

Celebrating World Water Day 2018: Nature for Water

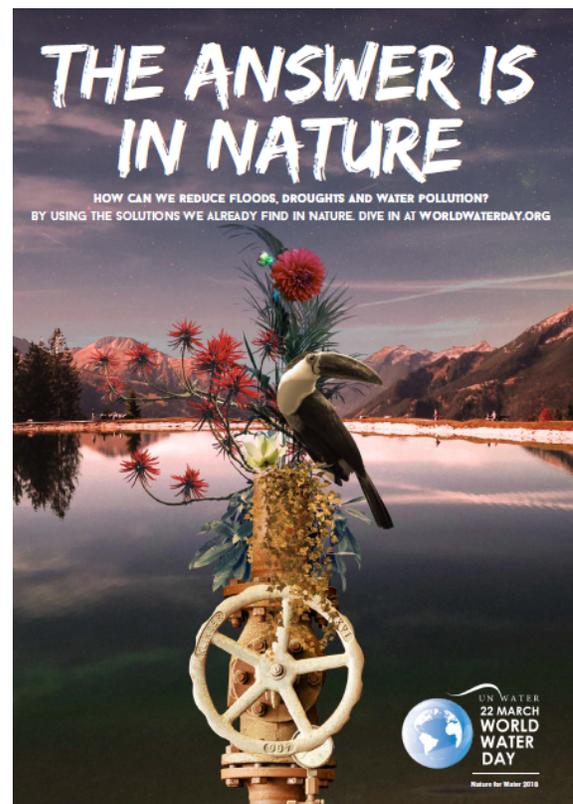
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March 16, 2018*

[World Water Day 2018](#), an event that is held every year on March 22nd, is about focusing attention on the importance of water. This year's theme, "[Nature for Water](#)," explores how we can use nature-based solutions (NBS) to help overcome the global water challenges of the 21st century. The 2018 campaign, "The answer is in nature," raises awareness of NBS, such as reconnecting rivers to floodplains and [restoring wetlands](#), as a cost-effective way to positively influence the water cycle, protect the natural environment, and improve human health and welfare.

What Are Nature-Based Solutions?

Water-related problems around the world, including floods, drought, and water pollution, are made worse by degraded vegetation, soil, rivers, and lakes. "When we neglect our ecosystems, we make it harder to provide everyone with the water we need to survive and thrive."

Nature-based solutions have the potential to help confront and overcome many of our most pressing water challenges, such as restoring forests, grasslands, and natural wetlands; enhancing water storage via natural wetlands, soil moisture, or groundwater recharging; and creating buffers of vegetation along water courses (called riparian zones). Taken together, NBS help address water availability and quality problems and usually involve the management of vegetation, soils, wetlands, rivers, and lakes—in both urban and rural areas. For example, water quality pollution from agriculture can be greatly reduced by NBS such as practicing conservation agriculture that protects soil from erosion, or establishing riparian buffers planted with native trees and shrubs.



An excellent example of an [NBS success story](#) was provided through a partnership of farmers and regulators in Missouri, where atrazine (a popular herbicide used in cornfields) was significantly reduced in several nearby lakes used as a drinking water source by managing application and set-back distances (see figure).



Photo credit: US Environmental Protection Agency

In Louisville, we utilized nature’s power of water purification to treat Ohio River water—a process known as “riverbank filtration.”¹ In this process, water is purified by natural filtration and microbial processes that remove agricultural and industrial chemicals in a very cost-efficient manner. This process has been applied worldwide and even has a biblical reference ([Exodus 7:24](#))!

Although NBS are not a panacea to the global water-related challenges that arise as our population grows (see also text box), they can provide innovative and cost-effective (so-called “green infrastructure”) options for supplementing insufficient or aging, conventional (human-built or “gray”) water infrastructure. And while a great deal of progress has been made on NBS, there is need for additional research, such as around the performance, impact, and scalability of NBS. It is also important to emphasize that NBS can yield benefits beyond specific water-related services.

For example, nature-based (constructed) wetlands used for wastewater treatment can also support energy production, improve biodiversity, and create recreational spaces in urban areas.

Nature-Based Solutions and the Sustainable Development Goals

Nature-based solutions, especially when harmonized with conventional infrastructure wherever possible, are a key element of confronting growing global

Some Key Facts on Global Water and Sanitation

Water Demand

- 2.1 billion people lack access to safely managed drinking water
- By 2050, the world’s population will have grown by an estimated 2 billion people and global water demand could increase by 30%
- Agriculture currently accounts for 70% of global water withdrawals, mostly for irrigation; less than 1% is used for drinking water

Water Availability

- About 1.9 billion people live in potentially severely water-scarce areas; by 2050, this could increase to around 3 billion people

Water Quality

- An estimated 1.8 billion people use an unimproved source of drinking water with no protection from human feces contamination
- Globally, over 80% of the wastewater generated by society flows back into the environment without being treated or reused

¹ The Louisville Water Company’s Riverbank Filtration Project won the American Society of Civil Engineers international “Outstanding Achievement in Civil Engineering” award in 2011 for its simplicity and innovation.

water challenges and improving public health and livelihoods. More specifically, NBS for managing water supply and quality also support the achievement targets of the [United Nations Sustainable Development Goal \(SDG\) #6](#), to “Ensure availability and sustainable management of water and sanitation for all” by 2030. Nature-based solutions can also play an important role in meeting [several other SDGs](#), including SDG 3: Good health; SDG 7: Affordable, clean energy; and SDG 11: Sustainable cities and communities.

On behalf of my colleagues on the WQ&HC, we will enthusiastically support World Water Day in 2018 and beyond to help raise awareness of and inspire innovative solutions to growing global water problems that affect us all.

Steve Hubbs retired from water treatment operations at the Louisville Water Company in 2004. He remains an active volunteer in the drinking water community today.

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