Great Lakes WISE

Great Lakes WISE
Water Innovation and Stewardship Exchange

Corporate Water Stewardship Toolkit

Developed to influence and motivate companies, demonstrating best practice examples and the business case for corporate water stewardship

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Toolkit Prepared By:
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Great Lakes WISE

Water Innovation and Stewardship Exchange

Great Lakes WISE is a peer-to-peer network of cross-sector stakeholders operating in the Great Lakes economic region, committed to advancing corporate water sustainability performance and best practices.

- A **forward looking**, **multi-stakeholder initiative** created to ensure the region's water resources are used wisely, to protect them for future generations and to sustain long-term economic success of the region.
- Great Lakes WISE has a vision for the region to continue to thrive, with **clean, resilient, and plentiful fresh water** that sustains its people, its businesses, and its natural heritage.
- A peer-to-peer forum for accelerating **corporate water stewardship**, developing **effective water solutions**, and collectively actioning projects that address regional water challenges and opportunities across key sectors in the region.

Great Lakes WISE Regional Gap Analysis

Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York, Ontario & Quebec

A Regional Gap Analysis was published in 2025 to assess the opportunities and challenges for corporate water stewardship and watershed protection in the North American Great Lakes region. Top 10 Opportunities:

1. Technology demonstration projects
2. Regional collaboration
3. Incentives and financing tools
4. Training and technical assistance
5. Integration of circular economy principles
6. Leverage innovative ecosystems
7. Incorporate metering and integrated digital technologies
8. Stakeholder engagement
9. Identify synergy between projects
10. Address perceived vs actual water issues

Corporate Water Stewardship Toolkit

Knowledge Sharing and Educational Outreach

The Corporate Water Stewardship Toolkit, which is comprised of this slide deck and a series of informational brochures, builds on the findings of the Regional Water Gap Analysis and is intended to serve as a communication and education tool to support stronger adoption of corporate water stewardship.

1. Water Stewardship and Best Practices

- Operational Efficiencies
- Wastewater
- Stormwater Management
- Value Chain Assessment
- Circular Economy
- Third Party Evaluation

2. Current Landscapes

- Water Quantity
- Water Quality
- Climate Change
- Policies
- Water Energy Nexus

3. Advanced Water Stewardship

- Water Cost vs Value
- Collective Action
- Volumetric Water Benefits Accounting
- Habitat Restoration

Water Stewardship and Best Practices

Water Stewardship

Economic, Social, Environmental

Effective water stewardship must be context-based and incorporate C-suite support and site level actions that act on local share water challenges, regional water context, and governance outcomes.

1. **Water Is a Shared Risk and Shared Responsibility**

   Water challenges affect entire watersheds, not just individual sites. Stewardship requires collaborative action beyond the fence line.

2. **Corporate Water Stewardship Is Maturing**

   Companies are moving from water efficiency to regenerative water strategies. Standards like AWS, GRI, WAVE, WSR, and CDP Water Disclosure are driving transparency and accountability.

3. **Climate Change Is Intensifying Water Risks**

   Increased variability in precipitation, droughts, and extreme weather events are stressing water systems. Climate resilience must be integrated into water planning and infrastructure investment.

4. **Data Gaps Limit Effective Action**

   Inconsistent monitoring of groundwater, streamflow, and contaminants hinders decision-making. Tools like WRI Aqueduct, WWF Water Risk Filter, and Ecolab Water Risk Monetizer help fill these gaps.

5. **Policy and Governance Are Critical Enablers**

   Strong frameworks exist (e.g., GLWQA, GLRI), but enforcement, funding, and cross-jurisdictional coordination are lacking. Community engagement are essential for equitable stewardship.

Water Stewardship Initiatives

A critical and evolving business approach for managing water responsibly and building long-term resilience

- Shifting from site-based actions to shared basin outcomes
- Expanding the definition of water risk (quality, governance, climate, and social factors)
- Integrating water with climate, biodiversity, and ESG priorities
- Addressing water risks across the full value chain, not just operations
- Investing in collective action and multi-stakeholder partnerships
- Improving transparency, disclosure, and decision-useful reporting
- Building business resilience and long-term value creation through basin health

Water Stewardship Actions

High-impact actions businesses can take to strengthen basin resilience

A Regional Gap Analysis was published in 2025 to assess the opportunities and challenges for corporate water stewardship and watershed protection in the North American Great Lakes region.

Corporate Actions

Strategic integration of water stewardship

- Circular economy of water
- Value chain assessment
- Third party validation

Site Actions

Practical application of priority risk avoidance/stewardship opportunities

- Stormwater management
- Operational efficiencies
- Wastewater management

Engagement Actions

Accelerate progress towards resilient freshwater systems

- Meaningful regional and supply chain partnerships
- Value chain assessment
- Capacity building

Watershed Actions

Accelerate progress towards resilient freshwater systems

- Monitoring and data sharing
- Planning and governance participation
- Resource mobilization

Integrated Strategies

Elevate your organization

Move from functional improvements to integrated strategies that proactively address shared water risks. Adopt best practices and lead with decisive investments that safeguard water resources and secure business viability in the Great Lakes region.

- **Operational Efficiency**
  Streamline processes and reducing water resource consumption, to lower direct and indirect costs and minimize environmental impact and meet stakeholder expectations for responsible growth.
- **Wastewater Management**
  Adopt advanced treatment technologies and resource recovery solutions, to transform waste into assets, reduce costs, and demonstrate leadership in sustainable practices.
- **Stormwater Management**
  Invest in innovative solutions and green infrastructure that treat stormwater as a resource, companies can reduce operational disruptions, protect community health, and demonstrate clear environmental leadership.
- **Value Chain**
  Implement clear reporting and traceability practices, to demonstrate accountability, strengthen partnerships, and reduce reputational risk.
- **Circular Economy**
  Treat water as a renewable resource, reducing waste, recovering valuable resources, and regenerating natural systems companies transform risk into resilience and waste into value.
- **Third-Party Validation**
  Engage independent experts to verify performance, to strengthen stakeholder confidence, meet disclosure requirements, and differentiate your brand in a competitive marketplace.

Current Landscapes

Current Vulnerabilities in the Great Lakes

Increasing pressure from climate, economic, and population growth

The Great Lakes Region faces a widening vulnerability landscape.

Rising water stress, deteriorating quality, and escalating demands on shared freshwater systems are exposing weaknesses in regional resilience, testing the capacity of institutions, utilities, and industries to adapt

Recommendations for Business in the Great Lakes:

- Use the Great Lakes Compact as an operational baseline
- Build adaptive capacity across sites and supply chains
- Invest in modernizing infrastructure
- Advance corporate water stewardship beyond the fence line
- Enhance data and monitoring systems
- Promote awareness and incentives internally

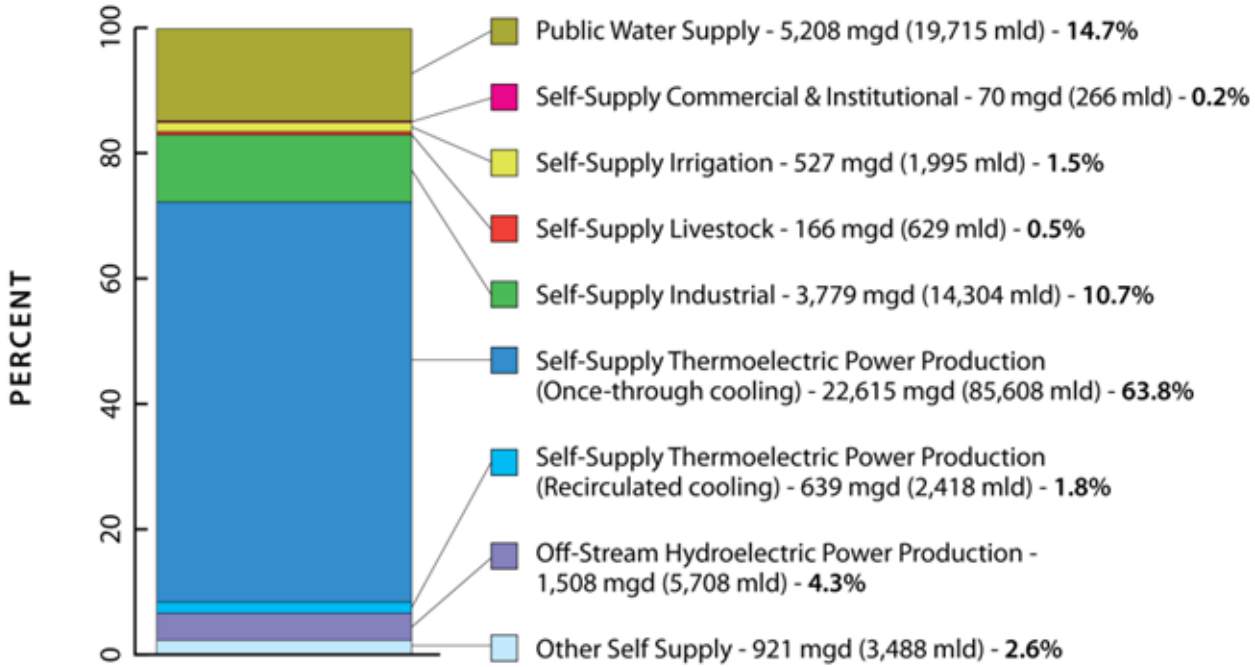
Water Quantity

Water quantity and allocation pressures are rising in the Great Lakes

As localized water demand grows, adaptive management strategies are needed to balance industrial needs and sustainability goals

Business movements and utility trends

1. Rising and uneven water/wastewater rates
2. Growing uncertainty in corporate long-term planning
3. Mainstreaming water stewardship frameworks
4. Shift beyond site-level efficiency toward basin impact
5. Stronger demand for utility–business collaboration



Water Quality

Shaped by complex interplay of natural and human factors

Persistent Basin-Wide Pressures

Across the Great Lakes, pollutants move through stormwater, farm runoff, and emerging and legacy industrial pathways, cycling into lakes, rivers, and groundwater where they drive operational, regulatory, and reputational risks

What needs to be done?

- Reduce pollutants at the source: filtration, closed-loop systems, stormwater controls
- Invest in restoration: wetlands, riparian buffers, floodplains, and green infrastructure
- Advance transparency: share discharge data and participate in monitoring
- Strengthen supply chain stewardship: nutrient management, precision agriculture, water-risk screening tools
- Align with regional frameworks: GLWQA, Clean Water Act, Canada's Freshwater Action Plan, local watershed plans

NASA image courtesy Jeff Schmaltz, MODIS Rapid Response Team at NASA GSFC

Climate Change Impacts

Fundamentally reshaping the Great Lakes Region

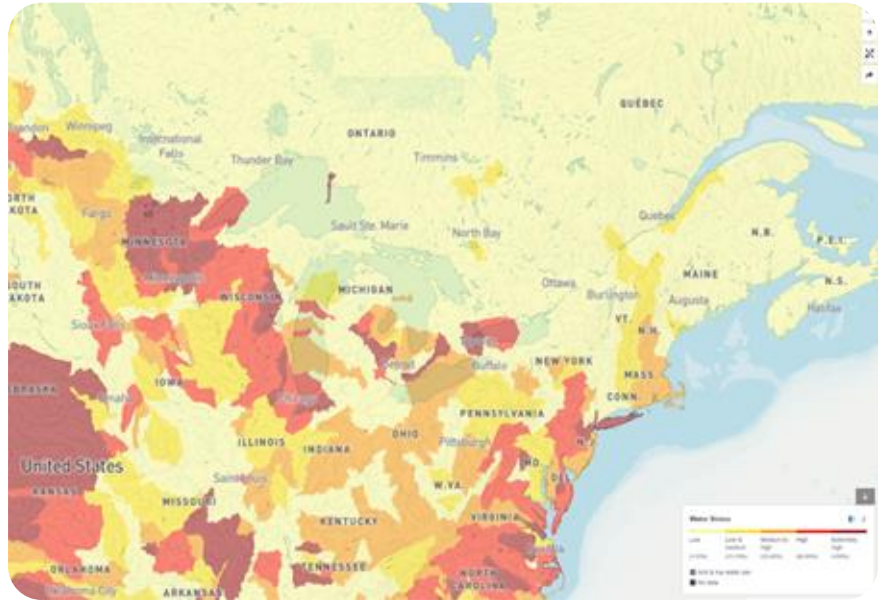
Climate change is contributing to:

- Water stress and seasonal variability
- Increasing extreme weather and major flood risk events
- Changes in surface water quality
- Burden on aging and vulnerable infrastructure
- Increasing financial and operational pressures

Businesses in the Great Lakes are uniquely positioned to lead. By reducing withdrawals, investing in shared watershed resilience, and aligning growth with water availability, companies can protect their long-term operations while strengthening the region's economic and ecological future.

"The amount of precipitation falling in the heaviest 1% of storms increased by 36% in the U.S. Great Lakes region between the periods of 1951-1980 and 1991-2020."

Climate Trends in the Great Lakes Region. GLISA, NOAA's Great Lakes Climate Adaptation Partnerships (CAP) Team. 2025.



Water Stress, an indicator of competition for water resources, and is defined informally as the ratio of demand for water by human society divided by available water. World Resource Institute Aqueduct Risk Atlas for the Great Lakes region

Policy and Need for Policy

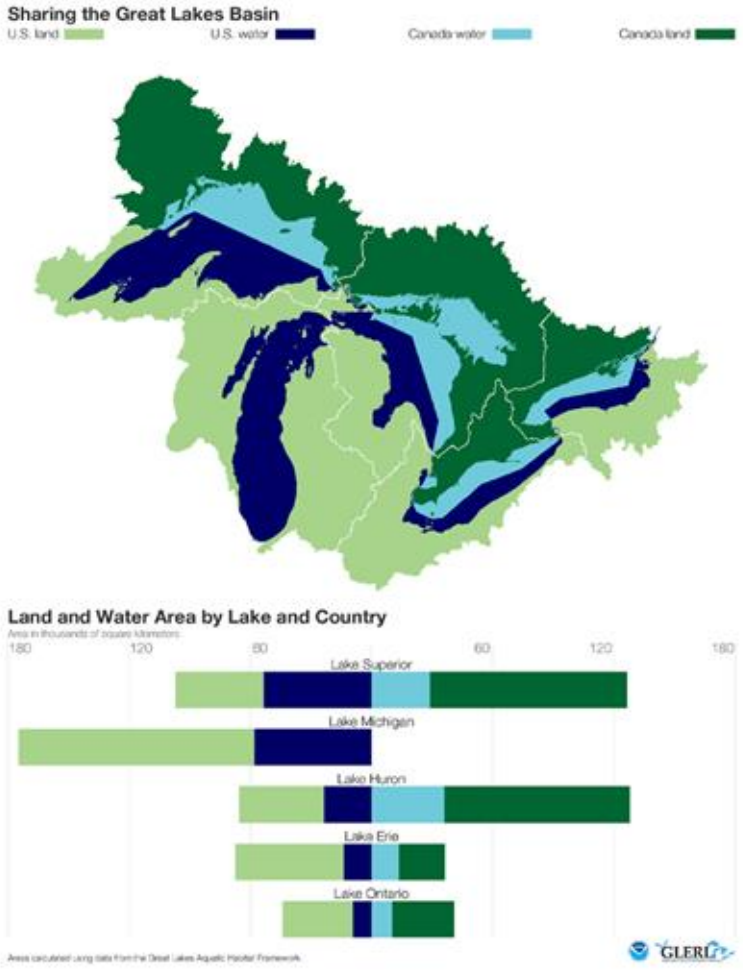
Long standing water agreements are fragmented

To safeguard long-term water security, ecological health, and economic resilience, Great Lakes governance requires modernized regulations, harmonized standards, and active corporate participation to keep pace with future water challenges

Emerging Policy Pressures

- Climate volatility increasing drought, flooding, and variable lake levels
- Water-intensive industries (data centers, EV/battery manufacturing, food processing) escalating local demand and scrutiny
- Aging infrastructure and affordability challenges putting utilities and compliance at risk
- Energy–water nexus impacts, including thermal discharges and high cooling-water use
- Uneven binational policy evolution, creating coordination gaps across jurisdictions

These pressures reveal where policies remain strong, and where they are increasingly insufficient

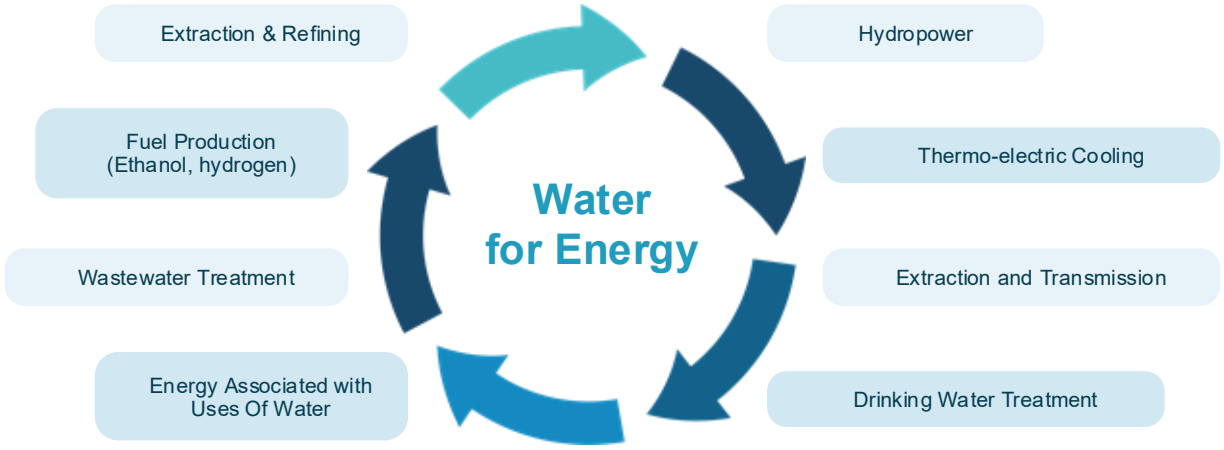


Water-Energy Nexus

Growing Competition for Resources

Water and energy systems are deeply interconnected. Water is essential for energy production and cooling, while energy is required for water treatment, distribution, and reuse. There is growing competition for water among sectors, underscoring the urgency of integrated resource management.

Understanding the Mutual Dependence of Water and Energy Systems



When Energy Demand Drives Water Risk: The Great Lakes Data-Center Boom

Growing datacenter development in the Great Lakes amplifies the energy–water nexus, increasing water use both directly (cooling) and indirectly (power generation), raising risks for regional water and energy systems.

Map data and visualization provided by Data Center Map (https://www.datacentermap.com/)

Advanced Water Stewardship

Advanced Stewardship

Address Regional Pressures

Advanced water stewardship requires collaborative, scalable solutions to address climate impacts, pollution and aging infrastructure. Aligning efforts through collective action strengthens long-term freshwater resilience.

Collaborate at Scale

Unite water stewardship actors beyond organizational boundaries to implement collective action in priority catchments, leveraging shared governance and innovative funding models.

Invest in Data and Infrastructure

Strengthen monitoring systems, close critical data gaps, and modernize infrastructure to enable adaptive, evidence-based water management.

Adopt Measurable Practices

Apply credible frameworks such as VWBA 2.0 to ensure water stewardship activities deliver quantifiable benefits aligned with catchment needs and corporate commitments.

Engage Broad Stakeholders

Include Indigenous peoples, local communities, governments, businesses, and NGOs in transparent, inclusive decision-making to build trust and shared ownership

Water Cost vs. Value

Water costs often overlooks non-market impacts

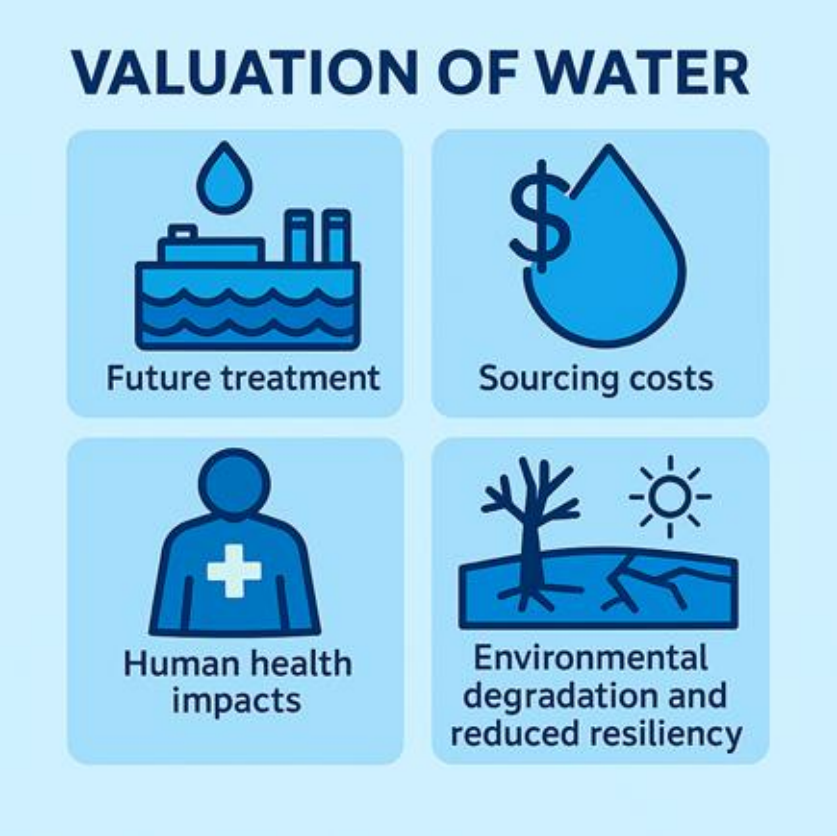
Water is consistently undervalued, and market price generally fails to encompass the full cultural, social, ecological, and economic value, even in a region with the water abundance of the Great Lakes

Alternative non-market value of water:

- Future treatment
- Sourcing costs
- Human health impacts
- Environmental degradation and reduced resiliency

Remember:

- Comprehensive valuation is critical for thorough risk assessment
- Societal value extends beyond volumetric benefits
- “Net positive water” concepts can be misleading
- Water is local and multi-dimensional
- Clear, relatable communication is vital for building public support

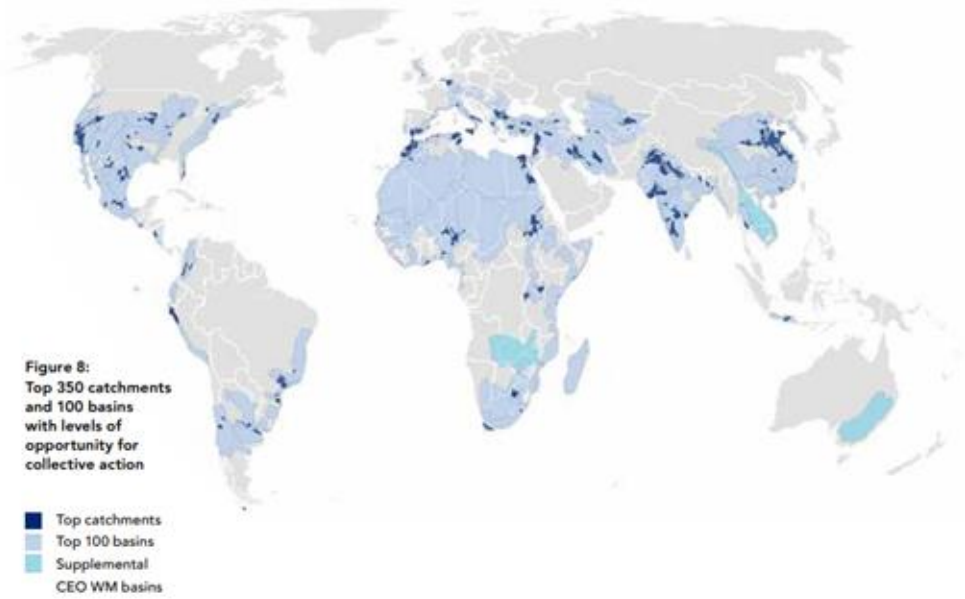


Collective Action and Stakeholder Engagement

Water is inherently local and interconnected, a single river or lake may serve multiple communities, industries, ecosystems, and jurisdictions. Water issues don't respect political boundaries or corporate property lines, and thus, demand shared solutions and engagement.

Lessons learned:

- Commit dedicated resources to make collective action work
- Establish clear roles and responsibilities to establish and support a shared goal
- Support credible convening led by trusted actors
- Align basin efforts with formal government water governance
- Engage in basins where both the need and the opportunity are strong
- Contribute to the full set of functions needed for basin success
- Use adaptive, locally grounded approaches that evolve with conditions.



Alliance for Water Stewardship (2024). Unpacking collective action in water stewardship shared solutions for shared water challenges

Volumetric Water Benefit Accounting

Quantify contributions to shared water challenges

Volumetric Water Benefit Accounting (VWBA) provides a consistent, science-aligned method for companies to quantify and communicate the real water benefits of their stewardship actions. By converting efficiency upgrades, water reuse, green infrastructure, or watershed restoration into measurable volumetric outcomes

By complementing global frameworks, AWS, SBTN, and the Water Resilience Coalition, VWBA strengthens corporate reporting and supports more informed, accountable decision-making.

Using VWBA Effectively

1. Identify Shared Water Challenges and Understand Local Context
2. Identify and Evaluate Potential Project Activities and Partners
3. Quantify the VWBs of Project Activities
4. Develop a Shared Understanding of the VWB Attribution Plan
5. Implement Project and Track the Progress
6. Confirm and Prepare for VWBA Claims Communication

Habitat Restoration and Riparian Buffers

Nature-based solutions that provide systemic benefits

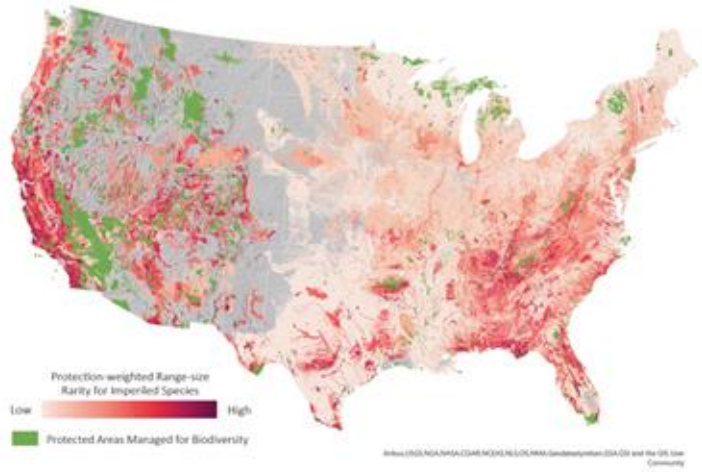
Habitat restoration and establishment of riparian buffers restore degraded ecosystems, enhance biodiversity, and improve hydrology, water quality, and climate resilience

Common restoration approaches include:

- Wetland restoration or rewetting to improve water storage, filtration, and aquifer recharge
- Riparian buffer establishment using native vegetation to reduce erosion, shade streams, and trap pollutants
- Floodplain reconnection to restore natural flows and reduce flood peaks
- Reforestation, prairie restoration, and invasive species removal to stabilize soils and improve habitat quality
- Green infrastructure to complement natural systems in developed areas

Advantages:

- Improved business resilience and risk reduction
- Reduce long-term operational costs
- Provides holistic co-benefits
- Support basin-level collective action



Map of Biodiversity Importance (Protection-Weighted Range Size Rarity for Imperiled Species Summed for All Species). This map displays richness of at-risk species outside of existing protected areas using modeled distributions for 2,216 of the most imperiled plants and animals in the United States. Deeper reds indicate where land and water protection will most benefit the least protected yet most threatened biodiversity in our nation.

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Businesses have the power to lead by example. They can often move swiftly and with impact, but they cannot solve water issues and risks alone.

Join the growing group of partners who share a commitment to water stewardship in the Great Lakes region.

The following partners of Great Lakes WISE share a vision for fresh water to be used responsibly with forward-looking management that strengthens the region's economy, supports sustainable business and ensures the Great Lakes and their watersheds are protected.

To learn more and get involved in Great Lakes WISE, visit https://councilgreatlakesregion.org/program/great-lakes-wise/.

A.O. Smith · DIAGEO · PRIMO BRANDS · SLOAN · VEOLIA · WATTS · FRESH COAST Climate Solutions · DUCKS UNLIMITED

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