

# TRANSCRIPT

## LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

### **Inquiry into Ecosystem Decline in Victoria**

Melbourne—Tuesday, 10 August 2021

#### **MEMBERS**

Ms Sonja Terpstra—Chair

Mr Clifford Hayes—Deputy Chair

Dr Matthew Bach

Ms Melina Bath

Dr Catherine Cumming

Mr Stuart Grimley

Mr Andy Meddick

Mr Cesar Melhem

Dr Samantha Ratnam

Ms Nina Taylor

#### **PARTICIPATING MEMBERS**

Ms Georgie Crozier

Mr David Davis

Dr Tien Kieu

Mrs Beverley McArthur

Mr Tim Quilty

**WITNESSES** (*via videoconference*)

Mr Trevor Hodson, Treasurer, Friends of the Barwon;

Mr Craig Copeland, Chief Executive Officer, OzFish Unlimited; (*via videoconference*) and

Ms Barbara Hall (*via teleconference*).

**The CHAIR:** I declare open the Legislative Council Environment and Planning Committee's public hearing for the Inquiry into Ecosystem Decline in Victoria. Please ensure that mobile phones have been switched to silent and that background noise is minimised.

I would like to begin this hearing by respectfully acknowledging the Aboriginal peoples, the traditional custodians of the various lands we are gathered on today, and pay my respects to their ancestors, elders and families. I particularly welcome any elders or community members who are here today to impart their knowledge of this issue to the committee or who are watching the broadcast of these proceedings. I would also like to welcome any members of the public who may be watching these proceedings via the live broadcast.

At this opportunity I will introduce committee members to our participants today. My name is Sonja Terpstra; I am the Chair of the Environment and Planning Committee. Also joining us are Mr Clifford Hayes, who is the Deputy Chair; Ms Melina Bath; Dr Samantha Ratnam; Ms Nina Taylor; Mr Andy Meddick; and Mrs Bev McArthur. Other members of the committee may also join us a bit later on, but if they do, I will introduce them as they come on.

All evidence taken today is protected by parliamentary privilege as provided by the *Constitution Act 1975* and further subject to the provisions of the Legislative Council standing orders. Therefore the information you provide during the hearing is protected by law. You are protected against any action for what you say during this hearing, but if you go elsewhere and repeat the same thing, those comments may not be protected by this privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of Parliament.

All evidence is being recorded. You will be provided with a proof version of the transcript following the hearing. Transcripts will ultimately be made public and posted on the committee's website.

So what I will now do is ask each of you—I will call on you—to please state your name and the organisation you are appearing on behalf of. So, Trevor Hodson, if I could ask you to start, please.

**Mr HODSON:** Trevor Hodson, appearing for the Friends of the Barwon.

**The CHAIR:** Great. Thank you. And Mr Copeland?

**Mr COPELAND:** Craig Copeland, for OzFish Unlimited.

**The CHAIR:** Thank you. And Ms Hall?

**Ms HALL:** Barbara Hall, representing myself as a citizen.

**The CHAIR:** Thank you. Now what I will do is I will ask each of you—and again we will go in the same order—to please give a brief opening statement of about 5 minutes. Then that way, after your opening statements and comments, that will then allow committee members plenty of time to ask questions. So with that, I will hand over to you, Trevor, and if you could please give your opening statement. Thanks.

**Mr HODSON:** Thank you. The Friends of the Barwon welcome this opportunity to speak to the inquiry. Our group was formed in 2019 with the express vision of advocating for the protection and improvement of all rivers and wetlands in the Barwon catchment. These include the Yarrowee, the Leigh, the Moorabool, the Barwon and the vitally important Ramsar wetlands at Lake Connewarre and the Barwon estuary.

We have made representations to the Barwon Ministerial Advisory Committee and argued for place-based legislation to protect the river in the same way the Yarra River Act has achieved this outcome for that river. We have requested the minister to place a moratorium on developments in the river basin until the findings of the

Barwon MAC and Sustainable Water Strategy are presented. We have appeared at planning panels and council hearings to argue against developments, such as a 14 000-head sheep dairy with the potential for its run-off to add to the nutrient flow into the Barwon. Another case was the *Inverleigh Structure Plan*, where the planned housing development will contribute to increased run-off and siltation of the Leigh River and impact biodiversity of the adjacent Inverleigh flora and Fauna Reserve.

It is a fact that the average rainfall has declined by as much as 20 per cent in the last two decades, and this is impacting all streams because of the larger reduction in run-off. Combined with our reliance on surface water for potable use, through the West Barwon Reservoir and the Lal Lal Reservoir, and the growing populations of Ballarat and Greater Geelong, which depend on that water, all our rivers and streams and wetlands are being compromised and without adequate environmental flows will continue to decline.

Environmental flows are not just about the quantity of water, they should also have regard to the quality and the timing so that freshwater ecosystems can be sustained. Already out of date, the only marker of river health, the *Index of Stream Condition* for our waterways, indicates that the majority are in fair or poor health and were declining between 2005 and 2010. This is acknowledged by the Corangamite Catchment Management Authority. The Leigh River, which receives a substantial allocation of class C treated recycled water from the Ballarat treatment plant to maintain passing flows, has a significant reduction in invertebrate biodiversity attributable to the high nutrient load of the treated discharge. These nutrients are a factor in the increasingly frequent summer algal blooms occurring downstream in Geelong, disrupting events like rowing regattas.

Platypus are known to inhabit the Barwon. They were once quite common, but now their range is becoming restricted, and with fragmentation of their habitat their long-term survival is in jeopardy. Population studies are being undertaken using eDNA techniques, and these have confirmed that isolation is occurring.

During the millennial drought, Barwon Water accessed the aquifer at Gerangamete with disastrous consequences for the Barwon. Big Swamp is in the middle reaches of Boundary Creek, a tributary of the Barwon. It dried out and burnt, and when the swamp re-inundated in the next wet cycle there was a major inflow of highly acidic water into the Barwon that resulted in a major fish kill extending from Birregurra to Winchelsea. Remediation is planned, but it may take a century to occur.

We appreciate that at the moment, when there is high rainfall, one could think the current reliance on surface water for residential use and agriculture can continue; it would be a mistake. All our rivers are struggling. They need more water to ensure they function properly. We need to focus on climate-independent water sources like recycled water and be prepared to act in line with many other jurisdictions that treat recycled water to a potable standard. We should not be limiting its use to greening urban spaces, in agriculture or discharging it to the sea, but using it to relieve the burden on our rivers. If one thinks about the Gerangamete bore field, the amount of water Barwon Water took from that in a year was the same as is discharged from the Western Treatment Plant to Port Phillip Bay in a month. We have the water; we need to use it. We should stop the proliferation of dams on riverside properties that intercept water needed for the environment. We should press for the resumption of unused or sleeper irrigation licences and return those allocations to the river and not to the next developer or farmer.

At the same time as ensuring adequate flow in our waterways we should be looking to continue the work already being undertaken to restore and enhance the riparian zone of our streams. This means programs aimed at the removal of weed species such as willow and glyceria that choke our waterways. We should also ensure grazing livestock are excluded from banks of our rivers to protect them from erosion and to ensure that water quality is not deteriorating.

**The CHAIR:** Mr Hodson, you have 1 minute left.

**Mr HODSON:** Thank you. A catchphrase in environmental service is that of 'declining baseline'. Things get worse slowly and we do not notice in the short term, but if we look to the record or listen to those who went before us, it has happened before our eyes. We recognise the importance of healthy rivers to the traditional owners. It is not the time to do nothing or allow business as usual to proceed. I thank the committee for its time and for listening, and I welcome questions. Thank you.

**The CHAIR:** Thank you so much for that, Mr Hodson. All right, Mr Copeland, if we can go to you for your opening statement.

**Mr COPELAND:** Thank you very much and thank you very much for the opportunity. I am the CEO and founder of OzFish Unlimited, a national not-for-profit organisation set up to restore our waterways and to engage recreational fishers in this work. I have about 30 years experience restoring fish habitats. I spent about 15 years on the board of the journal *Ecological Management & Restoration*, and this experience I want to bring to you because what I want to talk to you about is actually not so much protecting fisheries but in fact about restoring them.

I want to quickly point out that Victoria's freshwater fish populations are at about 10 per cent of what they were historically, that three freshwater fishes are extinct and about 55 per cent are endangered or threatened. In our coastal waters our fisheries are managed sustainably, but we have just finished a history of fishing in the Maribyrnong and the river was full of fish. You know, you could walk on the backs of them, there were so many. And the issue there is I think we are managing sustainably at a level that is low being driven by the amount of habitat that we have now got.

Most of these losses to our fisheries have been driven by habitat loss and degradation. This is a common phenomenon for coastal and freshwater fisheries around the world. In Victoria we have got the same issues. Most of our rivers have been de-snagged, almost all of our shellfish reefs have been lost, we have got tens of thousands of hectares of seagrass gone and 21 out of 29 of our rivers have 50 per cent of their riparian zone in good condition—so 50 per cent not in good condition.

I know this might sound strange, but that is the good news, because restoring habitats will restore fish populations, and that is really important culturally and it is really important socially and it is really important economically. Restoration works. Now, a perfect example is work done by the North-East CMA with DELWP and the Arthur Rylah Institute with funding from the MDBA. The Ovens River demonstration reach got a greater than 200 per cent increase in Murray cod and trout cod populations because of the river restoration works that were undertaken. More importantly OzFish now has 11 chapters set up in Victoria to do this restoration work, and we are committed to restoring fish habitat. We have got over 800 000 fishers in Victoria, and if we can get just a small proportion of that growing and looking after rivers, we can make a huge difference. So we already have been doing work—resnagging rivers, replanting riparian zones. We have got some work being planned for the Barwon, which hopefully Trevor is happy with. We are working with the Corangamite CMA there to do some work there. We have got some more shellfish restoration work being planned with the Port Phillip Bay CMA. It is looking like much more work is going to happen, but I am afraid the scale of the problem is massive and aquatic habitat restoration is in fact very complex.

Victoria's current laws and policies are set up to protect the environment, and restoration is seen as an activity just like building a marina or building a hotel—and that introduces huge time and funding costs. It is not fit for purpose in terms of restoration. I have set out some detailed issues in our response to the inquiry in our written response, which I recommend to you, but I would really like to say we need policies and regulations that actually support restoration. We need funding to match the scale of the loss, and we need a lot more people actively engaged. And the upside is every time we do this we are going to get increased fisheries and we are going to get a better ecosystem. Thank you for your time.

**The CHAIR:** Thanks very much, Mr Copeland. So Ms Hall, over to you now if you would like to give your 5-minute opening remarks. Thanks.

**Ms HALL:** Thanks. I am Barbara Hall. I am 72. I live in Oakleigh, and I am on the phone during this time of pandemic. I am very grateful to the committee for environment and planning for carrying out this inquiry. I want to focus on two ideas, and that is peak population and rewilding. What I say will be informed by Jane Goodall, her work with chimpanzees; David Attenborough, his recent book called *A Life on Our Planet*; Pembroke's book on Korea; and my own experience observing marine invertebrates around the coast of Victoria, about which I wrote in my submission.

Jane Goodall, when she observed chimpanzees, found them very shy, but as they became less shy they invaded her camp and created havoc. So she had to regulate them, and she had to regulate herself. We are very closely related to chimpanzees, and so we need regulation, and as the Barwon River fellow said, we need regulation to protect the environment. And she said that we have sophisticated language, which chimpanzees do not have, and that is what we need to use to get across our ideas.

David Attenborough in his most recent book talked about peak population and the fact that the world's population is slowing down slowly but we need to bring that closer to us, and he talks of course about life in the Petri dish, which can get rather poisonous and horrible, and of course that is what we are doing on planet Earth right now—witness the horrific fires in the Northern Hemisphere. He said that one of the most important ways we can bring on peak population and start to stabilise and decrease is to make sure that we have a good standard of living—that is, all of us—and that women are empowered through education so they have choice over reproduction.

Pembroke's book on Korea brings me to the whole business of rewilding. He mentioned the demilitarised zone between North Korea and South Korea, where, because people cannot go there—it is riddled with landmines—the wildlife is abundant and rare plants have flourished. The overarching idea that we need rewilding applies to us in Victoria. David Attenborough does give examples of rewilding. In Mexico a community on the Gulf of California asked scientists for advice. They created a marine protected area. It took 15 years, but that area did replenish. Commercial fishing and the fishing of the local people was not allowed on it, but the replenishment that happened in that marine protected area replenished surrounding areas, and that seems to apply on land as well.

I am a member of the Field Naturalists Club of Victoria. I go out and do field trips with the marine research group, and over the years I have been a witness to the demise of the red waratah anemone. It used to be common down at the Bunbury's in Williamstown. In my youth it was obvious up until about 2014, but if you can find a red waratah anemone down at the Bunbury's today, I would want to go and see it immediately. The same is happening to other anemones. In Port Melbourne there used to be a lovely aggregation of anemones that pull sand grains over them when they close up, *Oulactis muscosa*. The second-last time I went there, there were about seven I counted whereas there used to be hundreds, and when I went last week—

**The CHAIR:** Excuse me, Ms Hall, you have about a minute left.

**Ms HALL:** Thank you very much. When I went last week there were no *Oulactis muscosa* anemones on that little corner at the south end of Batman Street. So we are watching extinction of animals in Port Phillip Bay. Common crabs are no longer common. If you know where there are lots of crabs around Port Phillip Bay, I would be very interested to know. So we need to regulate ourselves. We need to rewild a goodly part of Victoria for the sake of replenishment, and we need to think about how we bring about a stabilisation of our population. Thank you to the committee, and thank you to all of those who have listened to this disembodied voice. Thanks.

**The CHAIR:** Thank you very much. Thanks, Ms Hall, and thank you to all of you for your opening remarks. I will hand over to committee members for questions. Dr Ratnam, we will start with you.

**Dr RATNAM:** Thank you, Chair. Thank you, everyone, for your submissions today, for the submissions you have provided in writing before and for your absolute passion and care for our environment. We have certainly heard through this inquiry how it is going to take all of us acting together if we are going to halt the decline of our ecosystems, and you certainly are doing, you know, the lion's share of a lot of that work on all our behalf, so thank you very much.

I have got a couple of questions, but I am just starting with Mr Hodson. Just in terms of your submission about the health of the Barwon River, your submission talked about quite a significant portion of the river being rated by the government as poor or in very poor health and none of the river being rated better than a moderate level of health. I think you touched a bit on this in your opening submission, but I would like to go into a bit more detail about what you think can actually be done to restore the health, and particularly those kinds of critical points that are suffering very poor health.

**Mr HODSON:** Well, I mean, we all know we need to restore the riparian vegetation, we need to exclude stock, we need to remove the weed species and we need to ensure that there are proper environmental flows. I mean, if you look at the Leigh River, people think it is wonderful because there are passing flows, which look wonderful, but we do not have the cycle of flows and we do not have the quality, because basically a lot of that water is supplemented by treated sewage and it comes out at a steady rate. So we have to restore natural flows in rivers. We have to improve their quality. I mean, like with the fishery person: you do need snags. Rivers are not drains. You need places for animals or fish to live, you need a healthy invertebrate population, and

unfortunately the last time an index of stream condition was done was 2010. The previous time before that was 2005. In that five-year period there was decline, so heaven knows what has happened in the last decade.

**Dr RATNAM:** On that note—thank you very much for that, because it is really informative—where is that care and coordination breaking down? So in terms of who is responsible, from your perspective who should be taking that responsibility for that overall bird’s-eye coordination? Of course there are lots of different types of interventions and different actors that need to be involved, but where is it going wrong in terms of looking after the health of this river?

**Mr HODSON:** Well, unfortunately most of it is left to citizen science. I mean, there are Waterwatch programs, there are Bug Blitz programs and there are a whole lot of other programs where you can actually measure the stream health indirectly, and they are usually funded through places like the catchment management authority. The Platypus eDNA project is one example. I do not know why, but there is a significant deficiency in government oversight. I mean, here is a program which is 10 years out of date, yet it is going to inform things like the Sustainable Water Strategy and other things like that. But we do not know, and things are basically going to hell in a handbag while we watch.

**Dr RATNAM:** Thank you very much, Mr Hodson. That is really useful. And I am happy to come back, Chair, if there is time.

**The CHAIR:** Sure. Thank you. Dr Bach.

**Dr BACH:** Thank you very much, Chair. I was taking some notes as we were talking, and one question in particular jumped out to me—to you, please, Mr Copeland—and it is regarding camping and grazing licences on riverfrontages. My understanding is that about 50 per cent of riparian land is in poor condition. I wonder what your opinion is regarding government policy allowing camping for a period of time, I think it is 28 days, and what that brings with it—dogs, other animals, other detritus—on our riverbanks.

**Mr COPELAND:** Again, the issue of our riparian zone is one that has to be addressed. Part of it is because we do not have a riparian zone, so we should have it back. One other thing though that you use a riparian zone for is to actually—and a lot of people do this—access the watercourses. If we cannot access the watercourses, we cannot fish, and if we cannot fish, then there is a whole cultural and social and economic disbenefit. So it is just how you do it and making sure that you are doing it in such a way that you are not destroying the riparian zone, you are assisting with it, and that is eminently possible. The way you do your restoration is to make sure that you can look after proper uses but manage it accordingly and make sure that you are not destroying the restoration and/or the riparian zone at the same time.

**Dr BACH:** Thank you, Mr Copeland.

**Mr HODSON:** Could I say something there about that issue?

**The CHAIR:** Yes. Please, go on.

**Mr HODSON:** We have serious concerns about the new regulations regarding camping on Crown land, and we would in fact be urging farmers to change their leases from Crown grazing leases to riparian management leases, which basically takes away the ability to access those areas in sensitive areas. We know that there are very many sensible fishermen, but there is a fairly big rump that do the wrong thing. We have seen fires from camp fires that have been lit, we have seen trees that have been cut down—all against the spirit of the legislation or what should be done. And I speak as a fisherman of many years, but unfortunately there is a group that does the wrong thing and there are certainly serious concerns. Many farmers have expressed the same thing.

**The CHAIR:** Great, thank you.

**Mr MEDDICK:** Thank you, Chair, and thank you, all, for your presentations today. I have got a couple of quick questions for Mr Hodson. Thank you for bringing up the issue of the different types of recycled water. I think most of the general public would think—you know, when the term ‘recycled water’ is brought about, everybody seems to think—that there is dirty water from whatever source and then there is recycled water which ultimately makes it clean and usable, when we know that there are in fact three different classes.

When you say that you are looking for better uses for, say, A- and B-class recycled waters—because at the moment they are being reserved for, as you say, agricultural licences—would you want to see them removed and used as the environmental flows, given the fact that class C is clearly not suitable for environmental flows given all of the reasons you have outlined there? But if we do that, then what do we do for agriculture that is going to need some type of water—and recycled water at that—because as you quite rightly pointed out, our natural water flow systems cannot cope with the amount of agriculture that is going to need to draw water in order to survive? And that brings me to my second point of the question, which is: are you aware of how many unused allocations there are that could be returned to environmental flow?

**Mr HODSON:** Thank you, Mr Meddick. In terms of the exact number of unused or sleeper licences, it is very difficult to get that information from Southern Rural Water. But despite that, they have been actively promoting people to take them up, even though they are not the water broker. So we know that with the sheep dairy we were looking at there was a 100-megalitre licence which was unused but going to be used if that application gained approval. So we do not know, but there should be a time clause, so if a licence is not used for five or 10 years, it should be resumed, and that should hopefully go to the environment.

As far as the recycled water is concerned, you have got to deliver it. So if you are delivering it to a farmer or whatever, we have schemes at the eastern treatment plant, the western treatment plant, Black Rock and Geelong. At the moment they are recycling about 19 per cent of the water that is available. We should be recycling 100 per cent. At the moment we cannot—I will not say ‘get rid of’—sell all that water. So one of the things that we would strongly recommend is: treat that water to a potable level and, if necessary, directly inject it into things like the Melbourne–Geelong pipeline. Let us relieve the load on the rivers so that the rivers at least get a chance, and then we can talk about things in the SWS—the Sustainable Water Strategy—and about how we allocate the water for the river. But we really need to get over this idea that recycled water class A is not fit for drinking. Thirty-five other places in the world drink it. If you have been to London, you have probably drunk water that has been through someone else’s kidneys on 10 occasions. I mean, we are stupid. I am sorry; the answer is staring us in the face, and that is why I mentioned the bore field at Gerangamete. In a month that amount of water discharged to the sea from the Western Treatment Plant to the bay, and that is what took 12 months of Geelong’s drinking water. I mean, I know there are reasons why it happened, but now it is an environmental disaster, that whole Boundary Creek situation. There are going to be ongoing acid flows. It will take a century to restore the aquifer.

**Mr MEDDICK:** So is your solution then to just treat all water to a potable level or class A, regardless of its source, to bring it to that level and then we can deal with the other situation surrounding that because we are not creating other problems because of the lower classes?

**Mr HODSON:** Absolutely. Because the cost of recycled water for drinking is the same as for desalination. If we are going to have a problem in the future and build a desalination plant on this side of the bay, we have already got the possibility at Werribee to supply the amount of water that we need, and we can inject it into where it is going to be required. With the development around Geelong, the corridor there, the north-west growth corridor, that is where we need to put the water.

**Mr MEDDICK:** Wonderful. Thanks so much. Cheers.

**Mr HODSON:** Thanks, Andy.

**The CHAIR:** Great. Thank you. Ms Taylor, a question?

**Ms TAYLOR:** Yes. Thank you for your very thoughtful and considered contributions. I just had a couple of questions with regard to the immediate impact on the edge of riverbanks. I was thinking about the run-off sprays et cetera and the impact on water quality and what your thoughts are on that and also the kinds of foliage that you believe are ideal, bearing in mind that when the English and Irish came they planted European trees. But sometimes you think, ‘At least have a tree that’s going to grip some of the soil’—something is better than nothing. So I am just wondering about your opinions on those two elements.

**Mr HODSON:** I think one of the things is that the riparian zone needs to be wide enough. In places like Tasmania and New Zealand I think they legislated 50 metres or 100 metres so that when you have use herbicides, pesticides or fertilisers on flood plains and so on, like agriculture use, there is less chance of it going into the river. But the primary thing is excluding stock access, because they are significant polluters and they

put nutrients in and damage the banks. So that is one thing, and that is what has been happening with the CCMA here. Farmers have been given money to fence off the riparian zone, it has been replanted, and at the same time they have had assistance putting in off stream stock watering points which come from their water so the stock do not have to go into the river. Vegetation, preferably native, not always indigenous but certainly native—we have got issues here in the upper Barwon at the moment. You have probably seen issues with flooding up near Forrest on the Birregurra-Forrest Road. It is basically the result of infestation, with weeds—glyceria and willow—choking the waterways so the water, when it comes down in sufficient amounts will cause flooding on adjacent properties in the Upper Barwon. The same things happens with environmental flows from West Barwon. There is a limit to how much water can be released without triggering flooding. It requires a system of management, whereas probably with a waterway like the West Barwon you start at the top and work down, because if you start in the middle removing willow, then the willow will just go downstream the next time or come down from upstream. So you want to have a coordinated approach. I mean, people who have been involved with stream restoration, like fishers and so on, understand. This has been around for 30 or 40 years—the idea.

**Mr COPELAND:** If I could add to that, the issue about willows, not so much in wet times but in dry times, is that they are significantly more than native plants taking water out of the system—I think taking out about four or five times more water. Just in terms of flows, willows do not do a very good job. So you have got to get rid of them, but you have got to do it, as Trevor said, in terms of making sure it is a structured process and you are replanting as you go so you are not leaving huge swathes of riverbank uncovered.

The other important thing to note is that off-stream watering, taking water to cattle troughs, is in fact better for cattle than actually drinking out of the waterways. There are best practice guidelines for farmers indicating that difference and there have been papers around the world on that subject, so it is just a smart move to do. If we can work with the agriculture ministries, I am sure we can come up with a good outcome which is better for farmers and better for fish.

**Mr HODSON:** The other thing, just about that, is if we restore the riparian vegetation, then we start putting in biolinks or corridors along our rivers, which means we have got greater connectivity and wildlife. One of the issues that occurs in the Moorabool River with their flow issues is you get refuge pools, and when you get things like the migratory short-finned eel, it cannot go upstream. It gets to a certain point and then can go no further because of in stream barriers. That is why we talk about environmental flows. The rivers should be really wildlife corridors connecting things. In the *Inverleigh Structure Plan* we were hoping to include or incorporate a corridor between the Leigh River and the Inverleigh nature reserve. The problem is that is in the structure plan but it is not guaranteed, because the developer who applies to rezone or subdivide the area is not bound to include that corridor in their proposal. So there are real issues in terms of, you know, nature is on a hiding to nothing most of the time.

**The CHAIR:** Ms Hall, is there anything that you want to add to that discussion?

**Ms HALL:** No, not at this point. I am impressed.

**The CHAIR:** Okay, no worries. Thank you. All right. Mr Hayes, question?

**Mr HAYES:** Yes. Thanks, Chair. Thank you very much for your contribution. It is very interesting. I particularly wanted to ask Barbara Hall a question. I am very interested in what you have to say of course. You are one of the few people who is a mad keen population growth pusher. I just wanted to ask you about that and rewilding and your familiarity with David Attenborough's work. Australia has doubled its population since the 1970s. We have seen an ecological disaster unfolding in front of our eyes. Plans are afoot to redouble it again for economic reasons. I just wanted you to comment on the wisdom of that. I am also very keen to talk about rewilding and reinvesting. Money that we spend on infrastructure like tunnels and towers we could be putting into revegetation and restoring our damaged environment. And anybody else who wanted to comment on that, I am quite happy to go there. I think it is a very valuable form of investment, but at the moment we seem to be talking about pushing ever larger numbers of people out into the countryside. I know what I think, but I just wonder what you think of that plan—and maybe Mr Copeland or Mr Hodson would like to comment on those things too.

**The CHAIR:** They can all comment if they like. So, Ms Hall, let us start with you.

**Ms HALL:** Thank you. As a species we require huge energy, and those of us who live in the Western world are extremely heavy consumers. The government's encouragement of population growth goes against the protection of our environment. The devastation around me, in Oakleigh and around the bay, continues, as I said. The species diversity down the coast is in serious decline. For what reasons? I think that needs to be scientifically investigated. Our population makes us uncomfortable as far as traffic goes, and I would want to raise consciousness about it. I think there are some wrong ways to go—and that is to go and say 'The population problem is all over there and nothing to do with us'. I think what David Attenborough does is look at us as a whole, because he says that in China they impose a strict one-child-a-family law to make the population stop growing so much. But they did not do the same thing in Taiwan, but over the same period Taiwan's population growth also slowed down as much as it did in China.

I actually think that if people are quite well off, and if we all have opportunities for education, then we do not feel such a great need to reproduce. I also do not think we need to keep growing in order to have quality of life. I do not think we need to be extremely affluent either to have quality of life. There are places around the world where people are very poor but because of health measures the lifespan is equivalent to the European lifespan. So I think we have got a lot to explore. I will leave it at that.

**Mr HAYES:** Thanks very much.

**The CHAIR:** Mr Copeland, is there anything you want to add there?

**Mr COPELAND:** Well, look, I actually wanted to focus a little bit more on ecosystem decline. Yes, while the population has had an impact, most of that impact has occurred historically. Most of the damage to our rivers and the damage to our estuaries occurred well before we actually realised their value. So the focus, and I am sorry to labour the point, needs to be on restoration. We need to be getting really serious about restoring things, and the big point about this restoration is that it actually has economic value. There has been some work done in North America, where restoration per million dollars employs more people than the oil and gas sectors. So I am just saying that there is actually an economic benefit to the state in restoring the environment. It is not just going to be better for all of us; it is actually going to be better for the economy.

So taking that point as read, and taking the point about population—and increasing populations are going to put more stress on us—the damage has been done. The damage was done in the late 1890s all through to the 1970s, before we realised what poor water quality could do and what habitat loss would do to our ecosystems.

**Mr HAYES:** Thank you.

**The CHAIR:** Trevor?

**Mr HODSON:** Yes, look, I accept that we have lost wetlands, we have lost grasslands, and if you look at the reduction in grasslands through change in agricultural practice, it is over 80 per cent. Wetlands are important for birds like brolgas and shorebirds which fly down from Siberia. There are some bright spots, as Mr Hayes has suggested, that can happen. The Nature Glenelg Trust around Glenthompson has done marvellous things with the restoration of Walker Swamp and Brady Swamp, and what was once a paddock with a small puddle is now in March home to 120 brolgas. I mean, it is amazing what can be done.

The issue, though, is that either this comes through philanthropy—that is, a private organisation funded by philanthropists—or crowdfunding. The rest is the responsibility of the CCMA, who have to go with their begging bowl every three years to fund their programs. It is time that there is an adequate allocation of money. Things can happen at all sorts of levels. In Birregurra, where I live, we have just, with Barwon Water, done a water savers project where we have shown that people who are, I guess, water smart use 20 per cent less water in summer than those who are not. Now, you might think that is not much, but it is megalitres of water. Bear in mind all that water comes from the West Barwon Reservoir, so if we can leave that water in the river, it pays off for the river. Everything we have got to do has got to have an environmental benefit for the river. We should be doing like they have done in New Zealand and for the Yarra River, giving things place protection. In New Zealand the rivers in Whanganui are treated as a living entity. They have got legal rights. We should be looking at that for our legislation here. We should be giving more credence to the rivers, elevating their status, rather than just using them as something you put a straw in to take water out or dump things into.

**Mr HAYES:** Hear, hear.

**The CHAIR:** All right. Great. Thanks so much for that. Next question from Ms Bath.

**Ms BATH:** Thanks, Chair, and thank you very much for being here one, two and three. My first question is to OzFish and Mr Copeland. In your submission, Mr Copeland, you say that you have completed 150 projects nationwide and 20 of them are in Victoria. Now, my electorate is the most beautiful part of Victoria, and that is in eastern Victoria and Gippsland. I am interested to hear, when you speak about restoration and the importance of it, what work, if any, you have done in the Gippsland rivers or the Gippsland Lakes and if you could outline a project that has been successful. Have you received grants or how have you funded that? Just to unpack that, because I guess at the end of the day we are about making recommendations for government to see and read. So what has worked for you, and how can you prove it?

**Mr COPELAND:** Okay. In East Gippsland we have had a project, a replanting of the riparian zone of the Nicholson River. That was funded through Shimano, which is a great supporter of habitat work. We have got a project going in the Gippsland Lakes. We are putting reefs and structure back into the Gippsland Lakes, and part of that is supported by the recreational fishing licence in Victoria, so the funding from that is coming back through to our chapter in East Gippsland. Both of those projects are supported—if any of you go into a BCF store you will see our logo up everywhere, so if you want to round up your purchase for any of the fishing tackle in those stores that money comes to us and that is quite a significant amount of money. Super Retail Group, which run the BCF stores, then match that contribution, so that is a significant corporate and philanthropic sort of donation. So that is just our East Gippsland work. We have actually got a proposal where we are working in West Gippsland, which has just been funded by the federal government under their fish habitat program, and we are looking to take part with the CMA and the Landcare group in that area to do seagrass restoration. That is just the start. We have got much more to do, but we have only just started in Victoria. We only started a couple of years ago getting chapters on the ground, but as I said we have got 11 going now, so we have got much more to happen.

**Ms BATH:** Thank you. It is really fascinating how private industry and businesses can get involved in these things, and it is in their own interests because in effect they are creating their own sales by having habitat—more fish and more rods et cetera. Just for clarification, I am not receiving any funding from any fishing organisation whatsoever, so I am putting that on the table. You talk about reefs in East Gippsland. Could you unpack it a little bit more? What does that look like, and who is doing it? What are your outcomes?

**Mr COPELAND:** Yes. So essentially shellfish reefs existed all over the place, and poor water quality and increased sediment from the catchment basically have drowned out these reefs. They are really important for filtering, for biodiversity and for food for fish, so essentially we have got to put them back in one way, shape or form. So we have got to build structure outside the sediment so that spat can grow, and that process takes a long time. So we are doing that in the Gippsland Lakes and we are doing that in many other places. TNC are doing some work, as you know, in Port Phillip Bay, and we are also doing some smaller work with shells and rec fishers in Port Phillip Bay. So all of that needs to occur. You have to put structure back for it to take, because there is just too much sediment that has come into the system and that fine sediment is really hard then for oyster spat to settle on and to grow from.

**Ms BATH:** Chair, thank you. Just another quick one, Chair, if I may: is there some documented reporting on a project that you have done that you could send to us? So is there is one that has reached a sort of a level of completion that you would be able to say, ‘We started with this. These were our objectives and we met our outcomes’? Just so that we can get an understanding as to what worked. And you might have a critique on yourself and say what needs to be improved on that. So that is that one, if you could take that on notice for us.

And then finally, just in relation to Mr Hodson, I note that you said farmers should be securing and fencing off riparian land. Now, at the moment there is 17 000 kilometres of riparian land in Victoria, and farmers would have a heck of a job to do all of that. So there are some logistical problems, but the other problem is there needs to be a balance in that the government is now going to open up 17 000 kilometres of leased land for riverfront camping in 28 days, with people camping and all sorts and manner of things. So I am putting it to you that it is a challenge to get farmers to be able to fund all of that, but also there needs to be a balance. I would just like your comments on that.

**Mr HODSON:** I think farmers have expressed their opinion, because they realised that this is going to be a difficult thing to enforce. Who will police the situation? There is an option: many of them have got Crown

grazing leases and can quite easily change them. And they would probably get some help from our local catchment management authority.

I mean, it is definitely a difficult question. In one sense a sledgehammer has been used to crack a walnut; it was really to get access around the Murray, the Goulburn, the Ovens and the Campaspe. There are a lot of areas where really people cannot be imposed on in that way. It is my personal opinion, and I would support a farmer who changed his Crown lease from grazing to riparian management. It is better outcome for the environment because you will have an established riparian zone, you will have the river protected and you will have less risk of damage occurring, less pollutants, less rubbish, less risk of fire and less damage to the woodlands. So I think it is an individual farmer's response, and some will see it as something which they really want to do; others may be quite happy. I cannot speak for all the farmers in Victoria.

**Mr COPELAND:** I would like to address that if I can.

**The CHAIR:** Yes, just quickly before we move to some other questions.

**Mr COPELAND:** Okay, so the issue is one of the world's largest conservation groups is Ducks Unlimited, in the United States, and they obviously shoot ducks. But the issue—what they have constructed—is that they are engaged in ducks and they are engaged in the fact that they need wetlands. The only bird group that has not gone downhill in North America over the last 50 years—and there are papers on this—is ducks. And the reason they have not gone downhill is because Ducks Unlimited spend all their time looking after wetlands for waterfowl. And the issue about riparian zones and fishers is: I agree with the concept that we need to protect our riparian zones, but you need to have people who want to go to rivers, because at the moment if we do not have people looking after the ecosystems, you are not going to get them restored.

So I think we have got a job to do to make sure that rec fishers recognise and act appropriately. It is not just our job, it is everyone's job to make sure that everyone looks after it. But I would like to have people fishing and talking about the value of a riparian zone and what the benefits of a good riparian zone mean to the fishery and looking after it in that way. So I think an engaged community and an informed community is going to be better off for all of us.

**The CHAIR:** Thank you. Now, we have only got a few minutes left and I have not had a question yet, so I would not mind asking each of you in turn on the panel: if there was one thing that you could do or one thing that you would say government should prioritise in your particular areas of interest, what would that be? So perhaps we might start with you, Mr Hodson. If there was one thing that you could change or you would say the government should prioritise, what would that be?

**Mr HODSON:** Better planning; limiting urban growth and encroachment on places; simple legislation. I mean, rather than offering people 2000-litre tanks, give them 10 000-litre tanks and then they can actively reduce their reliance on potable water for things like flushing the toilet and watering their garden. My wife and I live on a town block with 30 000-litre tanks underground; our daily water use is 140 litres a day for two people.

**The CHAIR:** Yes. Sure.

**Mr HODSON:** And I think the other thing is that we really should be pushing for complete re-use of recycled water, and that means treating it to a potable standard so you take the pressure off the rivers.

**The CHAIR:** Yes. Okay. Thank you. Mr Copeland, if there was one thing that you could change—if you had a magic wand and you could change it—or you think government should do better, what do you think that is?

**Mr COPELAND:** As I have stated, I think we need to have policies and legislation in place that support restoration, and to achieve that I have recommended that you ask for the establishment of an ecosystem restoration panel. I think there are a whole bunch of things that are currently going on that are good—the CMAs are doing great work, the government has got some great scientists supporting stuff—but I do not think it is cohesive enough to generate the sort of change that is required and address the sort of hundred years of decline.

**The CHAIR:** All right. And I will come to Ms Hall in a moment, but is there a difference in your mind about rewilding, for example, versus restoration? Is it the same thing or not in your mind?

**Mr COPELAND:** Well, there are a number of people who have different views of rewilding and what it might be, but in the Australian context I think rewilding without people—without landholders on board, without farmers on board, without communities on board—is just going to be fencing off areas and we are not going to be able to get enough of it to actually make a difference. So I think we actually need to be restoring the landscape with landholders heavily engaged and with fishers heavily engaged, and that way we are going to get ecosystems restored.

**The CHAIR:** Thanks. And Ms Hall—to you—if there was one thing that you could change or say to government that we should prioritise, what would that be from your perspective?

**Ms HALL:** Well, the man from OzFish has thrown me an issue. I think landholders can be involved in changing practices so that it is better for the animals. I mean, we are looking at something like at least a 40 per cent loss of insects in the environment, which is going to affect the insectivorous birds. We are looking at the devastation of crab populations throughout the bay. And I think, as a Victorian and as a citizen of Melbourne, I would like to see the work start on how we start rewilding areas around Port Phillip Bay so as to restore the marine and the land environments, because in the end it will be the rewilded areas that help to replenish land and seas.

**The CHAIR:** And, Ms Hall, just to follow up—and the same question I asked Mr Copeland—in your mind is there a difference between rewilding and restoration of habitat or is it the same thing?

**Ms HALL:** I do not think it is the same thing. Yes, I have read the OzFish submission. Rewilding means allowing an area to go back to nature, such as happened in the demilitarised zone between North and South Korea, such as is happening in Chernobyl at the moment—the trees and plants are growing up, and there are animals prowling that have not been seen before or for a long time. That small marine protected area in the Gulf of California replenishes the neighbouring waters. So I think rewilding is a far more intensive experience than thinking about restoration. It means allowing nature to go back to normal, where there are biodiversity and the complicated branches and balances that happen within a naturally biodiverse habitat.

**The CHAIR:** Okay.

**Mr HODSON:** Rewilding is also about reintroducing species which are extinct or very threatened. We have got the quoll project in the Otways. In England they are talking about reintroducing the grey wolf. Here there are talks about the dingo being reintroduced into mainland Victoria. All of these things require significant effort and understanding, and most of that is now being left to philanthropy to do that.

**The CHAIR:** All right. Well, look, I would just like to thank you all very much for your contributions today. We are out of time, unfortunately, but I just want to thank you for all the work that you do in your local communities. Your contribution is very much valued, and thank you all very much for your time today.

**Witnesses withdrew.**