



Nature-based solutions for water utilities and regulators

By 2025, two thirds of the world's population will be living in water stressed conditions. Meanwhile, the degradation of water ecosystems is occurring at alarming rates. Over the past century, the proportion of water sources converted to cropland has doubled while pastureland has more than tripled. Water utilities and water regulators that choose to play an active role in catchment management are uniquely positioned to help.

The International Water Association (IWA) and The Nature Conservancy (TNC) are working to advance sustainable catchment management through nature-based solutions (NBS). The initiative aims to contribute new insights to the body of knowledge against which NBS can be assessed, a critical element for mainstreaming these practices. The partnership also aims to support those water utilities and water regulators looking to harness nature as a means of ensuring water security.

The gaps in nature-based solutions for water utilities and regulators

Whereas there is evidence that nature-based solutions can be both cost-effective for water users and produce social and environmental co-benefits for communities, such options are still rarely considered by utilities in their portfolio of capital investments. Ambiguity around when, why, and how NBS can be deployed remains a major challenge.

Regulators also rarely recognize NBS as a means of meeting compliance, adding to higher perceived risk of these solutions. The lack of awareness and communication between stakeholders,

technical guidance and resources, as well as robust assessments of existing NBS experiences hinder the adoption of this concept in policies.

In light of these obstacles, IWA and TNC have begun engaging with regulators and utilities across the world that report an interest in NBS or have already developed NBS programs. Emerging findings and key issues are outlined in the following sections to support utilities and regulators in their efforts to mainstream NBS in water management.

From providers to protectors: water utilities as catchment protection leaders

One question resounds both within and outside of utility spheres: is it a water utility's responsibility to protect catchments? Utilities are often construed as solely water providers, not protectors, and yet those that pay greater attention to watershed management enjoy lower operation and maintenance costs and may be able to postpone or avoid major capacity expansion. Nonetheless, catchment plans are far more frequently led by water resource agencies or basin organizations that lack direct access to a utility's large customer base and established mechanism for collecting payments¹.

To understand how utilities might be incentivized to adopt nature-based solutions to manage their catchments, it is necessary to acknowledge the key threats facing watersheds from a utility perspective. According to a recent survey of IWA members, positioning catchment protection in the context of source water threats can be an effective means of building support. In the case of De Watergroep, the biggest water utility in Flanders, Belgium, agricultural impacts on water quality were the driving factor to initiating conversations about NBS with local regulators.

From enforcers to partners: engaged regulators are more important than wise regulation

Regulators play a critical role in creating an environment where nature-based solutions will be considered. Regulators are in a unique position to

identify entry points where consideration of NBS can be incorporated into policies or procurement practices. Regulators can also provide guidance

BOX 1. Catchment management: Harnessing an NBS for Water Wise Cities

Healthy water catchments are vital natural infrastructure for cities around the world. They collect, store and filter our water before it ever enters a pipe. The widespread degradation of water catchments around the world is leading to impaired downstream water quality and diminished flows. As cities strive to meet demands of delivering urban services, the role of managing land and water sources in an integrated approach is critical.

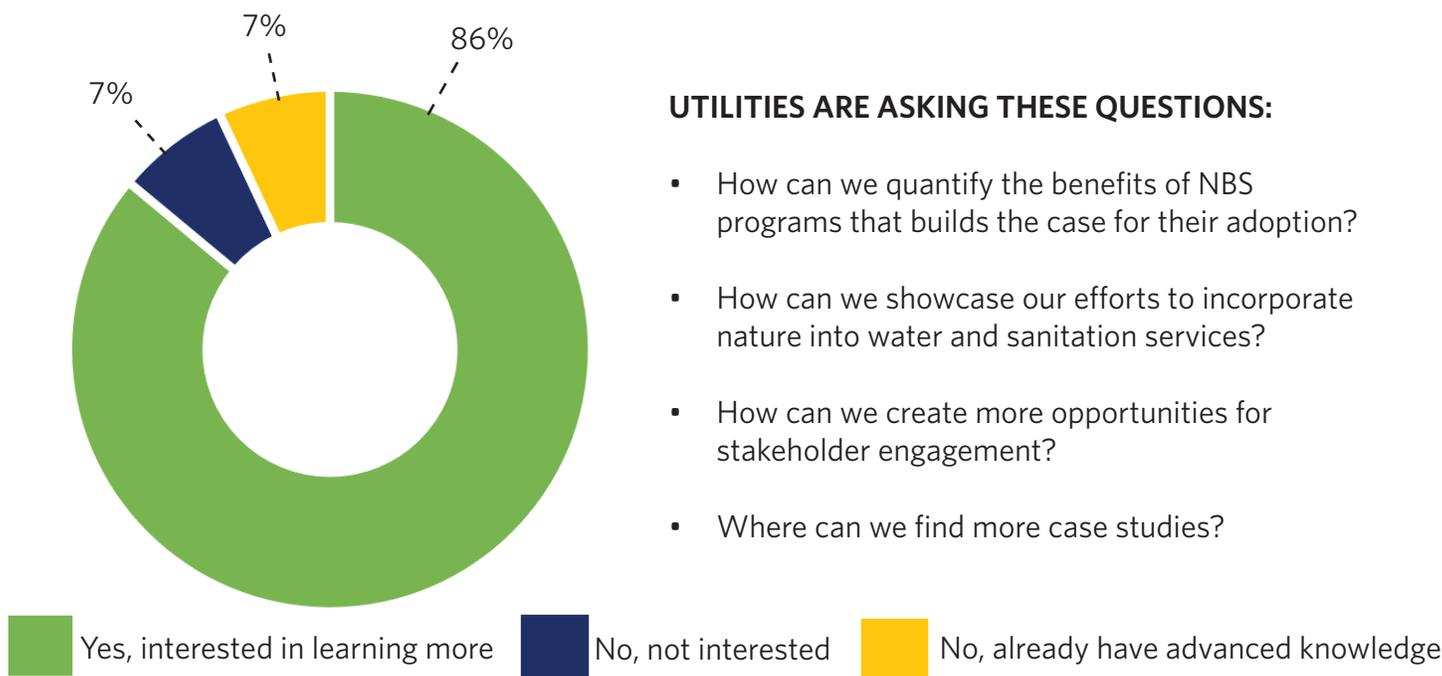


Figure 1. n=43, 86% of surveyed utilities are interested in learning more about NBS

¹ Bennett, Drew E., et al. "Utility engagement with payments for watershed services in the United States." *Ecosystem Services* 8 (2014): 56-64.

on how utility investment plans can evaluate NBS. Economic regulation can be a tool to incentivize NBS where services are financed through taxes or incorporate NBS. Building flexible regulatory frameworks that are applicable to water utilities in

varied contexts is a promising yet ambitious goal. As the Lusaka case illustrates, the key is transforming perceptions of the regulator as solely an enforcer to that of a partner.

Mobilizing action towards NBS adoption

IWA and TNC are creating platforms that facilitate experience sharing and enabling new interventions in the NBS arena by mobilizing both organizations' expertise and networks. A Task Force of early adopter IWA member utilities and regulators will

contribute to a series of webinars, blogs and an in-person gathering at IWA's World Water Congress in Tokyo.



BOX 2. IWA Utility Spotlight: De Watergroep

The importance of multi-stakeholder pilot projects for improving surface and ground water quality

With a responsibility to supply water to 3 million people across 180 municipalities, De Watergroep is investing in long-term protection of their catchment areas. Catchment protection plans that incorporate nature have produced clear water quality improvements in their most vulnerable aquifers. However, nutrient and pesticide pollution from farmlands have driven the need for greater interaction with landowners and stronger regulation. De Watergroep is working on a new surface water initiative that involves partnering with farmer and research organizations to invest in and spread awareness about best farming practices to prevent pesticide and nutrient losses to water. The utility has future goals to incorporate NBS in their surface and groundwater protection policy and plans pilot projects to let farmers evolve towards more sustainable practices.

De Watergroep has established a strong connection with government agencies and actively advises on protection zones and environmental permits that influence water quality and quantity. Their engagement with local regulators like the Flemish Environmental Agency (VMM) aims to develop stricter standards that address differentiated risks while incorporating all stakeholders."



BOX 3. IWA Regulator Spotlight: National Water and Sanitation Council (Nwasco)

Motivating all players involved in the sanitation value chain

Wellfields to the south of Lusaka supply water to about 110,000 customers and are currently under severe threat. Pollution from sanitation facilities (pit latrines, septic tanks, etc.), garbage, as well as chemicals from mechanical workshops and others are threatening groundwater levels. The National Water and Sanitation Council (Nwasco) leads a multi-stakeholder project, involving 22 partners (government agencies, private business houses, non-governmental organisations and community members) to strengthen collaboration towards wellfield and catchment management in order to address groundwater pollution and depletion. Elements of success have been framing the argument to meet the needs of all stakeholders and produce motivating results, and highlighting the negative impacts of inaction. Furthermore the initiative is anchored in a reputable regulatory institution, and the project sites are within the capital Lusaka, which houses key decision-making organs of government, which has enhanced political buy-in.

Areas of focus over the coming months:

1. Promote connection of water utilities and cities with their basins;
2. Integrate nature-based solutions into technical guidance and standards in water and sanitation management;
3. Build capacity of practitioners in scoping, designing, implementing, and monitoring nature-based solutions in water management; and
4. Support regulators and regulation to enable consideration and investment in nature-based solutions to improve water security and safety.

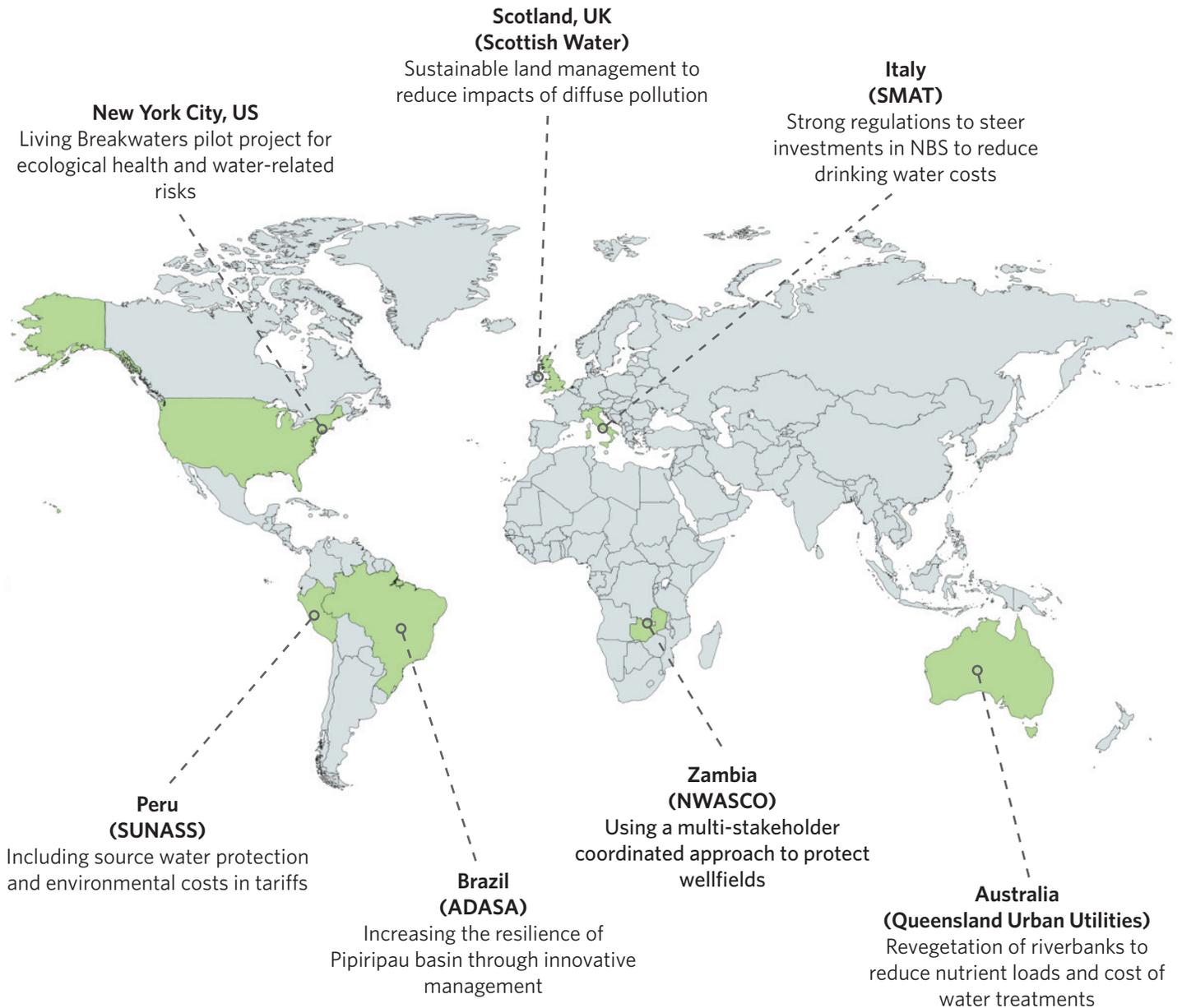


Figure 2. Case studies of successful utility-regulator partnerships working to incorporate nature into water management

INTERESTED IN LEARNING MORE?

If you are a regulator or a utility and want to learn more about nature-based solutions; or if you are interested in supporting the IWA-TNC partnership, contact:

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