

Accounting for cost savings from green infrastructure and watershed protection

Twenty First Century Water Asset Accounting – Case Studies and Implications Reports (INFR6R12a and INFR6R12b)

The Central Issue

Alternatives to traditional stormwater conveyance such as green infrastructure and low impact development are being examined and, in many cases, constructed in cities around the world. Many times these projects are justified by qualitative descriptions and general cost savings descriptions. However, there has been little initiative to quantify and institutionalize the cost savings these assets provide in a way that encourages further investment in green infrastructure. It has become important to quantify the value of green infrastructure assets.

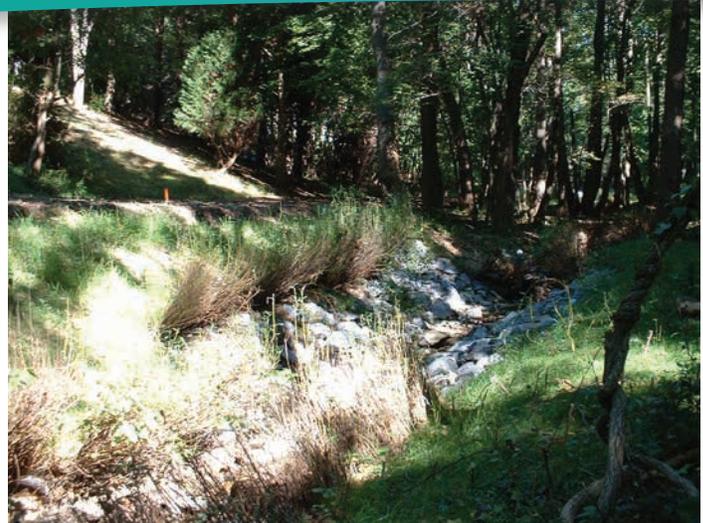
Context and Background

Considerable attempts have been made to define the benefits of ecosystem services, but to date, none have allowed utilities to account for them as assets. Yet, new technologies and strategies for solving water challenges will depend on evolving methods of financial and accounting standards.

This research identified a standard process for adding the cost savings provided by green infrastructure and watershed protection to the balance sheet in a format that parallels current accounting principles. It also identified ways utilities incorporate these values into their decision-making process. Further, the project explored the institutional barriers faced by utilities and offered better ways to evaluate future investment in green infrastructure as a watershed protection measure.

View the Researcher's 2014 presentation on Utility Accounting for Green Infrastructure at:

werf.org/c/ResearchForum/2014_Research_Forum/2014ResearchForumAgenda.aspx



The project assesses the applicability of two accounting frameworks across the U.S., paying attention to how variations in geography, size, and extent of urbanization may affect a utility's ability to use one of the frameworks for green infrastructure.

Findings and Conclusions

To help water utilities assess and account for the ecosystem services provided by green infrastructure, the research developed two potential accounting frameworks. The frameworks were tested at three participating utilities over a period of five months.

Clear and consistent definitions of the term “green infrastructure” are essential for wider adoption of the accounting frameworks developed in this research. With further refinement of the accounting frameworks and development of standardized guidance for valuing green infrastructure by the Government Accounting Standards Board (GASB), national-scale implementation of these accounting frameworks could be possible.

Pilot Test Participants

Clean Water Services – Tigard, Oregon

Asheville Water Resources Department – North Carolina

City of Raleigh Public Utilities Department – North Carolina

Management and Policy Implications

Green infrastructure programs that are being implemented in response to political, legal, or social pressures may benefit from using the accounting frameworks developed in this research. The accounting frameworks may also help utilities overcome communication barriers across institutions or municipal agencies.

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Related WERF Research	
Project Title	Research Focus
Blueprint for Onsite Water Systems: A Step-by-Step Guide for Developing a Local Program to Manage Onsite Water Systems (SIWM7W14)	Provides information on developing local programs to manage onsite water systems as a proactive way to increase water resiliency and promote green building practices while protecting public health. Includes a sequence of steps and associated actions which will inform critical decisions regarding the scope, structure, and implementation of a local program.
Transforming Our Cities: High Performance Green Infrastructure (INFR1R11)	Examines dynamic controls in various types of onsite stormwater systems. Projects will demonstrate dynamic models and cost analysis of high-performance green infrastructure.
LIFT Green Infrastructure Focus Area (werf.org/lift/tfa/Green_Infrastructure.aspx)	Seeks to identify facilities and communities interested in working together to examine ideas, practices, and programs that will enhance their green infrastructure initiatives. Provides data sharing focusing on the design, cost, performance, maintenance, and communications aspects of green infrastructure programs and practices.
Tools for Evaluating the Benefits of Green Infrastructure for Urban Water Management: Informational Brief (INFR5SG09b)	Reviews criteria, metrics, and protocols used to measure integrated systems and provides overviews for two analysis methods gaining popularity in the urban planning field – life cycle cost analysis and triple bottom line – as they apply to stormwater and urban water management.

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