All Sports Are Water Sports

A Water Playbook for Sports and Entertainment
DEAR COLLEAGUES,

We are excited to present the first-ever Playbook on Water for Sports & Entertainment Venues. This playbook will set the stage for why water matters and how venues can become driving forces for water protection and restoration. Through sharing lessons learned and practical approaches to reduction, reclamation, reuse and replenishment; we, together, can help ensure our communities become more resilient to growing impacts from climate and other stressors.

Access to clean and affordable water is essential to the sports industry and our collective health and well-being. Yet, for many across the U.S., this access is either unattainable or threatened due to issues such as lack of investment in aging infrastructure, pollution problems or the increasingly disruptive effects of flooding and drought due to climate change. As stated by the United Nations and outlined in Sustainable Development Goal number 6: Ensure access to water and sanitation for all, access to safe water, sanitation and basic hygiene is the most basic human need for health and well-being. We must not take this basic right for granted.

In 2022, more than half of the U.S. was in drought, which threatens our primary water sources and puts increasing pressure on U.S. agriculture and our overall economic health. Intense rainfall and flooding in other parts of the U.S. during 2022 caused damage to many communities and sometimes overwhelmed the capacity, pumping and treatment abilities of water systems. These events reveal the inadequacy of infrastructure never designed for such a volatile and unpredictable climate.

The impact to our communities and fans is critical to address. Presently 2.2 million people in the U.S. do not have access to clean and affordable water, which creates undue stress at home and at school, and can negatively impact their health. Families lack access to water to cook meals or for bathing. They experience increased financial and logistical stress related to purchasing bottled water, and water stress creates concerns about sufficient water pressure for fire suppression and other important community services.

It’s clear that more investment, more assistance and more leadership from individuals, policymakers, businesses and increasingly from the members of the Green Sports Alliance, is needed to protect our essential water resources. Sports and entertainment venues have an opportunity to be good water stewards and lead by example.

I hope that this playbook provides you with the inspiration, resources and examples necessary to start your own journey to ensuring water remains safe, reliable and accessible for all of our communities.

ROGER MCCLENDON
GREEN SPORTS ALLIANCE EXECUTIVE DIRECTOR
The Green Sports Alliance (GSA) and lead author, Dune Ives, Ph.D., CEO of Movements That Matter, co-Founder and GSA Board Member, are grateful to the following individuals and organizations for their contributions to the first-ever Water Playbook for Sports and Entertainment Venues. Their contributions have helped ensure this playbook reflects the opportunity and challenge to ensure that we are all Playing for the Next Generation!

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Water seemingly is everywhere - on the Earth’s surface in the form of rivers, lakes, streams and the ocean; on mountain ranges in the form of snowpack; on landmasses in the form of glaciers and in the ground in the form of groundwater in aquifers. In fact, water covers nearly 71% of the Earth’s surface!  

With this abundance of water, it may seem reasonable that our communities would have access to clean, ample and affordable water. Yet, less than 1% of the Earth’s water is available freshwater; 59% is used for industrial purposes, 33% for agricultural production and a mere 8% is used for domestic purposes.  

Water enables households to cook food, bathe, wash hands, fight disease and prevent illnesses. Access to safe and reliable water enables our communities to thrive. We depend upon access to water to fight fires, protect essential green spaces and parks and provide safe sanitation services. Regionally, water is critical to ensure healthy and abundant freshwater ecosystems and watersheds that provide habitat to essential species. 

Water is essential to life and a life well lived. 

Although global water use has nearly tripled since 1950, 1.2 billion people around the world still do not have access to basic levels of water service. Domestically, while the lifestyle of many of us demands 1,800 gallons per day - more than twice the global average - we are also facing a water crisis with more than 2.2 million people living everyday without access to clean, reliable running water and basic indoor plumbing.  

“MANY AMERICANS SEE WATER POVERTY AS AN ISSUE AFFECTING ONLY LOW-INCOME COUNTRIES FAR AWAY AND ARE COMPLETELY UNAWARE THAT THE SAME CRISIS EXISTS RIGHT IN THEIR OWN BACKYARDS.”  

“Draining: The Economic Impact of America’s Hidden Water Crisis,” 2022
Sports and entertainment venues are a natural gathering spot for our communities, a place for celebration, for education and for inspiration.

Sports and entertainment venues are inextricably linked with broader ecosystems and the watersheds in which they are located. The water use practices for drinking, irrigation, wastewater and stormwater affect the health of our local waterways, which will determine the availability of clean water for generations to come.

When the Green Sports Alliance was created in 2010, we recognized the opportunity to showcase venues as leaders in recycling, renewable energy and waste reduction in an effort to support and evolve their communities’ practices and policies. These efforts have done just that by inspiring and educating fans - young and old alike - informing new technologies and material supplies, and supporting new policy development that ensures broader environmental sustainability. Importantly, these efforts have also improved the bottom line of the venues themselves!

If there is magic on this planet, it is contained in water.

Loren Eiseley, Anthropologist
During an era when...

- We understand that the freshwater we have now is the water we have had and will always have. The water that is consumed today might possibly be the same water that once trickled down the back of a wooly mammoth;¹
- We acknowledge that the clean freshwater water we need is not always available to those who need it, when and where they need it most;⁶
- Water managers across 40 US states anticipate experiencing water shortages by the year 2024;⁷
- There is recognition that management of water resources including drinking water, stormwater, and wastewater infrastructure requires an integrative and holistic approach;⁸
- Our aging domestic water, storm, and wastewater infrastructure continues to face funding shortages for repair, replacement, and maintenance,⁹ and water utilities are facing considerable workforce shortages;¹⁰
- Climate change is increasingly volatile and disruptive, impacting where, when, and how much water is available to people and to nature,¹¹ and is placing additional stress on already aging drinking, wastewater, and stormwater infrastructure;¹²
- Global water use, storage and distribution contributes 10% of global greenhouse gas emissions, making it key to the net-zero transition;¹³
- Water is central to the operation of Sports and Entertainment venues.¹⁴ Without water, the show cannot go on;
- Significant cost savings and revenue from partnership deals can be made through an increased emphasis on water.

...we are presented with both a great opportunity and a great challenge to increase the resilience of our communities to prepare for and respond to the future adverse impacts of climate change on the quality and availability of our most precious resource: water.¹⁵
To achieve this objective, it is imperative that our community come together to protect water. Fortunately, just as in 2010 when there were early and emerging leaders on waste, recycling, and renewable energy, there are already many examples of sports and entertainment venues that have begun to lead on water efficiency, water reuse, and water replenishment!

Further, sports and entertainment venues are high-volume, closed systems - the perfect environment to test new products, processes, partnerships, and policies that improve water efficiencies, water capture, and water reuse. Learnings from these venues have the opportunity to influence venues of all shapes and sizes, thereby scaling the impacts of Green Sports Alliance members.

NOW IS THE TIME FOR WATER.
The Green Sports Alliance Water Playbook for the Sports and Entertainment Venues provides a foundation of knowledge, practice and inspiration to those who own, operate, manage, advise, service, design and build stadiums, arenas and fields. This playbook is meant to establish a common language on water and shared expectations on the issues we are facing with our domestic freshwater supply.

This playbook focuses on four key strategies across drinking water, wastewater and stormwater management:

1. **Strategy 1**: Understand your Water Baseline
2. **Strategy 2**: Water Efficiency
3. **Strategy 3**: Water Reuse
4. **Strategy 4**: Water Replenishment & Ecosystem Stewardship

Each strategy provides baseline knowledge and resources for you to further explore the concepts presented and a corresponding Green Sports Alliance member case study designed to share lessons learned, best practices and tips for your future success.

We’re excited you have joined us on this journey to ensure our communities have access to an abundant supply of clean and affordable water to support all needs, for all people, well into the future.
The first step to achieving greater water productivity and stewardship is to develop a baseline of water usage across the entire footprint of your sports and entertainment venue, from processes to landscaping and sanitary uses.
IF AMERICA’S MOST POPULAR SPORTS CAN ADJUST THEIR TECHNIQUES TO ADAPT TO A NEW NORMAL, THEN SO CAN THE PEOPLE ATTENDING THE GAMES. AND THAT LARGER ACTION, AND THE AWARENESS IT BUILDS, MIGHT LEAD TO A MORE WATER-WISE FUTURE.

“Even Sports Stadiums Have to Adapt to the Southwest’s Water Crisis,” New Republic 2023

Establishing a baseline of usage does two important things:

1. Knowing where, when and how often water is used will define your efficiency improvement strategy. Is it really grass fields that are using the most water, or could it be the dining, cooling or restrooms and other daily operations that use considerably more water for some venues?

2. Enables teams and venues to set water reduction, reuse and replenishment targets, demonstrating leadership and achieving operational savings.

Further, establishing a baseline enables owners and operators to understand their current and future water-risk profile. In a growing environment of aging infrastructure and water-scarcity risk, a venue should anticipate risks of service disruption and proactively lead by example, particularly in communities with water-scarcity risk.

Individual venues as well as leagues are each in a different stage of their journey in establishing a baseline of water usage across the annual life cycle of the sport and the venue. Some have developed a solid understanding of their water usage but have not yet begun to take action. Others are well on their way to improve usage through efficiency and water reuse. Still others have gained an understanding of where their water comes from and goes after being used by the venue and are now working to replenish water in their community. The Water playbook provides value to all members at all stages in their development.
In 2000 the U.S. Geological Survey estimated that 408 billion gallons of water per day are withdrawn in the U.S., of which 34% is for irrigation. Although a mere (est.) 0.5% of the total withdrawn is for golf course irrigation, water for irrigation remains golf’s number one use of water resources.

The U.S. Professional Golf Association established its first baseline in 2006 estimating golf course irrigation accounted for 2.379 million acre-feet of water per day, with considerable variability across different regions of the U.S. When evaluated again in 2013, U.S. golf courses used an estimated 1.859 million acre-feet of water in 2013, a 21.8% decrease from 2005. (Note: One acre-foot is equal to 325,851 gallons of water and is the equivalent of an acre of land covered with water to a depth of one foot.)

Equally important to understanding the baseline of water usage is knowing where water is sourced for irrigation. This enables golf course owners and managers to understand the total water-risk profile associated with the operations of the golf course.

As seen below, there was a marked increase from 13% to 25% of water for irrigation sourced from recycled water.

Waters sources for U.S. golf courses, 2005 vs. 2013

In their seminal sustainability report, the National Hockey League estimated that each hockey game requires an average of 247,746 gallons of water. With 1,236 games during the 2014-2015 season, that would account for 304,727,580 gallons of water used across the National Hockey League teams and venues. In FY14 total water consumption (including NHL offices and NHL-affiliated activity from NHL arenas) was 405 million gallons and increased .28% in FY15 to 406 million gallons. In FY16 they saw a 6.65% decrease to 379 million gallons.

But, where is that water used?

Some of the change in consumption could be due to variation in weather and total number of games in a year. However, NHL arenas— just like football, basketball, baseball and others - use water across a variety of areas: pressure washing seating and stairs post-event, washing machines for uniforms, showers for the team, restrooms, drinking water for fans and an estimated 12,000 to 15,000 gallons of water just to make the ice rink on which the game is played.

With their baseline to guide the way, the National Hockey League and affiliated arenas can now more effectively track and report on total water consumption and find opportunities to increase water productivity, save money and invest in watershed replenishment activities (referred to in Strategy 4).
To establish baseline water consumption, it is recommended that each venue review a minimum of three years of monthly water utility billing history from the venue’s water service provider.

If multiple sources of water (rainwater catchment, recycled, potable utility supply, etc.) are used at the facility, all metered sources should be captured in the baseline total use. Data for both incoming and outgoing water volumes should be collected so that evaluating impacts on local treatment plants and for assessing onsite reuse potential can be measured.

Three years provides added protection against abnormally hot years that could skew baseline metrics. The volume of water used can vary from year to year based on weather, and an abnormally hot year could require 20% or more water for irrigated fields than cooler years.

NOTE: The years 2020 and 2021 should be excluded due to pandemic conditions that limited audience attendance in facilities.

As your venue’s use profile changes over time, this baseline profile will be important to establish comparable metrics for future comparisons and for prioritizing your efficiency and reuse strategies.

As your venue expands in size or changes its use profile, it’s important to note the timing of when those changes occur. For golf venues, the total acreage in the course of play should be used and tracked year over year as course changes occur. For instance, if a course expands from 36 holes to 54, noting the timing of the additional acreage is critical to evaluating efficiency against the baseline.

In cases where outgoing metered use is not available or where you identified the lack of sub-metering on specific indoor and outdoor water systems, make plans to install flow metering. This will allow you to make more precise plans and strategic investments in water efficiency and water reuse.
Given the urgency surrounding the availability and quality of freshwater, many corporations are beginning to establish their baseline water usage and set enterprise-wide water targets.

**CEO Water Mandate:** The CEO Water Mandate published a definitive guide to setting an enterprise water target, which presents a series of important steps to anyone looking to establish a baseline and targets that affect the broader watershed in which a company operates. The same approach can be applied league-wide and at the individual venue level.

**Play to Zero:** “Play to Zero” in Arc offers sports venues a comprehensive solution to input, track, and benchmark their energy performance. Designed for sports venues, Play to Zero aims to shift towards net zero energy operations within the sports industry. As a performance-based framework that enables all stakeholders to come together, enhance their practices, and recognize exemplary leadership and performance, Play to Zero strives to create a sustainable future for the sporting community while celebrating milestones along the way.
Once a baseline of water consumption has been established, you can begin to employ a strategy of reduction through efficient technology and other actions.
As with any environmental process, the most effective choice is initial-use reduction. Use reduction impacts the resource you are trying to protect— in this case potable water— and reduces the long term operating costs related to the resource, opening more opportunities for further water use reduction. Within a sports and entertainment venue there are many places you can turn for water-use efficiency including, but not limited to, the following:

**Restrooms**
Install low-flow plumbing fixtures and waterless urinals, including in the team locker rooms. Since 1992, the amount of water used by plumbing fixtures has been progressively reduced by 69% for toilets, 73% for showers, 93% for faucets and 94% for urinals. Some jurisdictions do not allow waterless urinals, and waterless urinals can pose a learning curve for users and operations staff. Not all plumbing fixtures make sense to have reduced flow. If a fixture is being used to fill a vessel, such as a mop bucket, the increased time to fill can substantially increase labor cost. Making the right decisions is about getting the correct advice.

**Cooling Towers**
Arenas and venues cooled with the use of water cooling towers can be optimized to improve cycles of concentration and operate with greater efficiency. Alternate products are also available such as adiabatic coolers, which, instead of using large volumes of water passing over open grids, use closed coils with sprays to achieve the same cooling. An adiabatic cooler can save up to 95% of the water that a cooling tower uses.

**Grounds & Landscaping**
Implement automatic timers to ensure the right amount of water is being applied at the right time. Replace water-thirsty landscaping with drought-resistant plants, shrubs, ground cover and trees. Finally, learn how others have created efficiencies with field irrigation. Alternate forms of irrigation can reduce water usage. Sprinklers are 65 to 75% effective at applying water to the plants while drip irrigation is 90% effective and also reduces evaporation and runoff considerations.
Investigate Water Waste
Look for places where water may be running when it shouldn’t be, and install sub-meters on key water management infrastructure to help identify leaks and other inefficiencies. The EPA indicates that the national average for water lost to leaks in potable water delivery systems is 14%. In a large sports facility these losses aren’t always obvious. Hidden drains, faucets left running or even backup cooling systems that are not monitored can lead to substantial water loss.

Maintain & Repair Existing Systems
A schedule of regular maintenance and care of existing systems will help ensure they perform the way they ought to perform, reducing the chance for leaks and additional water usage.

Improve Existing Processes
For example, to save on water used to spray down stadiums postgame, evaluate ways to decrease the amount of waste left behind by fans.

Appliances
Be sure to install water efficient appliances and find opportunities to use appliances that don’t need water in applications where water was traditionally used.

Evaluate Existing Heating and Cooling Systems
Consider a tune-up to ensure performance is maximized and water usage is minimized.

Evaluate Ice-Making Machines
Ensure your ice-making machines are running as efficiently as possible.

WATER IS THE DRIVING FORCE OF ALL NATURE.
Leonardo da Vinci
Recognizing the importance of addressing water usage, the U.S. Green Building Council established the LEED v4.1 Water Efficiency category. Following are the requirements for the built environment, which begin with installing meters to ensure you can meter at the system and subsystem level.

- Installation of permanent water meters that measure the total potable water use for the project, and installation of submeter water subsystems to identify where exactly water is being used.

- Irrigation of outdoor spaces must be shown to either be unnecessary or to be reduced by at least 30% from typical figures through the selection of native or adapted plants for landscaping, alternative water sources for irrigation or irrigation efficiency measures.

- Using appliances with certain efficiency standards is mandatory, as is the installation of WaterSense-certified, low-flow fixtures to reduce indoor water use.
Water sources are considered “reused” after they are assessed for a new use and treated and verified to meet the appropriate and applicable fit-for-purpose specifications. Water reuse is an effective strategy to complement and extend your venue sustainability efforts.
Water sources are considered “reused” after they are assessed for a new use and treated and verified to meet the appropriate and applicable fit-for-purpose specifications (e.g., protection of public health) for the end use application. These fit-for-purpose specifications may be established by a regulatory or management entity (e.g., a state) or by the end user.

Water reuse is an effective strategy to complement and extend your venue sustainability efforts by achieving the following objectives:

- Increased water security
- Increased water sustainability
- Increased water resilience

However, before beginning a water use program, it is important to understand local and regional regulations, including expectations regarding water treatment and the sources for water reuse. Some local and regional regulators will have testing standards for the treated water to prove system efficiency. If the regulators do not have these standards, you may want to develop your own testing program to prove the effectiveness of your system. Sources of water for potential sports and entertainment facility reuse can include greywater, process and cooling water and stormwater (including captured rainwater).

Black water, which is highly contaminated water or water containing fecal matter, can be treated and may be a potential out-of-the-box source of additional water offset. This would be a very difficult process and will need buy-in from regulators at multiple levels of government. It will also require sewage treatment facilities at your facility, though micro sewage treatment plants are available. Never discount an option without giving it some consideration, but also understand the risks involved in that option.
The LEED v4.1 BC+D Water Efficiency category outlines a recommendation to support water recycling and reuse. A new option in the former Cooling Tower Water Use credit addresses water used for mechanical processes. This credit encourages the recycling and reuse of non-potable water for cooling and mechanical building needs.

Additional examples of reuse applications include landscape and field irrigation, pressure washing stadium seating, using recycled water to make ice rinks, industrial process and cooling and onsite non-potable use such as toilet flushing. In one inspiring example, captured rainwater from Etihad Stadium (Manchester City) was used to make beer to raise awareness about water stewardship.

Whatever your desired end state for the reclaimed water, it is critical that the source of water for potential reuse is appropriately treated per relevant regulations and verified to meet applicable fit-for-purpose specifications to protect public health, the environment and any other particular end user needs or quality endpoint.

It may be helpful to work with a service provider that has performed water reuse initiatives with other large venues. Be sure to explore with regional water experts projections for future water availability and climate change impacts. By taking these important steps, you will be able to design the most resilient and responsive water reuse system to fit your venue and community needs.

To mark Manchester City's 2018/19 title winning season Xylem and Manchester City teamed up to create a water smart, planet friendly way for fans to toast the team's success. Taking advantage of Manchester's abundant rainfall, Xylem introduced raining champions - a handcrafted beer made with Manchester rainwater collected from the Etihad Stadium roof. Once enough rainwater was collected a range of Xylem water technologies were used to purify it including filtration, ultra-violet light and powerful oxidation. Next, the clean water was taken to the nearby Heineken Manchester brewery where it was turned into beer and each bottle was crowned one of our raining champions, all ready for the final stage, celebrating the Premier League's raining champions – Man City!
RESOURCES: WATER REUSE LINKS

LEED v4.1 BD+C: Rainwater Management Credit

WRAP: National Water Reuse Action Plan

Leading Companies: Industrial Water Reuse Champions

WateReuse Association: State Regulation Information

THERE IS NO SUCH THING AS WASTEWATER; ONLY WATER WASTED.

King Willem Alexander of the Netherlands, World Water Day 2012
STRATEGY 4

WATER REPLENISHMENT & ECOSYSTEM STEWARDSHIP

Everything you do to replenish and protect your watershed and broader ecosystem will make a marked difference for your community.
Traditionally, water replenishment has referred to the natural replacement of water when rain, stormwater and the flow from rivers, streams and creeks seeps into an aquifer, or it refers to the intentional replacement of ground water back into the aquifer. However, more recently replenishment has taken on an expanded definition that includes improving water quality, expanding water access and availability and bringing clean water, sanitation and hygiene services to water-stressed communities.

In the context of sports and entertainment venues, water replenishment can be characterized as:

- An extension of your commitment to being a good steward of your region’s natural resources.
- Efforts that ensure the broader community served by your venue has the water resources it needs today and well into the future.

There are many examples of water replenishment, and certainly there is no one-size-fits-all approach to take.

The water replenishment efforts that will make the most impact will meet the following conditions:

- quantifiable
- socially beneficial
- achieve “additionality”
There is also an opportunity for sports and entertainment venues to take a broader ecosystem stewardship perspective. Here, venues work to protect local watersheds through partnerships with local utilities and the communities they serve. These venues can mitigate or prevent water pollution using the following strategies:

**Green Infrastructure**
Use green infrastructure to slow down runoff from heavy storms, reuse the water onsite and help remove pollutants by allowing plants to filter out pollutants as the water slowly infiltrates the ground.

**Pervious Pavement**
Use pervious pavement to ensure less water carrying toxins from vehicles flows out to rivers, streams and lakes during heavy storms from urban paved streets.

**Avoid Microplastics**
Install filters in washing machines to capture microplastics from polyester and acrylic materials found in team uniforms, thus preventing these microplastics from flowing into wastewater treatment facilities and rivers.

**Replace Single-Use Plastic**
Eliminate single-use plastic waste by installing water refill stations, promoting use of reusable bottles and replacing single-use plastic and bioplastic cups with more sustainable alternatives and refill options.

**Pesticide Elimination**
Eliminate use of harmful pesticides and agrochemicals for field and landscape maintenance.

**Support Local Organizations**
Extend your impact by partnering with and supporting local water stewardship organizations.

**Utility Support**
Learn more from your local water utility about the opportunity to promote workforce development in water and support continued investment in local water systems and conservation.
**STRATEGY FOUR**

**WATER REPLENISHMENT & ECOSYSTEM STEWARDSHIP**

**RESOURCES: WATER STEWARDSHIP LINKS**

- **LEED v4.1 BD+C:** Rainwater Management Credit
- **Water Stewardship:** Bonneville Environmental Foundation
- **Salmon Safe Certification:** Protect Pacific Northwest Water System
- **Freshwater Trust:** Watershed Restoration
- **Water Stewardship Certification:** Alliance for Water Stewardship

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*PINDAR (C. 522-C. 438 B.C.), Olympian Odes*
YOUR WATER JOURNEY

FIVE STEPS FOR STARTING AND PROGRESSING ON YOUR PATH TO WATER STEWARDSHIP
FIVE STEPS OF YOUR WATER JOURNEY

STEP 1 - COMMIT

- Secure support and commitment from your leadership to develop a plan to improve your water footprint.
- Recruit your team - local utility, local vendor, broader watershed partners.
- Establish a near-term game plan with objectives, activities, timeline and roles and responsibilities across your team.

STEP 2 - LEARN

- Review the resources provided in this playbook to learn more about water and water stewardship strategies.
- Refer to the resource contained in this playbook - Strategy #1: Understanding your Baseline to establish a baseline of your water consumption. Here, you may find it helpful to work closely with your local utility and key vendors to help you understand:
  - Where water is used
  - Where your water is coming from and going to
  - Where water is being wasted
  - Where water can be used more efficiently
- Develop an understanding of how your venue is positioned within your local and regional watershed.
- Learn more about water equity issues in your community including the water risks and sources of water stress that currently and are projected to exist.

STEP 3 - PLAN

- Set your reduction, reuse and replenishment targets that:
  - are specific, measurable, achievable, relevant and time-bound.
  - maintain accountability, internally and externally.
  - have undergone external review with key experts to ensure credibility and transparency.
  - attract broad internal support and resonate with external parties.
- Develop your plan, which should include:
  - Key activities and timeline for execution
  - Budget and other needed resources
  - Internal leadership and team identification
  - External partners responsible for supporting your work
FIVE STEPS OF YOUR WATER JOURNEY

STEP 4 3 E'S

The 3 E's: Execute, Evaluate, Evolve

- Set your plan in motion!
- Monitor performance and compare against your baseline.
- Identify course corrections to be made to improve your overall water consumption, reuse and replenishment goals.
- Share your plans with your sponsors, your service providers and your fans so that they can join you in achieving your goals:
- October 6th is National Green Sports Day where venues like yours share their commitments.
- U.S. Water Alliance holds an annual “Imagine a Day Without Water” campaign.

STEP 5 CELEBRATE

- This is hard work! Make sure to take time to recognize the seemingly small wins and congratulate the team!
- Share your story with the Green Sports Alliance for a future feature in our playbooks!
- Share your story through your communications channels!
- Consider submitting your effort to the U.S. Water Alliance’s US Water Prize, the Green Sports Alliance’s Environmental Leadership Award or its annual Play to Zero Award or other awards that give your team the recognition it deserves and helps to inspire others to Play for the Future!

PLAYING FOR THE NEXT GENERATION

GREEN SPORTS ALLIANCE
All Sports Are Water Sports

Glossary of Terms

**Additionality:** Additionality refers to the net result of an intervention and determines whether that intervention had an effect when compared to a baseline.

**Available Freshwater:** Water classified as usable and that can be accessed by humans.¹

**Black Water:** Also referred to as sewage or brown water, black water contains fecal matter, urine, or contaminants such as pathogens and grease that come from bathrooms, toilets, kitchens, and dishwashers.

**Drinking Water:** Water that is used in drink or food preparation; potable water is water that is safe to be used as drinking water.

**Ecosystem:** A biological community of interacting organisms and their physical environment; a complex network or interconnected system.

**Grey Water:** Grey water, also spelled as ‘gray water,’ is water that already has been used domestically, commercially and industrially. This includes the leftover, untreated water generated from washing machines, bathtubs and bathroom sinks.⁵³

**Groundwater Replenishment:** Groundwater replenishment (or groundwater recharge) is the mechanism by which surface water moves from the overlying land surface and into the aquifer below. Replenishment can be accomplished when surface water moves through the topsoil and subsurface or through injection of water directly into the aquifer through wells.⁴¹

**Integrated Water Resources Management:** A process that promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.⁴²

**Public Water Systems:** A public water system provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year.⁴³

**Rainwater:** Water that has fallen as or been obtained from rain.

**Stormwater:** Water generated from rain or snowmelt events that flows over land or impervious surfaces.⁴⁴

**U.N. Sustainable Development Goal 6:** Goal 6 seeks to ensure safe drinking water and sanitation for all, focusing on the sustainable management of water resources, wastewater and ecosystems, and acknowledging the importance of an enabling environment.⁴⁵

**Wastewater:** Used water. It includes substances such as human waste, food scraps, oils, soaps and chemicals.⁴⁶

**Water:** Water is the liquid that descends from the clouds as rain, forms streams, lakes and seas. It is a major constituent of all living matter. When pure, water is an odorless, tasteless, very slightly compressible liquid oxide of hydrogen H₂O which appears bluish in thick layers, freezes at 0 degrees Celsius and boils at 100 degrees Celsius. It has a maximum density at 4 degrees Celsius and a high specific heat, is feebly ionized to hydrogen and hydroxyl ions, and is a poor conductor of electricity and a good solvent.

**Water Conservation:** Water conservation means the efficient management of water resources for beneficial uses, preventing waste or accomplishing additional benefits with the same amount of water.⁴⁷
**Water Quality**: Water quality can be thought of as a measure of the suitability of water for a particular use (e.g., drinking or swimming) based on selected physical, chemical and biological characteristics. A note: Water quality is a growing issue of great importance. Through intentional and good stewardship of water there will be ancillary benefits for quality in waterways. This is especially true of good stormwater management. However, the topic of water quality needs greater exploration than is available in this playbook. Learn more about water quality by connecting directly with your local water utility.

**Water Resilience**: The ability of a water supply (e.g., a community water system or an asset of a community water system) to adapt to or withstand the effects of rapid hydrologic change or a natural disaster.

**Water Reuse**: Water reuse (also commonly known as water recycling or water reclamation) reclaims water from a variety of sources then treats and reuses it for beneficial purposes such as agriculture and irrigation, potable water supplies, groundwater replenishment, industrial processes and environmental restoration.

**Water Security**: The capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being and socio-economic development; for ensuring protection against water-borne pollution and water-related disasters; and for preserving ecosystems in a climate of peace and political stability.

**Water Sustainability**: Ensuring an adequate, reliable and continual supply of clean water for human uses and ecosystems.

**Water Equity**: Equity refers to just and fair inclusion - a condition in which everyone has an opportunity to participate and prosper. Water equity occurs when all communities have access to safe, clean, affordable drinking water and wastewater services; are resilient in the face of floods, drought and other climate risks; have a role in decision-making processes related to water management in their communities; and share in the economic, social and environmental benefits of water systems.

**Watershed**: The land area from which water drains into a stream, river or reservoir. The watershed for a major river may encompass a number of smaller watersheds that ultimately combine at a common point.

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*All the water that will ever be is, right now.*

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