Productivity Commission National Water Reform 2020: Issues Paper

Australian Academy of Science – Supplemental Submission

This supplemental submission provides additional input into the Productivity Commission's Inquiry, from the Australian Academy of Science (AAS), in addition to the joint submission with the Academy of Technology and Engineering (ATSE).

Wetlands, water infrastructure and the EPBC Act

The Productivity Commission inquiry should consider the impacts of existing and planned water infrastructure on matters of national environmental significance under the EPBC Act. At a recent expert workshop hosted by the Australian Academy of Science, 'changed surface and groundwater regimes' was considered one of the top 9 high-level environmental threats, impacting on more than 130 threatened species.

Australia currently has 65 wetlands included on the List of Wetlands of International Importance developed under the Ramsar convention. These wetlands are collectively listed as a matter of national environmental significance under the EPBC Act, and are representative, rare or unique wetlands or wetlands important for conserving biological diversity. In addition to the Ramsar wetlands, the Australian Government's Directory of Important Wetlands lists more than four hundred Australian wetlands meeting the listing criterion "…supports native plant or animal taxa or communities which are considered endangered or vulnerable at the national level."

Wetland loss is also a significant threat to migratory waterbirds, which are protected under a range of international agreements including bilateral agreements with Japan, China and Korea as well as the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention).

Because of these agreements and the risk to threatened species by wetland loss, the NWI and associated instruments (such as water management plans) should be designed to be mutually supportive with EPBC Act mechanisms. Protection of wetlands and watercourses should form a major part of water systems management. For example, water management plans should demonstrably meet EPBC Act requirements.

Consideration should also be given to the environmental impacts of infrastructure design. The viability of many freshwater organism population depends on their ability to move freely through the stream network and, in some species, downstream to estuarine environments or between the river and floodplain wetlands. Measures to minimise the negative impact of water infrastructure include: removing weirs and other structures no longer in active use; modifying existing stream barriers to allow passage of migratory species, such as including fish ladders; and designing new in-stream structures such as culvert crossings.

Support for research training

In addition to the recommendations on water research and development, Australia should ensure sufficient support for research training and early career development in water-relevant disciplines, and in particular multidisciplinary doctoral programs. It is important to retain and develop capacity in research at a generational level, to ensure long-term continuity of expertise.