

Groundwater and Planning: Sustainable Allocation, Monitoring and Community Engagement

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The management of scarce groundwater resources involves numerous complex challenges, not least developing appropriate allocation limits for extraction and establishing efficient and equitable allocation between competing uses at various interacting scales. Practitioners, lawmakers and scholars continue to struggle with designing water governance approaches that adequately address these challenges. However, in recent decades, one of the more credible approaches to emerge is collaborative groundwater allocation planning (CGP). While there is a growing literature examining CGP, there is a lack of empirical fieldwork to connect governance theory with grounded practice to identify what works, when and how. In response, this paper draws on a comparative and empirical examination of two CGP cases in South Australia and Western Australia, deliberately chosen to represent a diversity of geographic areas, aquifers and legislative requirements. Approximately 15 interviews (e.g. government, farmers, scientist and other non-government interests) were completed in each case. Questions explored three underexamined CGP issues: sustainable allocation, monitoring/adaptation and community engagement. Both cases of CGP evidenced success and weakness. (i) Sustainable allocation: is more likely to be achieved where there is a local/regional water crisis, community buy-in, scope for conjunctive use and/or legal power (or its threat) to reduce water allocations. (ii) Monitoring/adaptation: more difficult to achieve on large scales, often underfunded and can be undermined by a lack of compulsory metering and economic drivers/ownership. (iii) Engagement: more likely to be successful where there is a crisis, science is integrated early with community experience, small scales/populations and sustained funding. Comparing different CGP cases, the paper identifies guiding principles on issue including the nature and scale of funding, use of information and legal process and powers to guide practitioners and scholars to choose appropriate CGP approaches in different settings and deliver effective and legitimate groundwater outcomes.