

Submission to the Public Accounts and Estimates Committee's inquiry into Ramsar wetlands

Professional background

Prof Max Finlayson from Charles Sturt University (Albury) is a wetland ecologist with extensive experience nationally and internationally in the science and management responses to water pollution, mining and agricultural impacts, invasive species, climate change, and human well-being and wetlands. He has participated in global assessments such as those by the Intergovernmental Panel for Climate Change, the Millennium Ecosystem Assessment, the Global Environment Outlook, and Water Management in Agriculture, and was a technical adviser to the Ramsar Convention on Wetlands from 1990-2018. This includes chairing the Convention's technical panel (2005-08) and being a member of the Australian delegation to the Convention's triennial conferences (1996, 1999), and for research and conservation organisations (1990, 2002, 2005).

He has worked with government, community-based organisations and industry to investigate the causes of ecosystem change and management responses. Underlying these activities is a concerted effort to improve the collection of evidence for addressing complex ecological issues and providing guidance to managers and policy makers recognising that social, economic and ecological issues are inter-dependent and operate across multiple scales. He holds the following positions: Chair, Environment Strategic Advisory Panel, Winton Wetlands Renewal Project; Technical Advisory Panel, Wetland Education and Training program, Sydney Olympic Park Authority; Scientific Committee, International Lake Environment Committee; and independent scientist, Lake Cowal Foundation. He is an elected Fellow of the Society for Wetland Scientists and is President for 2019-2020.

Progress since the tabling of the Victorian Auditor-General's 2016 report on Ramsar wetlands

- The response to the Auditor-General's report seems to have seen a lot of bureaucratic activity. But how many of the strategic documents or reports have reused old information, and what gaps in information still exist? Some of these gaps have been there for a long time and have weakened decision making, such as for the EPBC decisions and reporting on Ramsar-related issues. A public and expert-led independent audit of such information gaps would go a long way to help set priorities and to justify these in the eyes of local communities. There does not yet seem to have an effective on-ground response, especially with active participation of local communities, including in making informed decisions about priorities and routine data collection. Data collection weaknesses remain and although there may be good monitoring plans in place, this has not translated into implementation, as seen from a public perspective. While there is some citizen science activities in place I have not seen evidence that this avenue has been fully developed with the twin outcomes of ensuring involvement and full collaboration between agencies and communities.
- More government investment in the management of Ramsar Wetlands is required particularly in relation to water quality and weed invasion, and salinization problems, and trajectories, under different climate and water use scenarios, and with immediate availability of all data and its meaningfulness (using web platforms and old fashioned widely publicised town hall meetings). And led by community-based processes, and not seen as hand-picked for the purpose. Can we demonstrate not just claim real independence?

- I am not sure whether the Ramsar wetlands have deteriorated since the VAGO report but I would be surprised if they are in better ecological condition given the models and papers I have seen or been informed about. For the Gippsland lakes do these really show a serious account of the importance of the dredging of the entrance and operation of a salt-pump into the chain of lakes, as claimed by respected geo-marine scientists? Coupled with this is the likely impact of water extractions from the rivers that feed these lakes, and declining flows under climate change scenarios, and nutrient runoff following fires, as has occurred in the past. It is complex, but many things are also obvious in terms of needing to be assessed.

Ecological character descriptions

- Ecological character descriptions of Ramsar sites are quite good, from what I have seen, and done by competent experts, but there seems to be a lack of strategic operational documents to accompany these. The descriptions are on the whole well done, without necessarily including new and needed data on all aspects, such as the ecological processes that drive nutrient balances, salinity gradients, and food webs. In the Gippsland Lakes the *Synechococcus* algal bloom from 2007-08 being an example, and one that could be repeated after further fires. Noting that this was entirely different from the more regular blue green algal blooms that in themselves cause major disruption to the ecological character of the Lakes. The 2007-08 bloom should have been reported to the Ramsar Secretariat under the change in ecological character provisions. I am not aware if measures have been implemented in the forested catchment areas to intercept ash and nutrient runoff and reduce further inputs following fires. Reporting the problem and the solution to the Convention and to the wider community would seem to have many benefits in maintaining good relationships at all levels. In talking about this I am reminded of the occasional political realisation of the value of kitchen table meetings, and literally lay it all on the table. The good, and there is a lot of good work going on with some communities, and with some issues, but also lay out the hard bits and share the problem solving.
- It is unclear whether effective systematic site monitoring occurs. In the Gippsland lakes there are certainly some quality ecological investigations, but are the key elements of the ecological character being regularly and systematically assessed? Biodiversity is one of the easier dimensions of ecological character to monitor. What is the situation with ecological processes and ecosystem services? I would contend that getting these right is a more important task than just monitoring iconic or threatened elements of the biodiversity. Take the example of the black bream and the commercial fishing. Catch data is available, and a lot lower than yesteryear, and fishing is being phased out; is commercial fishing an important ecosystem service of the lakes? I would contend that it has been, and hence was (is) an important ecosystem service, and hence part of the ecological character. Does phasing out such fishing warrant a change in ecological character and hence should be reported? A positive case? The case of the fish though is even more interesting as there is evidence in the scientific literature that they are affected also by reduced water quality and declining freshwater flows; hence have the ecological processes, which are also part of the ecological character, been assessed? A key point from this is that assessing ecological character and change in ecological character is complex, and could very likely be considered more effectively through active conceptual modelling, scenario setting and community (citizen) knowledge alongside the existing scientific knowledge. The basis of this being systematic monitoring of all parts of the ecological character. Throw in salinity, seagrass, paperbarks, reeds and human usage (which

equates to ecosystem services) and there is a wonderful opportunity to be a leader in assessment and management planning.

- Monitoring should not just be undertaken at a single or macro level. It needs to be site specific, and it needs a wider landscape or flyway context. Unless these multiple-scales are considered long term trends may not be picked up at bigger sites, such as for some of the threatened bird species. The waterbird population in the Gippsland lakes is as a whole is facing collapse, but how universal is this; some birds are missed through aerial surveying processes, and the same for on-ground surveys; do we have an overview of different populations, and how changes in the lakes impact their status versus changes elsewhere? It is complex, but strategic and systematic investment could provide an effective way forward, and provide more opportunities for citizen science, hence, community participation, including at the stage of asking the questions, not just being asked to join an existing initiative. I can foresee great opportunities here for enhanced monitoring, participation, and providing a leading example for others to view with envy, well, at least want to copy. The basis is there in the Gippsland case, and from what I hear/read, so is the impasse between agents of influence and those with local passion.
- With the above in mind there are gaps in the description and measurement of ecological character. For example, ecosystem services are often overlooked. There is currently a checkbox exercise approach. The economic benefits of wetlands extend beyond the specific wetland site, such as the effect of clean air on the health of the population, or the environmental effect for farmers that can lead to cleaner and healthier crops. These 'ecosystem services' are difficult to measure, but not difficult to identify and value, and manage for. Getting on top of this part of the ecological character puzzle should have many public and technical benefits. And can be done.
- There has been a reluctance amongst some well-established ecologists to evaluate ecosystem services – the social and economic benefits of wetlands. Wetlands benefit people as well as being part of our biodiversity heritage and legacy. There is often in wetland management a tendency to focus on conservation of the biodiversity, and not the ecological processes and services. Our wider comprehension of ecological monitoring and management can therefore be limited but it is vital to extend this view, so site managers know what's important, and can use such knowledge to extend their impact, and ability to contend with the mundane, the difficult, the surprises, and the impossible (ecologically speaking; politics is something else).
- Some of the main management challenges are: governance, staff expertise and piecemeal policy. For example, does the phasing out of commercial fishing in the Gippsland Lakes increase fishing pressure on other parts of the system, including parts of the Ramsar site? If these fish were being over-fished does that indicate a change in ecosystem services which in turn becomes a change in the ecological character? I have not seen this presented in this way – should it be and could it then help justify the outcomes and the next steps in managing these lakes? Wetland management is not just another task for already busy and committed NRM staff – it requires training and reinforcement through personal development just to keep up with the improving knowledge, and even changes in thinking about how lake or wetland systems operate, e.g. algal and water quality interactions over time and under climate change, or changes in fishing pressure, or how multiple factors affect fish breeding and population levels, including again, runoff following fires, or the extraction of more water from inflow rivers.
- A broader view of the issues related to Ramsar Wetland Management is required. Systematic assessment and monitoring of the key elements of the ecological character

of Ramsar sites, as well as ‘ecosystem services’. This has not changed since 2016 if the example of the water extraction, the fishing issues, and water quality complex is anything to go by.

- With reference to the Gippsland Lakes there are large gaps in data. This raises the very real question about whether the technocrats, the bureaucracy and the community knows what is occurring, and why, and what the future may hold. The above mentioned scenario setting processes could help improve this situation, and share and make best use of multiple information sources, and answer the concerns of local residents. And importantly, help ensure that multiple knowledge sources are brought to the fore and further developed.

Australian Research Council (ARC) wetlands project

- Our current ARC project is looking at the development of wetland management guidance, in particular the assessment of management principles and issues. These management principles will be able to be applied to other sites. The challenge will be to ensure the principles are not too general, and can accommodate specific site issues. It is based around what is expected from Ramsar, being aware that under Ramsar we have accepted to maintain the ecological character of all wetlands, not just those listed as Ramsar wetlands. It is not just the Ramsar sites that we should be addressing. This facet of the Convention seems to have been forgotten or ignored; it would raise the bar and maybe that is the problem for those who see the “administrative jumping” of the bar as the purpose of the exercise.
- It is a multi-level project with an international scope, and international partners.
- The project team has selected more complex sites as case studies for the project. In Victoria the site selected is the Kerang Wetlands on the Murray River.
- There are different types of classes of wetlands, different jurisdictional arrangements and institutional processes. All of these are key issues – monitoring and guidance alone cannot manage a wetland – the management or institutional arrangements are critical.
- The projects stakeholders are based in NSW, QLD, VIC, SA, and Commonwealth Departments. Only one project meeting has been held to date. From what I’ve been told, the Department of Environment and Energy does not get much funding for wetlands, but by working with researchers in joint projects they stand to gain a lot, including established long-term relationships.

Ramsar site management in Victoria

- It has been shown that DELWP’s governance arrangements for the management of Ramsar wetlands are insufficient. Greater community and stakeholder participation could help address some of the issues that complicates governance. Ecologists have the best technical expertise to get the job done, but they are not managers. And I surmise that many managers may not have sufficient depth of ecological understanding or knowledge of the opportunities provided by a Ramsar listing.
- A good approach would be to execute adaptive management practices which alter in response to the changing nature of the wetland. This has been said often, but my recent experiences elsewhere still show a huge gap between the theory and practice. Is this an opportunity for more focus, as applied to a complex lake system, as one example in Victoria, driven by theory and steered by practice in an overt and open way?

- Direct systematic Government funding for management plans of Ramsar wetlands is required so that their health is not subject to annual budget funding bids. Resource allocation in terms of time is also important. How often has this been said and fobbed off?
- Catchment Management Authorities (CMAs) in Victoria are enthusiastic regarding wetlands management but do not seem to be resourced to do it properly. Wetlands should be regarded as ‘Crown jewels’, and Ramsar processes provide a platform for protecting the jewels and where necessary, adding some repair and sheen. Knowledge about the opportunities afforded by Ramsar listing could be enhanced and provide a basis for holistic ecologically-based operations, including biodiversity maintenance and repair, impact assessment, systematic monitoring across key elements of all parts of ecological character, including ecosystem services. Wetlands are for people ...we have already destroyed many, and lost the values they provided. Wetland valuation points to them being more valued than other ecosystems with multiple tangible and intangible and free benefits to people directly and through landscape processes.
- There is the potential for CMAs in conjunction with universities to improve understanding of Ramsar and how it applies to Victoria, including issues with ecosystem services, extending these and paying for them, and managing across landscapes. Understanding is currently poor. DELWP does not seem to sufficiently understand the opportunities under Ramsar, or does not show that it does. I have been told that the convention is viewed as too complex and this results in missed opportunities. Also that as it is an international agreement it should be left to the federal department, or they should at least fund it. This is ludicrous and I see it as an abdication of responsibilities on ground, for things that would benefit our communities, and possibly even make our combined jobs easier, or more rewarding. An education module could be created which focuses on how Ramsar applies to Australia, using actual listed sites as examples as a living management and community engagement process. There is a missed opportunity here, and one that could be reversed in a collaborative and beneficial way.

Role of the Commonwealth and the Ramsar convention

- There seems to have been a disconnection within the Department of Environment and Energy. The legal section of the department responsible for Commonwealth Environment Protection and Biodiversity Conservation Act (1999) referrals does not always consult the wetlands section of the department. This meant that the EPBC approval regarding dredging an ocean channel resulting in saltwater intrusion at the Gippsland Lakes made no reference to the Ramsar Convention listing, based on the documentation I have seen.
- Australia in my opinion does not make best use of the opportunities under Ramsar, witness the number of sites that could be listed, and which are, and the negative responses that communities get when asking if their wetlands could be listed. And the processes we now have to get a listing are seen as an obstacle, even if well meant (opinions on this provided by community as well as agency contacts!). I have also over a long period been told that the US does not make best use of Ramsar – they have fewer sites listed than we do. Maybe there is an issue in how federal systems implement international agreements, including the regularly expressed perceived separation of federal agencies from the realities on ground. The UK is a better example in this space - exemplary even, reporting comprehensively every 3 years and listing many sites under the Ramsar convention over the last decade. Many more

wetlands sites in Australia would meet Ramsar criterion for listing but there is not a systematic approach to listing nor appropriate arrangements to facilitate it. Australia has not listed many sites in recent years. Many would meet the criteria, and while listing all of them is wishful thinking, I am not aware of a systematic and bioregionally based approach being in place. For example, the Winton Wetlands (Benalla) is worthy of listing but this has not been encouraged because of the cost of undertaking an ecological character description, which is an Australian requirement in addition to that required by the Convention. We do need assured processes when listing, but practicality and community outcomes are also important, and could provide more value if communities were allowed to lead ...that is where participation, including when asking the questions or setting the priorities, rather than top-down consultation comes into the formula.

- Climate change is a major issue impacting Ramsar wetlands. The vulnerability of wetland sites needs to be assessed including the risks of inundation, but also drying. Water allocation policy is also intertwined with climate change and wetlands management. So Ramsar wetlands need to be considered within the broader context of landscape changes, and scenario of rainfall etc, as well as confounding impacts.
- Australia reports to the Ramsar Secretariat that everything is 'great'. This does not reflect the reality that I hear on ground. Nor in the reasoning behind NRM investments. We all know that governments or their agencies, at all levels, do not like to admit to mistakes and be the subject of incessant criticism. That is human nature, but human nature also allows for openness and forgiveness when in an environment of working together and being seen to be trying to do the right thing. We cannot control the rabid ones, but most people are not rabid – can we foster a more cooperative and caring environment for wetlands, and as an example, for the Gippsland lakes? Is that so silly to want? Or to expect our system to deliver?

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