

## Overcoming institutional barriers to integrated water management

### Institutional Issues for Integrated “One Water” Management (SIWM2T12)

#### The Central Issue

Governance, regulations, finance, culture, and industry knowledge/capacity are often cited as barriers to achieving integrated water management and innovation in water technologies. In addition, findings indicate that the lack of a common vision, political will, urgency, systems thinking, and lack of ability to collect and share data are underlying causes that can potentially stagnate innovation in the water sector.

#### Context and Background

Institutional Structures and Regulatory Barriers are one of three focus areas for WERF’s Sustainable Integrated Water Management Research Challenge. In an effort to clarify and explain these barriers, WERF, the Water Research Foundation (WRF), and Water Research Australia (WRA) undertook this study to define them and examine how communities have or have not worked around the barriers to achieve integrated water management programs.

#### Findings and Conclusions

Through this research the institutional barriers were grouped into five broad categories to achieving integrated water management and five underlying causes that must be addressed to overcome them. The five categories of institutional barriers and the underlying causes that can block integrated water management are listed below.

Institutional Barriers	Underlying Causes
Planning that is uncoordinated and non-collaborative.	<ul style="list-style-type: none"> <li>■ Lack of an agreed upon and unifying vision.</li> </ul>
Economic and financial systems that are restrictive and traditional.	<ul style="list-style-type: none"> <li>■ Lack of leadership and political will.</li> <li>■ No clear drivers or sense of urgency.</li> </ul>
Legislation and regulations that are prescriptive, overlapping, and inconsistent.	<ul style="list-style-type: none"> <li>■ Lack of capacity for systems thinking/integration across water and other utilities or urban planning.</li> </ul>
Citizen engagement that is uncoordinated, technical, and uninspiring.	<ul style="list-style-type: none"> <li>■ Uncoordinated methods and processes for data collection, information sharing, and messaging.</li> </ul>
Organizational and professional cultures that are siloed and inflexible.	

Fundamental to the success of any initiative was strong leadership with resources (time and influence) to develop and implement partnerships with other organizations.

#### Management and Policy Implications

It is evident from the case studies that strong leadership and vision from senior level personnel is a key to driving an integrated water management approach. Collaboration between a political board and executive management is needed to drive a vision and make public funds available to incentivize the transition. This approach involves thinking about water as an urban amenity rather than just a service provision. Many of the case studies involved conducting a visioning process to create a common shared future, making it a key action.

Creating a picture of success is critical to changing the current culture and improving the capacity of staff in partner organizations to buy into and align with the transition. Having senior level executives “talk the talk and walk the talk” is essential. Before an integrated water approach is integrated into everyday practices, a dedicated transition team may be necessary to implement the strategy and manage related projects.

Transparency with the community and stakeholders is key for confirming the vision to support implementation of the strategy. Using clear branding and vocabulary to reflect a positive message of the benefits of services provided by utilities is foundational to building community support.

Local governments can provide critical support through creating streamlined permitting processes with environmental, health, and planning departments to support integrated water programs such as onsite water systems. By easing and incentivizing the compliance process for design, construction, and operation of these innovative systems, owners and operators are more likely to participate.

Overall, improving coordination between departments, organizations, and/or agencies, together with transparent processes and sharing of data are key to integrated planning. Building partnerships and long-term, mutually beneficial relationships with a broad range of agencies, including the private sector, will create the collaboration needed for development projects to be aligned with the strategy and implemented in a coordinated fashion.

#### A Framework for Transitioning

The research resulted in a framework to organize the range of enabling actions required to transition to an Integrated Water paradigm with the corresponding challenge faced, including the level of influence that the organization might have and the three phases of the project management cycle (knowledge and awareness, planning, implementing and operating). Interlinked cross-industry initiatives were also suggested that could be taken by the urban planning and water service sectors to further transition to a One Water paradigm.

## Snapshots and In-Depth Case Studies

The 25 snapshot case studies (*see table below*) provide practical examples of how agencies and communities have worked through institutional barriers so they can practice a more integrated and sustainable approach to water resource management. The three in-depth case studies looked at initiatives and interactions between different levels of government, private entities, NGOs, and citizens across a range of institutional barriers. These included Pittsburgh, PA (regional), Sydney, Australia (municipal), and Clean Water Service, OR (utility).

Case Study Snapshots as They Relate to the Challenges and Drivers					
High-Level Drivers	Planning & Coordination	Legislation, Policy, & Regulations	Economics & Finance	Knowledge, Culture, & Capacity	Engagement
Water supply/ demand management	Pinellas County Los Angeles Victoria State Warrnambool	Ku-ring-gai	–	Melbourne	Albuquerque
Stormwater and flood management	Los Angeles	Seattle-C	Regional Stormwater Santa Monica	Melbourne	Philadelphia Michigan
Wastewater management, recycling, and resource recovery	Cincinnati Los Angeles Pittsburgh Region	Northern Kentucky Seattle-C	Marsden Park East Bay MUD	Minnesota Melbourne	Rebranding Utilities
Green infrastructure (WSUD, SUDS)	Cincinnati Los Angeles Victoria State	Battery Park Northern Kentucky	–	–	Philadelphia
Water and energy efficiency	–	San Francisco Battery Park Seattle-B	East Bay MUD	Melbourne	–
Environment and waterway protection	Los Angeles Pittsburgh Region Seattle-A Victoria State	Seattle-C	Austin Michigan Santa Monica	Melbourne Scottish Water	Philadelphia Michigan

## Related WERF Research

Project Title	Research Focus
Global Lessons for Watershed Management in the United States (00WSM5)	Identifies the most promising watershed management approaches from around the world.
Moving Toward Sustainable Water Resources Management: A Framework and Guidelines for Implementation (00WSM6a/b)	Presents a conceptual framework and guidelines for developing an implementation plan for sustainable water resource management (SWRM).

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