

Appendix 4

Examples of Effective Water Governance

Step	Moreton Bay, South East Queensland, Australia ¹	Glen Canyon Dam Adaptive Mgt Program ²	Grand River Water Management Plan ³	Murray-Darling Basin, Australia ⁴
1. Formulate the general problem or issue to be discussed, or the decision to be made	Poor water quality and loss of biodiversity in Moreton Bay; threatened impacts on valued species (dugong, sea grass). Environmental values are stated in federal law, but do not address these components. Need a strategy to protect and maintain key species.	1996 Record of Decision under the Grand Canyon Protection Act requires the dam to be operated to protect downstream ecosystems (e-flows) in addition to meeting water and power needs. ROD also requires use of adaptive management.	Water quality impairment and extreme flooding through the 1970s prompted consideration of options for flood control and low flow augmentation, including decision whether to construct a new dam.	Water scarcity and salinity concerns; need to allocate water equitably across the large watershed of the Murray-Darling River system; construct and operate dams; monitor outcomes; educate and engage the community
2. Should stakeholders and the public be involved? If so, for what purpose? (e.g., build consensus, gather information, give notice of action, etc.)	Public and agency concern focused on valued species, especially sea grass. Purpose of stakeholder/public engagement was to build consensus about the issue and how to approach it; eventually 500 specific remedial actions were developed through the process, with timelines and responsibilities attached to each. An annual report card (marine and terrestrial) provides updates.	ROD directed Bureau of Reclamation and other interested agencies, tribes, organizations, and individuals to use an adaptive management approach. Program provides a roundtable for research planning and development of a dam management plan on a five-year cycle.	There was a lot of public support for these discussions because of flood damage. The public and key stakeholders were involved from the planning stage through scenario testing to final decision-making.	Water users are critical for implementation of water resource plans (allocation for consumptive use); advisory committees represent broad interests including basin officials, basin communities, social, economic and environmental sciences, and diversion interests.
3. Decide who should participate in discussions and decision making	A small group of scientists developed a conceptual model for that species, which became the basis for an extensive public engagement program and eventually agency / university research partnerships. Incl. public, agencies, universities, municipalities, industry, others.	GCAMP advises the Secretary of the Interior's Designee, who reviews, modifies, accepts, or remands recommendations about dam operation; final decisions are made by Secretary of the Interior	A steering committee was made up of political reps; technical committees addressed specific issues; each had public and stakeholder reps. A diverse implementation committee oversaw implementation of plan.	Formal partnerships with a wide range of agencies, the Murray Lower Darling Rivers Indigenous Nations, the Northern Darling Basin Aboriginal Nations, 13 catchment management authorities
4. Governance model selected	Partnership model involving 6 state agencies, all 11 local governments, 4 universities, 30 major industries and 38 catchment, environment and community groups	Multi-agency, multi-stakeholder coordinating committee. Power revenues fund \$8m/yr in research and monitoring; supported by technical work groups	Dam operating decisions are made by the GRCA staff on the advice of a Water Managers' Committee with members from 13 municipalities.	Independent agency with water allocation powers formally delegated under law (Water Act 2007);
5. Opportunity for review and revision	Framework for action is regularly updated; focus on continuous improvement	5 year cycle; annual review meetings; mgt plan and all reports peer reviewed	1982 Grand R. Water Mgt. Plan underwent first major review in 2013-14	5-year review cycle for plan effectiveness, allocation, water quality

¹Dennison, W.C. and E.G. Abal. 1999. Moreton Bay Study: A Scientific Basis for the Healthy Waterways Campaign. South East Queensland Regional Water Quality Management Strategy, Brisbane 246p; see also Abal, Eva. 2008. Translating science into knowledge. Presentation at the Grand River Science Dialogue, September 19, 2008; <http://www.grandriver.ca/index/document.cfm?Sec=26&Sub1=35>.

²Section 1804(c)(2) of the Grand Canyon Protection Act (GCPA) of 1992; 1994 EIS; 1996 Record of Decision

³Grand River Basin Implementation Committee. 1982. Grand River Basin Water Management Study. Cambridge, ON: Grand River Conservation Authority.

⁴Murray-Darling Basin Authority. 2014. Murray-Darling Basin water reforms: Framework for evaluating progress. Licensed from the Murray-Darling Basin Authority, under a Creative Commons Attribution 3.0 Australia Licence. Canberra City, ACT: Murray-Darling Basin Authority.