

## Comments – PC report Chapter 8

This section covers very well most of the environmental management issues associated with the NWI (and beyond). I generally agreed with the draft NWI renewal advice provided in the report.

Below are some comments related to the report.

- I recommend that additional comments on planned water (p91 and elsewhere) be added to the report to emphasise that:
  - this water will be most affected by climate change (see Victorian Long-Term Water Resource Assessment (<https://www.water.vic.gov.au/planning/long-term-assessments-and-strategies/ltwra>))
  - this water is not as well protected as is 'held' water – but note that Victoria have now assessed that 'above cap' water (i.e., largely the volume of water above the SDL) is environmental water (see above report).

I note that there is a separate section on held water (8.3) - why not also on planned water?

- P92 – note that the reference to Hart and Butcher is Hart, B.T. and Butcher, R.
- P93, 2<sup>nd</sup> para – regarding environmental decline you could also add reference to land clearing (for agriculture) and gold mining as major catchment disturbances that significantly impacted many rivers and streams in the 1800s (see Colloff, M.J., Peter Caley, P., Saintilan, N., Pollino, C.A. and Crossman, N.D. (2015). Long-term ecological trends of flow-dependent ecosystems in a major regulated river basin. *Marine and Freshwater Research* 66, 957-969).
- P99 - I suggest that the report focuses more specifically on the major implications of climate change and what needs to be done to adapt. The report makes clear that Australia will become hotter, drier with a more variable climate. However, I felt more could have been said about: the inevitable need for major changes to irrigated agriculture (smaller footprint), and the need for changed expectations of the water-related environments that can be maintained. In both cases it seems to me that the NWI could recommend a process to start a national conversation on these two key areas.

Draft advice 8.4 covers this need to some extent but I felt the wording – 'clear processes should be established' – was too low-key given the seriousness of these on-coming changes to irrigation and the environment.

- Section 8.2 – one of the major obstacles for achieving agreed environmental outcomes (at least in the Murray-Darling Basin) is the reluctance of states to permit the application of e-water overbank and onto the floodplain. This failure is seriously reducing the potential for e-water to improve the condition of floodplain forests and wetlands. I recommend that a section on this be added to Section 8.2.
- P105, Advice 8.8 – I read this as focused on reducing the volume of e-water. Surely, the capacity to vary e-water entitlements should also include the possibility to **increase** the volume. This could occur by either water holders using funds from previous sales of e-water to purchase additional entitlement or governments

agreeing to purchase more entitlements for the environment. Both these options are not permitted by current government policy, but could easily become possible through changes to this policy. I recommend that the PC list these as possible future options.

- P108-109 – I suggest that the title of Section 8.5 be modified to place greater emphasis on adaptive management, perhaps *'Adaptive management through effective monitoring, evaluation and reporting'*.

As noted in Hart and Butcher (and also by the most recent evaluation) in their mid-term review of CEWO's Long-Term Intervention Monitoring (LTIM) program, while it was obvious that some adaptive management was occurring there was no mechanism for capturing and recording adaptive learnings and showing how they were being used to modify (adapt) the program. I recommend to text in draft advice 8.12 be modified to make it more specific how the monitoring etc will lead to adaption.

Prof Barry T Hart

17 February, 2021