

Ensuring One Water Delivers for Healthy Waterways

The One Water approach offers tremendous opportunities for improving how water is managed within communities. Using water efficiently and taking advantage of diverse, locally available water supplies are important goals. It is also important that the approach support communities in assessing how their water use affects the health of waterways, both upstream, where water is sourced, and downstream, where other communities and aquatic resources may be impacted.

THE ONE WATER APPROACH (U.S. WATER ALLIANCE)

1. RELIABLE AND RESILIENT WATER UTILITIES
2. THRIVING CITIES
3. COMPETITIVE BUSINESS AND INDUSTRY
4. SUSTAINABLE AGRICULTURAL SYSTEMS
5. SOCIAL AND ECONOMIC INCLUSION
6. HEALTHY WATERWAYS

One Water's emphasis on local water capture and reuse may pose an inadvertent threat to river flows, as maximum use of these sources can starve natural systems of needed flows. It can also potentially reduce water available to communities downstream. To realize the full potential of the One Water approach, planners should explicitly acknowledge and quantitatively assess threats to healthy waterways, and incorporate actions to protect (and where possible, enhance) river flows downstream for the benefit of people and the environment.

Texas Living Waters is working to develop a framework to assist communities in implementing the One Water approach in a way that optimizes water supplies to cities and keeps waters flowing for the creeks, rivers and bays that support healthy fish and wildlife and their habitats.

Good Water Quality

Safe Places to Swim and Recreate

Reduced Flashiness in Urban Streams

6. Healthy Waterways

Flows to Sustain Native Wildlife

Healthy Riparian Corridors

Protection of Culturally Significant Features



In an initial survey to assess whether the One Water approach is realizing its potential to meaningfully ensure healthy waterways, Texas Living Waters explored the current “state of practice” through a series of interviews with a cross-section of utility staff, planners, engineers, and scientists involved in One Water implementation. We explored the specific nature of their respective planning challenges, how they consider environmental benefits and impacts as a part of their planning processes and whether they found that One Water planning had led to environmental gains and/or impacts.

The preliminary findings suggested that in general, quantified assessments of One Water impacts to river flows are not included in One Water planning efforts, particularly during the critical early planning stages. And at least some cities are encountering unintended adverse waterway consequences of projects, even when those projects are implemented with water conservation in mind.

Highlights From What We Heard

The Texas Living Waters survey found that One Water practitioners are encountering a variety of barriers to proactively planning for healthy waterways and addressing environmental-flow needs as they plan:

COMPETING ENVIRONMENTAL NEEDS

There are competing ideas for how to achieve environmental benefit when we no longer have enough water to do all that a natural system could do in a waterway.

COMPETING SOCIETAL NEEDS

We have raised water rates so that we can implement these strategies, but we are balancing affordability for ratepayers, which doesn't always lead to the best environmental outcomes.



**LOSS OF “FUNCTIONAL FLOWS”
TO THE NATURAL AND BUILT SYSTEMS**

High urban efficiency = reduced wastewater flows. This is a challenge because wastewater treatment requires a certain amount of flow to effectively process. Another issue with higher efficiency is that reduced wastewater flows means there is less water available for reuse. And, wastewater return flows are important for some downstream ecosystems, so putting those flows fully into reuse cannot be assumed to be a good thing.

**GOOD INTENTIONS OVER-RIDDEN
BY REGULATORY DRIVERS**

We created a plan to provide for aquatic health, habitat and flooding management... then encountered Clean Water Act compliance issues and had to relocate projects to optimize compliance, rather than optimizing the multiple benefits that might otherwise be achieved through the investment.

What Cities Say They Need to Ensure Healthy Waterways Result From One Water Planning

The Texas Living Waters survey found that communities are challenged in advancing One Water strategies that both maximize water supply and protect natural systems. They will need guidance and technical support if we are to ensure that Healthy Waterways are an outcome of the One Water approach. Several key questions have emerged that merit further discussion.



HOW CAN WE INCLUDE A VISION FOR THE ENVIRONMENT FROM THE START?

Without purposeful attention to maintaining healthy waterways from the start of a planning process, net environmental benefits are not an inevitable outcome of One Water planning. Communities need a clear process for setting objectives for healthy waterways and identifying the appropriate stakeholders and expertise to assure that healthy waterways are adequately considered and planned for. In many instances, cities do not have the expertise to do this well. Guidance and training in best practices would be beneficial.



HOW CAN WE MAKE THE CASE TO CITY LEADERSHIP FOR INCLUSION OF HEALTHY WATERSHEDS IN ONE WATER PLANNING?

Many One Water planning efforts originate in single city departments and may not enjoy the support or understanding of the Mayor or City Council. Having packaged education materials for city leaders that highlight both water-supply benefits and the need to proactively protect water sources, both upstream and downstream, would help support these “ground up” efforts.



HOW CAN WE SHARE CASE STUDIES FOR IMPLEMENTING “GREEN” ONE WATER PROJECTS AND PRACTICES?

Cities cited the need for more case studies to help guide implementation of One Water principles. Specific topics for case studies included: assessing full environmental impacts, maximizing multi-benefits, project siting, One Water strategies that also satisfy regulatory obligations, developing cost/benefit information, green infrastructure, ecological restoration to meet multiple objectives, and private-sector incentives.



HOW CAN PROJECT FUNDING CRITERIA INCENTIVIZE HEALTHY WATERWAYS IN ONE WATER?

The eligibility criteria attached to various water-project funding sources, particularly at the state level, can function as incentives to ensure healthy waterways. Agencies and foundations that fund or certify water-system improvements could encourage better outcomes by prioritizing projects that demonstrate ecosystem benefits.



HOW CAN WE STANDARDIZE QUANTITATIVE AND QUALITATIVE EVALUATION FOR THE ENVIRONMENT?

Cities need defensible methodologies to weigh the less obvious potential benefits of projects, including social and environmental benefits. Some locales are successfully deploying collaborative decision-making or using a “the triple bottom line” approach (profit, people, the planet) to One Water, but guidance and case studies are lacking. Standardized methods for assessing and quantifying instream flow needs and benefits would greatly improve One Water planning.

Texas Living Waters is a collaborative initiative led by the National Wildlife Federation, with key participation from partner organizations, to advance a shared vision of water for people and wildlife. For more information on our work to ensure that One Water delivers for healthy waterways please contact Jennifer Walker at walkerj@nwf.org.

