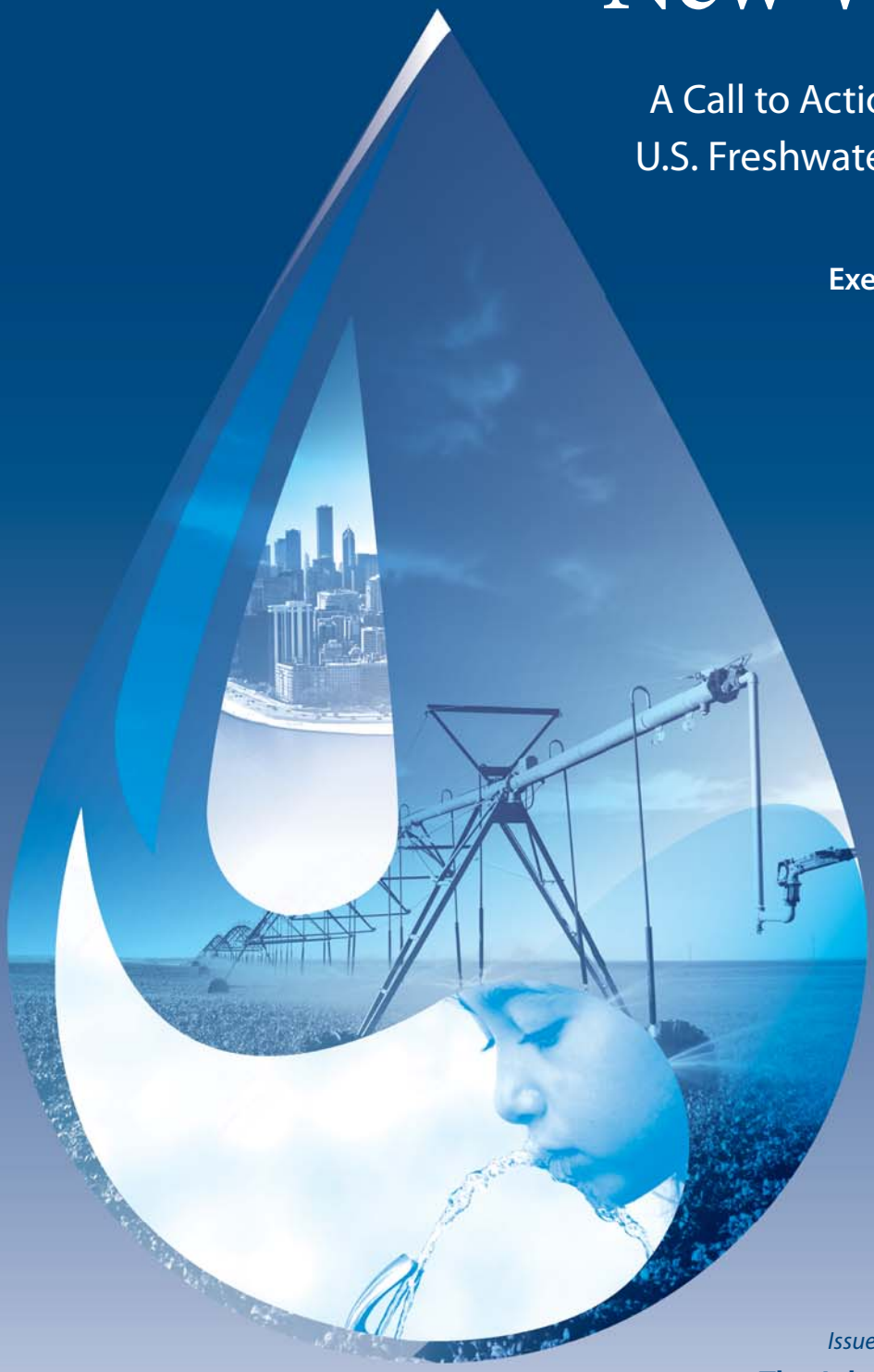
Charting New Waters

A Call to Action to Address U.S. Freshwater Challenges

Executive Summary



Issued by the Participants of

The Johnson Foundation Freshwater Summit

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We, the participants of *The Johnson Foundation Freshwater Summit*, call on leaders in all sectors of society to address the myriad challenges facing the United States' freshwater resources.

Together we are representatives from business, nongovernmental organizations (NGOs), agriculture, academia, government, foundations and communities. We are united in our commitment to harness American ingenuity and develop innovative, integrated freshwater solutions that cut across traditional boundaries and counteract the inertia that has developed around freshwater management due to fragmented decision-making frameworks and institutional obstacles.

Our growing population and changing environmental conditions are driving the nation toward inevitable and difficult freshwater management decisions. Many challenges will center on balancing municipal, rural and ecosystem supply needs. We must ensure the long-term viability of safe, affordable and efficient food production while also meeting municipal and industrial water needs. We need to reduce the water demands and impacts of energy generation while continuing to produce enough energy to sustain our economy. We must work to mitigate the causes of climate change and to adapt to its impacts on the hydrologic cycle which pose serious risks to freshwater supply and quality across large areas of the nation.

In spite of the challenges we face, we see a promising future for U.S. freshwater resources – a future that is sustainable and resilient. Streamlined and effective regulation and enforcement, collaborative problem solving, innovative local and regional strategies, technological innovation, integrated policy and management solutions, and co-beneficial strategies and outcomes are the hallmarks of the new course we see for freshwater management and resources in the United States. We see a future in which leaders in all sectors have the courage and tools to chart a course that ensures access to clean freshwater for all Americans. In this future, our freshwater resources reinforce America's preeminence as the land of opportunity, attracting new investment while providing an unparalleled quality of life. We urge other leaders to join us in advancing sustainable and resilient solutions to the freshwater challenges we face.

The time to lead is now.

We must act now because…

- Healthy and livable communities need clean and adequate freshwater;
- Reliable freshwater supplies are critical to U.S. economic security;
- Freshwater ecosystems have intrinsic value and are fundamental to our natural heritage and economic well-being; and
- Ecosystems can experience abrupt, nonlinear change.

Recommendations

Improve Coordination of Management Across Scales and Sectors

Our nation's overly complex system of freshwater governance hinders our ability to work across jurisdictions and among sectors to fix the full range of problems we face. It is imperative that state and local actors are able to make and implement freshwater management decisions that make sense in terms of watershed dynamics. At times their ability to do this is impeded by a lack of coordination among federal agencies, each of which is acting according to its legislative and regulatory mandates, but may not function effectively as a system. The lack of coordination among federal, state and local authorities often results in confusion at the state and local level, sometimes exacerbating the very problems they set out to solve. The missions and activities of the agencies, organizations and local-level actors dealing with freshwater issues need to be coordinated within and across different sectors and scales of governance. To implement this recommendation, we offer the following suggestions.

We recommend that an appropriate entity convene a diverse, multi-stakeholder freshwater resources commission to propose solutions and prioritize opportunities for clarifying and streamlining the responsibilities and roles of agencies and actors at different levels of freshwater governance. To provide a foundation for its recommendations, we recommend that the commission develop an integrated characterization of the nation's freshwater quality and quantity challenges. Simultaneously, state and local leaders must seek out opportunities to work across jurisdictions to find integrated and co-beneficial solutions that meet urban, rural and ecosystem needs. Local communities should draw on federal and state guidance and tools to plan for, manage and communicate about their water supply and quality needs and successes, while designing strategies to achieve co-beneficial outcomes that are adapted to the place. NGOs, academic institutions and private-sector leaders should play an active role in informing decision makers about ways to streamline and integrate freshwater governance without compromising ecological, economic or social outcomes.

Enhance Effectiveness of Existing Regulatory Tools

In 2010, the emerging and increasingly complex freshwater challenges we face are pushing the boundaries of our original regulatory frameworks. At the same time, we are under increasing pressures associated with energy and food production. We need 21st century tools to address our 21st century freshwater problems. Improving existing regulatory tools, along with development of more market-based and voluntary approaches, promises to catalyze critical involvement across sectors in solution generation and implementation. In parallel with the implementation of a commission, federal leaders should work with stakeholders in all sectors to enhance existing regulatory tools such as the Clean Water Act, Safe Drinking Water Act, Farm Bill and Principles and Guidelines for Federal Water Resources Projects so that they more effectively address contemporary freshwater challenges facing the nation.

Promote Efficient, Environmentally Wise Water Management, Use and Delivery

We need to launch a full-throttle effort to research, develop and demonstrate innovative, efficient and environmentally wise freshwater practices and technologies on the demand and supply sides of the equation. Efficient water use and delivery is a critical frontline tactic for conserving and extending existing water supplies. We also need to raise awareness about the inextricable links between water and energy. A significant portion of our nation's energy supplies go to the treatment, movement and use of water. Conversely, vast amounts of freshwater are necessary for energy resource extraction and electricity generation. By integrating water and energy management and policy, the nation can simultaneously improve the efficiency of use of both critical resources.

Using the right water for the right use underlies efficient and environmentally wise water management. Treated water is currently used for many purposes that do not require it. Similarly, water that can be re-used is not being re-used. We need to develop accepted methodologies for practices such as water accounting (e.g., water footprinting) so that major water users in different sectors are able to accurately track and minimize their impact on freshwater resources through smarter allocations and other mitigation measures. Businesses can help by implementing and reporting on water management best practices. Agricultural producers can build on their efforts to enhance efficiencies in food production through strategic partnerships and promotion of successful on-farm efficiency strategies. Governments and utilities can increase efficiency of water delivery and implement environmentally wise supply enhancement strategies by investing in the development and implementation of measures to increase efficient water use. All sectors can help develop a skilled workforce to support wise water management, use and delivery.

Ensure Decision Making Is Based on Sound Science and Data

The selection of appropriate freshwater management, conservation, efficiency and water supply enhancement strategies depends on good data, yet fundamental data about our freshwater resources is incomplete, inconsistent, unreliable and unavailable in real time for informed decision making. We need to invest in freshwater information that informs decision makers at a level commensurate with the challenges we face, including: investment in research and data collection by federal agencies and Congress; development of monitoring and data collection tools by NGOs and academic institutions; and voluntary sharing of data and innovative water management practices by businesses and many other contributors.

Employ a Long-Range Adaptive Approach to Planning and Management

As the effects of climate change alter familiar hydrologic patterns, traditional water management strategies become increasingly ineffective. To ensure sustainable and resilient freshwater systems for the future, we must implement adaptive management strategies that allow decision makers to integrate new knowledge and respond to disruptions or risks as they materialize over time. Businesses, agricultural producers, utilities, government agencies and communities all have a role to play in increasing our collective resilience in the face of uncertain and variable freshwater supplies and hydrologic conditions.

Account for the Full Cost of Water, and Invest in Sustainable Water Infrastructure

Most people in this country do not know how much it actually costs to obtain, treat and deliver their water and wastewater, in part because water and wastewater utilities lack adequate mechanisms to track and report the full cost of their own services. We must understand and be able to account for the full cost of water services delivered by these utilities, and structure water pricing in ways that encourage conservation and inform consumers. Water utilities should collaborate with other sectors to develop full cost-of-service accounting methodologies and mechanisms for explaining the approach to consumers. In parallel, water utilities should implement strategies, such as decoupling revenues from volume of service to help break down internal institutional barriers to encouraging consumer water conservation. At the same time, public agencies, utilities and private investors need to collaborate to develop a wider range of infrastructure investment options in the face of a significant shortfall in capital to address the nation's existing infrastructure needs.

Educate the Public about Challenges and Solutions

Ultimately, solutions will be ineffective if they are not reflected in the attitudes and everyday choices of Americans. At the heart of this challenge is a lack of awareness about where water comes from, where wastewater discharges go and the significant costs of maintaining the quality and volume of flow. Water utilities, municipal governments, community organizations, NGOs and others should all take steps to educate the public about where their water comes from, what the embedded delivery costs are and how they can protect and conserve this valuable resource. We need to disseminate understandable information about the integral role of freshwater in supporting healthy and livable communities and help individuals understand how the freshwater challenges we face are connected to daily choices.

Develop and Validate Methods for Freshwater Ecosystem Services Markets

Ecosystems provide food, water delivery mechanisms, water purification, waste disposal, carbon sequestration and recreation, to name a few tangible services our freshwaters provide for human beings. The challenge we face is understanding more fully the services these freshwater ecosystems provide and how to assess the value of those services. We also lack the institutional mechanisms to account for and internalize the full costs of activities that impact freshwater ecosystems. Leaders from all sectors should collaborate to build understanding and tools to support freshwater ecosystem markets that quantify the benefits our rivers, streams, lakes and wetlands provide for people, and assign value to services lost due to degradation and destruction of freshwater ecosystems. We should consider water supply, distribution and water quality improvement values offered by natural systems. These market-based systems should not be punitive nor penalizing. They should be established through trusted governance structures with a collaborative approach to the design.

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*The federal agency participants in *The Freshwater Summit* took part to help inform the deliberations. The findings and recommendations in the *Call to Action* are being delivered by the non-federal participants for the consideration of leaders and senior decision makers in all sectors of American society.

†These individuals participated in *The Freshwater Summit*, but cannot formally endorse the *Call to Action* due to the policies of their respective organizations.

This is an Executive Summary of the recommendations that emerged from *The Johnson Foundation Freshwater Summit*, an intensive collaborative effort among leaders from business, nongovernmental organizations, agriculture, academia, government, foundations and communities to unite around the challenges facing U.S. freshwater resources and catalyze solutions to address them. The complete text of *Charting New Waters: A Call to Action to Address U.S. Freshwater Challenges* and supporting information can be found at www.johnsonfdn.org/chartingnewwaters.

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