms of that crisis point, we have relied significantly on the one-in-100-year event as a design standard. Do we continue with that, and is that an appropriate standard? Luke was mentioning before the freeboard requirement that we set for new development. Is 300 appropriate, or should we be asking for more? I think of Rochester as an example where good planning has been in place since the 1956 event, and the majority of houses that have been built since that time, especially since the 1970s, have been built 300 above the 1 per cent. Unfortunately, what we saw in October 2022 was an event that was in the order of half a metre higher than the 1 per cent flood event, so that meant all houses were flooded within the township that were built at that level. So that just highlights the impacts of climate change.

We have relied on a standard, and if we do not adapt or change or have some set direction, if we keep proceeding, we are going to be potentially at a point where – and this is something New South Wales do differently. They have different standards of development for different uses, if you like, so that not every one is flooding at the exact same time. So effectively we need to look at that as well, because otherwise what we are going to have is that happening more frequently, houses being built to the standard but then flooding from climate change events, because when we look at climate change we are on the assumption that, come 2100, the one-in-200-year event is now going to be the one-in-100-year event, so it is that sort of order of change. That is realistic for some of our other towns, like on the lower flood plains, like Echuca and Donald and places like that. But in urban areas what we are finding is it could be far worse than that. It could be actually that the one-in-2000-year event is the new one-in-100-year event. We are talking about that sort of order of change. It is very dependent on what shared socio-economic pathway you choose and the size of the catchment.

So that is what we are grappling with, and this is the guidance that has come at the national level through *Australian Rainfall and Runoff*. That is what we are grappling with at the moment – what do we go with to then inform new development? It makes a big difference, yes.

**Sarah MANSFIELD:** And you said that that is most appropriate to come from the state level rather than more local levels?

**Camille WHITE:** Absolutely, because we need consistency across the state, because it could have ramifications for sterilising land as well. There are two parts to it: what is appropriate to put in the planning scheme to trigger referrals, so flood risk can be considered, both stormwater and flooding, versus how do we make decisions? Especially egress is a big consideration when assessing development. The property itself – you can protect that, you can get the house up high enough, but can people get there safely, and what is the standard we apply to that? What shared socio-economic pathway do we apply to that? Because potentially we could sterilise land if we do not have some sort of consistency at the state level.

**Sarah MANSFIELD:** When you say ‘sterilise land’ –

**Camille WHITE:** Basically you are saying you are not allowed to develop. Yes.

**Sarah MANSFIELD:** That is what I thought. Thank you. Thanks, Chair.

**The CHAIR:** Thank you. Ms Lovell.

**Wendy LOVELL:** I am really interested in Rochester, as you can imagine. There were a number of scenarios put to us by that community about protecting them from future flooding events, including additional releases from Eppalock and lowering the height of the dam in times of high rainfalls but also some levees outside the town. I was just wondering: what is the view of the catchment management authority on Rochester and futureproofing that community?

**Camille WHITE:** We have started the process. We are well into the process of developing or supporting council to undertake an updated or a new flood management plan for Rochester. Certainly, there has been some really good work to understand the benefit of managing Lake Eppalock a different way. However, the whole process needs to go through and be weighed up against other options so that we can understand what is best, and it might be a combination of different options to get an outcome for Rochester. So the flood modelling is underway. We have got preliminary results that will be presented to the community of that modelling early next year, and then following that there is then discussion about other – then testing all these mitigation options. It is a long process, but it is well underway, and the initial results will be presented to the community early next year. Yes, that is where we are at with that.

**Wendy LOVELL:** Where are you with the height of floor levels of houses in your catchment management area? Goulburn Broken have very good data on floor levels and various heights of the river and whether it will be 28 centimetres below your floorboards or 3 centimetres over your floorboards.

**Camille WHITE:** Absolutely. We have had that for Rochester. As part of the flood study we will do a floor-level survey to understand what the floor level is. If there is a gauge, if the bureau provides a prediction, we will link it to that gauge, and we have had that done for Rochester. Unfortunately, we have only surveyed the houses that were in the 1 per cent flood extent, not all houses in Rochester. Just recently council, as at last week, the



floor-level survey has now been completed. Once we have new and updated data for Rochester from the modelling, we will be able to update that tool to make sure that that is consistent, and it is a very similar service that is provided.

**Wendy LOVELL:** Yes. And has that been rolled out right across the CMA's catchment area?

**Camille WHITE:** No, we have only provided it for two townships in our region, and that is Rochester and Charlton. We are in the process of updating it for places like Donald, Quambatook, Echuca and Bridgewater, so we will provide that same service for them. I know that in Rochester the community only two weeks ago all got an updated magnet so that they can link the gauge level to their property.

**Wendy LOVELL:** Good. Does that exist also in Wimmera?

**Luke AUSTIN:** Yes. We have done similar for Glenorchy township, which is one of our majorly impacted townships. They have got magnets that highlight that. One of the other things we did during the 2022 flood that was really valuable for the community is – all that flood data is based upon the one-in-100, the 1 per cent event. What we experienced in 2022 was significantly lower than that, so what we did during that event was actually put that information out to the community and put all that flood mapping online, not just the one-in-100, because they knew they were on a flood plain and would be impacted by the 1 per cent. The flood that came through was a one-in-20, so nowhere near that level. But we provided that information to the community, and what that allowed them to do was have a look online and go, 'Well, my area is not going to be impacted now.' It actually allowed them to also self-target if they could be managed or not. That is probably the difference we found to be really beneficial in the recent one, because we had a lot of panic particularly from new people who had come to the community and were not aware of the flooding. We can link that back to a gauge and say, 'Look, we think it's going to be about this one-in-20,' make that mapping available to the community. And they can go, 'Okay, we don't have to worry. We're not going to sandbag our house,' and really focus on those key areas that we knew were going to be impacted, because obviously not all floods do that. As soon as you say 'flood plain' they all take that one-in-100 as 'We're all going to be flooded', so it was really important for us to put the message out that, no, you guys do not need to panic – and that also worked for our emergency services, obviously. It was the first time I suppose we have given information to the community, and it was a really useful tool just for the community to have access to as well.

**Wendy LOVELL:** Thank you. Do you have a handle on the costs to each of the CMAs of the last major flooding event for re-establishment of banks and infrastructure and stuff that CMA –

**Camille WHITE:** We would have to take that notice. I have not got the number on the top of my head. In terms of the works that we did, they were primarily around waterway erosion and erosion control support. Rather than fixing individual banks, it was more around the impacts from erosion.

**Wendy LOVELL:** Okay.

**The CHAIR:** Thanks. Ms Ermacora.

**Jacinta ERMACORA:** Hello. Thank you very much for coming today and for the work that you do. Probably for Wimmera really, but a lot of water infrastructure in recent decades has not only provided water security for farmers and for communities but also reduced loss of water and therefore provided additional water for the environment. Have you got examples that you want to talk about on that or any other initiatives that you have got that are similar to that?

**Luke AUSTIN:** Yes, that is certainly right. Obviously since the construction of the Wimmera–Mallee pipeline back in 2010 – without the Wimmera–Mallee pipeline operating in the current dry climate we are experiencing, it is probably safe to say that as a region we would not have water supply for the majority of the region. For those that are not aware, the Wimmera–Mallee pipeline was about an 18,000-kilometre channel system which is now a 9000-kilometre pipeline system. In addition to providing that security for not only a number of our townships but also our farmers and the region, it has provided us with environmental opportunities for some key waterways. It has also provided some key recreational opportunities for a lot of those smaller townships that really thrive on that water. We have done a lot of socio-economic studies to look at what the value of these waterways is, and the value of these waterways is immense. Particularly in those smaller disconnected communities we have got in the region, without the pipeline they would really have no

water, both for farming operation but also just for that recreational opportunity. So there is that. We have now got an element of that where the water authority supplies recreational water to a number of our townships, and the socio-economic returns we have seen there are significant, not taking into account the health benefits and the use for the region. Certainly without those pipelines we would be in a dire situation in the Wimmera.

**Jacinta ERMACORA:** Yes. And I think you have got – it might be Glenelg, but Lake Fyans. Is it at Lake Fyans there is a project pretty much underway, a similar pipeline project?

**Luke AUSTIN:** Yes, correct. Each Grampians pipeline, and GWM Water is leading that one, coming out of Lake Fyans. It is a similar process, particularly in the upper catchment. So in addition to providing the security there for our waterways, we think there are some real benefits there around –

Historically, that area has all been farm dams. With the drying climate, they are less reliable, but also taking significant water from our catchments ultimately. So when every new farm dam goes in, we get reduced run-off into our catchment. When the pipeline goes ahead, it will be the first time ever that we have actually been able to deliver environmental water to that part of the catchment as well. It is a significant thing for us as a region, given that everyone with water currently is constrained in the lower Wimmera catchment, so we are hoping to get environmental water back into that part of the system as well.

**Jacinta ERMACORA:** Is that area sometimes referred to as the Grampians outwash?

**Luke AUSTIN:** Part of that would be, but predominately, yes, it is a very vast area the east Grampians pipeline is going to cover. So it includes your key townships around – and it is not just farming areas, I suppose. There are also wineries and viticulture in those areas. It is a very mixed operation. One of the other things we are seeing, particularly in that part of the catchment, and other parts of our catchment as well, is as our landholders are adapting to become more efficient as the climate changes, we are also seeing less run-off through our waterways because they really retain that water on farms, whether it be through perennial pastures or changed cropping regimes. This year is probably a key example. We have got some examples where we have got some really good crops growing at 120 millimetres of rain, but ultimately that is because they have retained all that on-farm, whereas previously that would have run off into our waterways. So that is happening as part of the cumulative effect on inflows into our storages and catchments as well.

**Jacinta ERMACORA:** That catchment area, particularly the east Grampians area, does that run south to the ocean or is it within the Murray–Darling Basin?

**Luke AUSTIN:** No. With the exception of part of the pipeline that goes down to the Glenelg Hopkins region, the majority of that pipeline is constructed in the Wimmera, which does run down through the Wimmera system.

**Jacinta ERMACORA:** North – which runs north.

**Luke AUSTIN:** Yes. So it runs north to the townships, either the terminal lakes of Lake Hindmarsh. There is a little bit of area outside which will be in the Glenelg Hopkins region, which will run down to the sort of Glenelg system and around the Ararat township there, and particularly the further south you go. But certainly, where it is in the Wimmera, it is part of our catchment.

**Jacinta ERMACORA:** And Rocklands catches water that would otherwise go into the Glenelg, is that right?

**Luke AUSTIN:** Yes, correct.

**Jacinta ERMACORA:** Yes, cool. Thank you. Very interesting.

**Luke AUSTIN:** And Lake Fyans, which will be where that pipeline is coming from – just putting the importance back, as I talked a bit earlier about Lake Bellfield – actually has a very small catchment. It is actually supplied from Lake Bellfield as well. We were probably lucky enough with the Mount Libra fires that we did have some significant impacts there, but ultimately with the changing climates we seem to have this high-intensity, prolonged dry, followed by prolonged wet. Bellfield supplies about 10 per cent of the state currently, so if it goes offline, we are in significant trouble for both consumptive and township supplies in the region.

**Jacinta ERMACORA:** Thanks.

**The CHAIR:** Ms Bath.

**Melina BATH:** Thank you, Chair, and thank you very much for your work. I want to pick up on a couple of themes that you have had. Luke, you mentioned that, in relation to some climate resilience programs that you are wanting to develop in conjunction with community and potentially council, that there has been significant delay, and I hesitate to use the words 'green tape', but I want you to unpack that for this committee and how could that be reasonably perpetuated without these delays that are impacting on those resilience programs?

**Luke AUSTIN:** We have got two examples currently. One of those we are now going ahead with, and it has been delayed by about 12 months, and ultimately that came down to, in the township of Warracknabeal there, they have got an area there which has significant build-up in the Yarriambiack Creek, with significant sediment from stormwater. It needs to be cleaned out. It took us 12 months to get through the environmental approvals to get that project underway, and it is still not underway. That was originally planned to go back in January, and we are still planning to get that done shortly. They need to look at the net overall benefit.

Probably the key one we have in our region is, as part of that channel system, a channel decommissioning program which looked at decommissioning obviously all the redundant 19,000 kilometres or 18,000 kilometres of channel. Part of that was decommissioning the Dunmunkle Creek system. The Dunmunkle Creek system was a channel ultimately, so they channelised the creek system there. There were a few key areas where it needed to be decommissioned to allow overall net gain from putting the overland flow back in. At the minute how it all works is it is all currently drained into the creek, it all flows downstream and it has significant impact on the downstream landholders. We have worked really closely with that community since the 2010–11 floods. Can we go and decommission this and share the pain ultimately? Those landholders all agreed, yes, we live on a flood plain, we are happy to put the sediment from the water back into the landscape. So we got to that agreement and they all agreed that, yes, it was a good option, and ultimately there would be significant environmental benefit there because we will put water in areas that have not seen water for the last 60, 100 years in those catchments. Unfortunately, that project has been completely stalled and is not likely to go ahead at this point in time. There were some native veg impacts in a small, state-managed area of the forest, and effectively we got told by DEECA, the native veg team, that that project's impacts are too great, and it is just not going to go ahead.

**Melina BATH:** So it was DEECA and the –

**Luke AUSTIN:** Yes, the native veg area.

**Melina BATH:** And could there be offsets done? Were there some solutions for this?

**Luke AUSTIN:** All those options were looked at, but effectively they came back and they were just not cost-effective, I suppose, and cost prohibitive. Ultimately the feedback from the department was, 'Don't look at that area; do the rest of the channel decommissioning and that will be fine.' The problem with that is that, as part of the study identifies, as part of the decommissioning that particular key junction had to be done, otherwise the rest of the project was a waste of time ultimately. So we are going back probably four years now since that process has been run. Grampians Wimmera Mallee Water were leading that decommissioning project, and ultimately they made the decision that we should abandon the project. After having the landholders' support, getting everyone on board, it was just going to be too hard to get those – and I think the restraint there is that it did not look at the broader net gain. There is no broader net gain in that catchment –

**Melina BATH:** Broader net gain to the environment?

**Luke AUSTIN:** Yes.

**Melina BATH:** Okay, to the health of the environment.

**Luke AUSTIN:** It should have looked at what was going to be the impact on those immediate trees in that area. Instead of saying, 'Okay, let's take a little bit of pain for those trees, but we get an overall net gain for the environment across the catchment,' the current process for those approvals does not take that into account. It

purely looks at the impact on those right in front of me, not 'If we do this, there is an overall gain.' That is where we really think that net gain needs to be looked at as part of those assessments.

**Melina BATH:** Thank you. So a variation and a balance needs to be looked at?

**Luke AUSTIN:** Yes.

**Melina BATH:** I have got another question; my time is going to run out. I just wanted to ask Central, in relation to egress and sterilisation of land – and it is very real, because it is happening down on Phillip Island – what is the solution here? Earlier we talked about infill and the importance of infill where there are what we will call suburbs, towns or suburbs in regional Victoria, for example, where there is already all that infrastructure there. You can build your house there, because you can move it up. But there will be a determining body in this case – in Cowes, for example, that is Melbourne Water. Catchments have an advisory role. Talk us through how there could be a solution to this, or is there not one?

**Camille WHITE:** Yes. The challenge is in supporting new development in flood-prone areas. Obviously you want to make it safe for occupants; that is one of the underlying principles. But ultimately I think the biggest thing here is: can these properties be insured? That has to be the underlying answer, and something that has come new to us is if it cannot be reasonably insured in the future, that should be one of the key determining factors about whether we should support development or not. So in terms of should we support development from an egress and access viewpoint, and this is what I was saying, I think it is bigger than an individual CMA applying thing; it has to come at the state level –

**Melina BATH:** Yes, at a statewide level.

**Camille WHITE:** It has to be at a statewide level to say, 'We've got our current data. Do we continue to base our assessment on our current data, or do we look at 2100 and consider egress then?' That is the decision to be made. I think it is still reasonable to look at the current risk, because we know the risk is the risk now, but we are sort of gazing into the future –

**Melina BATH:** You are building 27 years hence and therefore –

The other question I had is – and insurance is a fraught topic – are you insuring for inundation, in which case you could not get that insurance but could still insure your house for fire, rain, flood et cetera?

**Camille WHITE:** Provided that is provided, exactly.

**Melina BATH:** That is right. My time is up, but what would you like to see from a statewide point of view, a recommendation to government on this, knowing that is a challenging situation?

**Camille WHITE:** That is what I was saying: we need set guidelines for the practitioners, CMAs and councils about what shared socio-economic pathways should be. And what time period are we planning for? Are we planning for 2050 or 2100? There need to be the two decisions, one from a planning perspective and one from an implementation perspective, egress in particular. There needs to be that decision-making at the state level, not individual CMAs. There has to be consistency across the state.

**Melina BATH:** Otherwise we are just going to clog up VCAT too with everyone trying to appeal and getting frustrated.

**Camille WHITE:** Absolutely. Yes.

**Melina BATH:** Thank you very much.

**Luke AUSTIN:** Camille's point there is that consistency across the state is currently not there.

**Camille WHITE:** Yes.

**Melina BATH:** Thank you.

**The CHAIR:** Luke, Camille, Rohan, thank you so much for coming along today and for the evidence you have given. We really appreciated it. You will be provided with a copy of the transcript for review in about a week.

With that today's hearing is at a close.

**Committee adjourned.**