

# TRANSCRIPT

## PUBLIC ACCOUNTS AND ESTIMATES COMMITTEE

### **Inquiry into Auditor-General's Report No. 202: Meeting Obligations to Protect Ramsar Wetlands (2016)**

Melbourne—Monday, 2 December 2019

#### Members

Ms Lizzie Blandthorn—Chair

Mr Richard Riordan—Deputy Chair

Mr Sam Hibbins

Mr Gary Maas

Mr Danny O'Brien

Ms Pauline Richards

Mr Tim Richardson

Ms Ingrid Stitt

Ms Bridget Vallence

**WITNESS**

Professor Richard Kingsford, University of New South Wales (*via teleconference*).

**The CHAIR:** Thank you for joining us, Professor Kingsford. Thank you for joining us today for our Inquiry into the Victorian Auditor-General's report No. 202: Meeting Obligations to Protect Ramsar Wetlands, which was tabled on 14 September 2016. We need to advise you that all evidence taken by this Committee is protected by parliamentary privilege; therefore you are protected against any action for what you say here today, but if you go outside and repeat the same things, including on social media, those comments may not be protected by this privilege. You will be provided with a proof version of the transcript for you to check. Verified transcripts, PowerPoint presentations and handouts will be placed on the Committee's website as soon as possible. For media who are present who were not present earlier, we remind you of the following guidelines: cameras must remain focused only on the person speaking; operators must not pan the public gallery, the Committee or witnesses; and filming and recording must cease immediately at the completion of the hearing. Broadcasting or recording of this hearing by anyone other than accredited media is not permitted. I advise that today's hearing is being broadcast live on the Parliament's website. Rebroadcast of the hearing is only permitted in accordance with Legislative Assembly standing order 234. We will invite you to make a 15-minute opening statement to the Committee, which will be followed by any questions. We thank you for your time and ask you to begin.

**Prof. KINGSFORD:** Thank you very much, and thank you to the Committee for inviting me. I do not think I will spend 15 minutes. I guess I just wanted to perhaps give you a little bit of my background and also say a little bit about my knowledge of Victorian wetlands and Ramsar sites more particularly. I have been working in freshwater ecology and water management and Ramsar management for probably nearly all of my working career, since 1986, so more than three decades, and looking at the issues that are relevant in terms of both the importance of Ramsar sites as well as the issues around measurement of condition and ensuring that they are managed sustainably.

In relation to Victorian wetlands, I have been doing surveys of about 10 per cent of Victoria's wetlands since 1986, and this coincides with aerial survey bands, which are 30-kilometre wide surveys that we do across Victoria. We count every wetland and river within those survey bands. We survey for waterbirds as an indicator group in terms of long-term changes in the wetlands. More recently we have been surveying all of the major wetlands in the Murray-Darling Basin, including in Victoria the system that is known as the Barmah-Millewa Forest, the Koondrook-Perricoota Forest, Hattah-Kulkyne Lakes, Kerang Lakes and Albacutya as well. So those basin wetlands we have been surveying. In 2008 we surveyed every major wetland and all the Ramsar sites across Australia for waterbirds.

Most recently I have started an Australian Research Council project looking at better ways of managing Ramsar sites and reporting on their ecological character. We have one Ramsar site in Victoria, Hattah-Kulkyne Lakes, that we have just started on, and then one in New South Wales, one in Victoria and one in South Australia. We are intending to look in more detail at reporting and analysis of condition and changes in ecological character and how that relates to the reporting mechanisms in each of the states and how that goes through to the Commonwealth and eventually to the Ramsar secretariat. So I think that probably is sufficient in terms of my introductory statement.

**The CHAIR:** Thank you very much. We appreciate it. We will open it up to questions, and I might kick off. I am just interested in to what extent, in your experienced view, you think Australia and Victoria are meeting our obligations in relation to the international convention.

**Prof. KINGSFORD:** I think generally Australia has probably been doing better than most other countries in the world. Having said that, I do not think we are doing a particularly good job. That is largely because we do not seem to be monitoring as well as we could be in terms of various indices of ecological character, so it is very hard to report back both nationally and internationally in terms of tracking changes and then equally difficult to work out exactly what the causes of those changes are and to be able to say categorically 'This is the issue that we've got' with a particular wetland.

I think Victoria is probably doing better than many of the other states in terms of particularly after the audit and the focus that brought on management of Ramsar wetlands. I see much more focus in terms of having dedicated Ramsar management plans. But as I said, I think one of the failings that we have nationally is in terms of adequate reporting of changes in ecological character, and then following that how we actually bring those wetlands that are degrading back into a sustainable condition.

**Mr RIORDAN:** Thank you, Professor. It is good to hear your perspective because we have heard departmental views, and they have all sort of made the observation that they believe they are heading in the right direction and have made improvements since the audit. I guess as the sort of first independent witness we have had, you are sort of confirming that—that there has definitely been an improvement—so that is heartening to hear. I wonder, from your observation with the structures that have now formed—and we have heard how there is a better flow of knowledge sharing and so on—would you think that the new structures allow for suitable innovation and better practices moving forward to deal with such issues as you have highlighted, of making more sites suitable to Ramsar or continuing to improve the overall quality of them? Or are the structures very good at just maintaining the status quo, if you like?

**Prof. KINGSFORD:** I think some of the innovations that the department has engaged in are very encouraging. I think there is definitely a focus on clearer identification of the goals and objectives, and there is starting to be some measurement and linking to broad water plans. I think one of the big challenges we have in Ramsar management relates to the management of water and how well processes for the management of Ramsar influence the broader processes around water management. I think that is a very difficult issue, because we generally in Australia and in different states have different planning processes which are related to the development of rivers or ports, and they tend to be divorced from the management of the wetlands. So better integrated planning, particularly around catchments, is important. So many of our Ramsar sites rely on freshwater inflows, and that means fresh water coming from high up in the catchment. So what happens to that fresh water on its way to the wetlands is often a big issue which Ramsar managers often do not have a lot of control or influence over, because some of those things come under different planning processes and different, essentially, agendas within government.

**Mr HIBBINS:** Professor, are you able to expand on the research that you are undertaking that you stated in your opening statement? Are you looking at best practices in terms of how to manage and report on Ramsar wetlands?

**Prof. KINGSFORD:** Yes, absolutely. What we are trying to do is say, ‘What sort of data do we need to manage a Ramsar site?’. One of the challenges with these complex systems is we get to a stage where sometimes there is a paralysis around monitoring because people want to monitor too many things and governments do not have the resources to invest in too many things. So I guess part of what we are trying to do is say, ‘Well, what are the key things that we should be investing in in this particular Ramsar site? And how do we obtain the data to tell us how we are tracking? And then how do we actually change our management if we have that data and say that we are actually doing a better job in terms of our management?’. So it does come down to having quite clearly articulated goals and objectives around where you are trying to get to with a particular Ramsar site and then having transparent reporting on what your information is telling you. Unfortunately one of the challenges we have in this space is that because our environments are so variable, we have these sort of droughts and floods, you need long-term data, and a lot of it, to start to see some of these trends. So it is a combination of having good data over long periods of time and then having the right sort of data to tell you what is actually going on.

**Mr HIBBINS:** I guess one of the issues that came up in the Auditor General’s report was data and the missing data or what have you. Has that improved since the Auditor-General’s report?

**Prof. KINGSFORD:** I think for Victoria it has improved a bit. I think there is more room for improvement, and that is a big issue not just in Victoria but across Australia. We generally invest very little in monitoring. We spend a lot in terms of what we call management or doing things, but we do not necessarily track if we have done a good job or not. That comes right back to big national programs like Caring for Country and the Natural Heritage Trust. If we are managing some of these complex systems, we do need to start collecting that long-term data.

**Mr D O'BRIEN:** Danny O'Brien, Richard. Just a follow-on from Sam's question: if you had to pick the top three issues to look at for wetland health, what are they—if it is indeed relevant given that we are so variable across the country?

**Prof. KINGSFORD:** There are two main areas that you need to work in, one of which is what we call the abiotic drivers or the things that are not biological, and the most obvious there is water inflows. What is happening to the water that is coming into that wetland? And that can be water that is coming in down a river or it can be issues to do with tidal exchange and the marine water that is coming in and what that is doing to it. Then really you need to look at each place and say, 'What are the best biological variables for that place that help us measure what is going on? What are the most responsive? Is it the mangroves or is it the freshwater vegetation or are there fish species that are really useful in this space—or waterbirds?'. So there is a range of different ecological variables, and the more days that you have over a longer period of time the better. You are really trying to tease out the cause and effect relationships. Those are the two main areas, but there will be other things like sedimentation and climate changes that also play into that. But the most obvious and the most important is: what is the flow or flooding regime for that system?

**Mr D O'BRIEN:** Which segues nicely into my next question. We just heard from the federal department—I asked the question: has management become more complicated by the Murray-Darling Basin plan and the 2007 *Water Act*? The answer was, 'No, it has become better because we have got more water et cetera'. Could you give us an idea of a comparison between, say, Victoria's Murray-Darling Ramsar sites and the non-Murray-Darling ones as to whether there is any difference in management or improvements or better?

**Prof. KINGSFORD:** In Victoria?

**Mr D O'BRIEN:** Yes.

**Prof. KINGSFORD:** I think there are more resources obviously for the Ramsar sites in Victoria that are within the Murray-Darling Basin plan, and I would agree that in some ways there is more water set aside for some of those places. I would not necessarily agree totally that things are better for Victorian Ramsar sites in the Murray Darling. For example, I think of Albacutya, which is not on any radar really in terms of the basin plan. It has had big issues about flooding regimes. I think it depends on where those sites are and what sort of attention there is. Obviously there are some high-profile Ramsar sites outside the Murray-Darling Basin, like the Gippsland Lakes—and is it Port Phillip Bay?—which will have got quite a few resources as compared to some of the other Ramsar sites. I think it will vary; it just depends on how much of an issue they are. I think the good thing about the department in Victoria is they do have a view to trying to bring all of their Ramsar sites up to some useful level of transparency and in a framework that is consistent across those sites.

**Mr RICHARDSON:** Thank you, Professor. I am just wondering if you could take us to the grant that you recently received in March of this year from the Australian Research Council, and how that work might inform best practice for the management of Ramsar sites going forward across states and territories?

**Prof. KINGSFORD:** Yes, sure. That was the project I was talking about a bit earlier. We have one Ramsar site in Queensland, one in New South Wales, one in South Australia and one in Victoria—so there are four Ramsar sites—and then we have five Ramsar sites around the world. We have one in South Africa, the Florida Everglades, the Pantanal, the Camargue in France and the Yellow Sea—all Ramsar sites. So what we are intending to do with those four Ramsar sites is to look at the datasets available for those and start to build up an understanding of long-term changes in terms of their ecology, but also those drivers like flow regime, and to think about those in the context of climate change and potential changes that might occur in the next sort of 20 to 50 years to try and get a bit more of a handle on what we mean by 'ecological character' and 'change in ecological character', and importantly to then think about being able to provide that sort of data to managers, so that particularly some of what scientists call big data, things like remote sensing data, are better made available for managers in terms of predictions about what might happen in five or 10 years time.

I think one of the big challenges with managing Ramsar sites is how many management levers managers actually have: how many things can they change in terms of their management that will make a difference. Some things are very difficult to change. Some things like the water coming down the pipe, if you like, to that Ramsar site may be tied up with a whole range of other things—least of which is the drought at the moment—

so there are some things that are difficult to actually change. But thinking about the context of where the data is, how do you monitor and then how do you use that data to report transparently to the national Government? And then in the national Government sense, how does the national Government take that data and report to the international Ramsar Secretariat to the convention? I guess what we plan to do is use those four sites around Australia, compare them with different datasets and try to understand how we can do that transparently and be able to build, I guess, the objectivity and transparency that is required.

**Mr RICHARDSON:** Just to follow-up to that, Chair, if I may: since 1982 there have been two sites in addition in Victoria—obviously Edithvale-Seaford and Glenelg Estuary and Discovery Bay. In your view, Professor, are there any other sites that are significant or should be considered going forward into the future?

**Prof. KINGSFORD:** Look, I think this is another major gap that we have in terms of implementation of the Ramsar convention. We—and when I say ‘we’, I am talking about the states generally—tend to try and find those wetland areas that are easiest to nominate, so we do not necessarily have the best sites around Australia, and also some states are better at nominating than others. We tend to nominate areas that are on public land, because there are less difficulties in nominating them as opposed to those on private land, and yet we may not be adequately representing the full values of our wetlands. Victoria has some wonderful wetlands that are not on the Ramsar list and that would certainly qualify as Ramsar sites if they were objectively analysed. And it is the same for all states; we do not have the best of the best currently.

**Mr D O’BRIEN:** Just following on from that, Professor, that raises a good question: if a site is Ramsar listed, is it any better protected than one that is not?

**Prof. KINGSFORD:** That is a good question. It equally applies to places that are Ramsar sites in national parks, which you would think would be the ultimate protection for a site, because we tend to think that once something is a national park it will be protected forever. This comes to really the core of the issue for these Ramsar sites: we tend to think in terms of national parks around terrestrial vegetation, and yet the key currency, which is water, is not necessarily protected. That originates often outside the boundaries of that Ramsar site. So it is: how do you equate protection at a catchment scale for a Ramsar site as opposed to a patch on the landscape that you draw a fence around or a boundary around and say, ‘That’s a Ramsar site’? That takes you down the path of the many and complex issues which I am sure you are all grappling with in terms of: how big is this issue in terms of scale up into the catchment, out to sea, and what are the things that are occurring on this site that are impacting on that site? Freshwater systems are generally poorly protected compared to terrestrial systems for that reason.

**Mr HIBBINS:** Just in terms of other wetlands that may qualify as Ramsar sites, if you cannot name them off the top of your head now, would you be able to provide a list of potential sites to the Committee?

**Prof. KINGSFORD:** I do not even know if that is easily done. In 2008 we did a survey of all the wetlands in Australia, so we surveyed all the major wetlands in Victoria and there is a database which has one indicator, which is waterbirds, which would be able to tell you whether or not other sites met that criteria in 2008. It would not necessarily tell you whether it met all the criteria. There is a lot of analysis that would need to be done, but as a rule of thumb you should be able to look at the range of different large wetland areas, and there are a whole lot around the Corangamite lakes, that are huge wetland areas with lots of values, important values, in particular. I am just trying to think about other places. That to me is one of the major areas. Around Colac—there are some wonderful areas of wetlands around there, which are outstanding at a national scale. They are not big in each one, but as a group they would be significant.

**Mr HIBBINS:** What is the name of that 2008 study?

**Prof. KINGSFORD:** It is called [inaudible]. I can provide the link to the Committee for that.

**Mr HIBBINS:** That would be great.

**Prof. KINGSFORD:** And just to say, there is a database that sits behind there that is searchable and certainly could be accessed.

**The CHAIR:** Any further questions?

**Mr D O'BRIEN:** If no-one else has one, I will go one more. My chestnut is carp, and Professor, I know your expertise is on birdlife more so, but—

**Prof. KINGSFORD:** I have worked on carp, too.

**Mr D O'BRIEN:** Okay, so what is your view on how much carp are changing the ecological character of our Ramsar sites? Perhaps you can give us your view on the herpes virus or other control methods?

**Prof. KINGSFORD:** Yes, look, I think definitely carp, without a doubt, have changed the freshwater environment. There is lots of science to show that. There are too many of them, there is a lot of biomass, they are churning up the bottoms of rivers. The issue about how to deal with them and whether the herpes virus is going to be a kill-all is difficult. In fact I was part of a whole group of scientific authors that wrote a paper last year about some of the pitfalls, and I guess one of the major ones is if we get a major kill it is going to cause a lot of problems in terms of just polluting the rivers and trying to get that number of fish out. When we got the major fish kills up at Menindee, there was a major issue of trying to move those fish out and dump them.

There are also other issues about how well the herpes virus survives when temperatures get too high—so in some of the northern rivers of the Darling, for example—and there are also questions about whether or not there is resistance that can build up in carp. So I think like a lot of these so-called panaceas, it is not going to be able to do everything that we would want it to do straightaway, and there are going to be some issues to deal with along the way that you just need to be a bit careful about.

**Mr RIORDAN:** You mentioned the Western District Lakes before, and like I guess many water bodies in Australia they can be very ephemeral. Of course, there is a lot of thought and energy going into the effects of climate change and so on. What is the level of difficulty in actually truly understanding the climate change difficulties when we do not know whether 40 years is a normal dry period or whether 40 years turns into 60 years and so on? My understanding is certainly with migratory birds, because it is such a vast continent that has had a tradition of the ephemeral nature, that birds can move from one spot and there is drought and then they move to another. In the Western District at the moment there is plenty of water, so we have probably got more birds than normal. So can you enlighten us a little bit on what that difficulty is and whether we are doing some of the right things in dealing with it?

**Prof. KINGSFORD:** Look, I think you have certainly identified the challenge, and the science is getting better, so the climate change models are getting better. We do now have quite a track record of satellite imagery, which if you look at Landsat goes back until the late 70s. So that is every 16 days you could produce a map of where water has been in the continent. Geoscience Australia has this index called Water Observations from Space, which provides that. Now, the tricky thing is you get these bottlenecks where there is very little water anywhere in the landscape, and whilst there is water down in western Victoria, we have been flying right across the inland and there is nowhere else that there is any water in a substantive amount. So some of those birds can move down there, but a lot of them die along the way; they just cannot make it down there. So we have seen these long-term declines in waterbird numbers across eastern Australia. It is partly the combination of probably higher temperatures and more evaporation. Over the last 30 years we have been driving our rivers harder in terms of taking more water out of them, which means there is less water for flooding some of these wetlands and lakes and so they do not last as long through a drought period. So in the past a place like Menindee Lakes, for example, probably would have got through the dry period that we are currently experiencing, but they are almost dry at the moment. So that process tends to occur.

**The CHAIR:** No further questions? Thank you very much, Professor, for your time today. We greatly appreciate your expertise and the advice you have given the Committee. We will provide to you a transcript so that it can be verified, and then that will be made available on our website as well. Thank you for your time. We appreciate it.

**Prof. KINGSFORD:** Thank you very much.

**The CHAIR:** Professor Kingsford was the final witness for this afternoon, so I will declare this hearing closed. We will reopen tomorrow. Thank you.

**Committee adjourned.**