



Water Stewardship Plan

Mitigating Water-Related Risks Your Brewery Faces in a Changing Climate

Breweries are increasingly vulnerable to water-related business risks, including water scarcity, poor water quality, and climate-related disruptions such as floods and droughts. Because water is a shared resource, these problems can affect entire watersheds. Additionally, breweries may face local challenges, for example aging municipal water infrastructure.

To address these risks, the Brewers Association (BA) offers a Water Risk Assessment tool that helps breweries identify specific threats to their access to high-quality brewing water. Once a brewery's water risks are identified through using the assessment tool, the next steps are to develop a water stewardship plan that considers the brewery's impact on and dependence upon their watershed, as well as the watershed's shared challenges. This plan should include short-term actions and long-term strategies to effectively manage the various types of water risks, those being physical, regulatory, and social/reputational.

General Mitigation Strategies –

- Monitor water risk annually using the World Resources Institute's Aqueduct Water Risk Atlas¹.
- Complete a detailed assessment every 3 years or when there is a significant change in your brewery's organization, strategy, or risk level.
- Develop action plans, goals, and objectives. Consider brewery-specific risks as identified in the BA Water Risk Assessment tool and opportunities when developing goals and targets.
- Identify opportunities to engage in community water initiatives and challenges (e.g., watershed councils, collective action initiatives, university research, water-related events).
- Use unique insights from the Water Risk Assessment tool as you build and implement water stewardship initiatives and strategies in your brewery and community.
- Implement a plan to monitor changing watershed conditions with defined accountabilities and an escalation process if conditions change.

If your brewery has a **medium composite water risk score**, as described in the BA Water Risk Assessment tool, execute everything recommended for low risk plus the following:

- Research and understand the unique, site-specific risk conditions.
- Conduct annual research on changing watershed conditions.
- Develop risk mitigation plans that address site specific threats.

If your brewery has a **high composite water risk score**, execute everything recommended for low and medium risk plus the following:

- Research and understand local risk drivers and how they translate to business risk.
- Conduct a [formal source vulnerability assessment](#). A source vulnerability assessment is a systematic review of weaknesses in a critical supply system. It evaluates if the system is susceptible to any known vulnerabilities and recommends remediation or mitigation.

Short Term Action Planning —

If your brewery has a **low composite water risk score** as described in the BA Water Risk Assessment tool:

- Practice water conservation and monitor water use in your processes.

- Consider more aggressive water use reduction targets.
- Implement risk mitigation strategies that relate to the high-risk factors.

Managing Physical Risks —————

Water-related physical risks² include having too little water, too much water, or water that is unfit for use. Scarcity can halt production simply because there is not enough water for production. Flooding can disrupt the flow of operations because workers must tend to the effects of the flood rather than work. Contaminated water supply may require additional investment and operational costs for pre-treatment. Availability and affordability of clean water may affect the interest or ability of customers to purchase or use certain water-intensive products and services.

Mitigation Strategies for Physical Risks

- Create a cross-functional water team specifically charged with driving water management programs. Incorporate a water-focused employee awareness campaign to enhance the “water culture” in your brewery.
- Understand basic water use by conducting a mass water balance or similar analysis of basic water sourcing, use, and discharge. Continually monitor brewery water usage.
- Benchmark against like breweries using the [BA Benchmarking Tool](#) and 5-year reports.
- Install consistent reporting or metering across all brewery operations to allow for more effective water conservation strategies and standardization across all processes.
- Establish good housekeeping – eliminate leaks, turn off water when not in use, minimize single use water that goes directly to sewer, etc.
- Identify water optimization opportunities (reduce, reuse, recycle) with an initial focus on water intensive processes, equipment and utilities such as process cooling, make-up water for cooling towers, evaporators, condensers, and boiler feed.
- Conduct a [source water assessment](#) to establish base knowledge about current and alternative water sources. Implement a [source water protection plan](#) to ensure supply reliability and business continuity (e.g., back-up supply options, on-brewery water storage, etc.).
- Manage wastewater effluent to ensure compliance and control negative impacts on receiving bodies.

Managing Regulatory Risks —————

Water-related regulatory risks² include changing, ineffective, poorly implemented, and inconsistent water policy and regulations. Global water challenges, unsustainable industrial water practices, and increased concern among local communities about water scarcity and pollution are all putting pressure on local authorities and policymakers to consider water reallocations, regulations, and development of water. In many countries, water service providers are considering pricing policies that promote greater efficiency to curb water scarcity. In others, governments are regulating industrial effluent to clean up their rivers, lakes, and streams.

Mitigation Strategies for Regulatory Risks

- Ensure a process is in place to identify and track water-related regulations applicable to the brewery (e.g., permits, limits, reporting requirements and emerging regulations). Develop a registry of regulations and ensure that it is regularly reviewed and updated.
- Conduct a periodic assessment of compliance with water-related regulations and ensure that findings are corrected in a timely manner.
- Establish proactive, periodic dialogue with regulatory agencies and water service providers. Consider developing a standard agenda for engagement and interaction on water-related topics. Utilize these relationships to gain insights on the sustainability of water supplies, emerging issues, and opportunities to work with agencies and providers to address water sustainability issues and policies.
- Monitor changes in water costs (intake cost and discharge fees). Consider utilizing a “true cost” of water approach that looks at direct cost, chemicals and filters, heating and cooling, transport, fines/penalties, and operations and maintenance to better account the full cost of water to the brewery.

Managing Social and Reputational Risks —————

Water-related social and reputational risks² include expectations about corporate responsibility which are increasing all around the world and water-related business risks stemming from stakeholder perceptions that a company does not conduct business in a sustainable or responsible fashion. Affected communities, civil society, investors, consumers, and the general

public are increasingly engaged in issues of water sustainability. Inefficient water use or excessive pollution by a company in a sensitive watershed, whether real or perceived, can be incredibly damaging to a brewery's brand reputation and ability to conduct business.

Mitigation Strategies for Reputational Risks

- Conduct stakeholder mapping to identify key regional and local stakeholders that may have interest and/or influence on the brewery and company reputation.
- Monitor prioritized stakeholders as a means by which to keep track of water-related community issues, concerns, and opportunities.
- Proactively communicate company aspirations, strategies, and goals to key external stakeholders and suppliers to demonstrate that each brewery is an active participant in community and watershed issues.
- Build local capacity for water-related community engagement including training employees to become "water ambassadors" for the company's water strategy. Actively encourage participation in collective action opportunities that provide business value.
- Evaluate opportunities for community leadership, including watershed protection related educational partnerships, research support, and/or donation of technical skills.
- Aspire to position your brewery, especially those in risk or stressed locations, as having [net positive or water neutral impacts on the local watershed](#).

Conclusion

Proactive management and planning means taking action today to prevent and/or reduce future anticipated impacts on business operations. Addressing water risk helps breweries improve their resource stewardship, management policies, and conversations surrounding governance and regulations. Informed decision making based upon an understanding of your brewery and community's vulnerabilities, hazards, and opportunities, allows for responsive, proactive, and robust water-related business risk mitigation plans and strategies.

Resources

1. World Resources Institute. "Aqueduct Water Risk Atlas," October 6, 2021. <https://www.wri.org/data/aqueduct-water-risk-atlas>.
2. The CEO Water Mandate. "Identifying Water-Related Business Risks," n.d. <https://ceowatermandate.org/accounting/core-functions/>.

