

The Tide Is High

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[dropcap]S[/dropcap>ometimes water problems at a site don't come from snowmelt or rain, but from rising sea levels. Unfortunately, one site battling this issue is the U.S.'s most visited national park, the National Mall Tidal Basin in Washington, DC.

The 107-acre Tidal Basin plays host to Washington's famous Cherry Blossom Festival and comprises five important memorials, including the Jefferson Memorial. Last year, it was visited by more than 35 million people.



Washington, DC's cherry trees, known for their beauty and the annual festival, are threatened by rising sea levels. (Photo: Sam Kittner/National Trust for Historic Preservation)

Daily Flooding

Part of West Potomac Park, the Tidal Basin was first built in the 1800s to harness the tides in the Potomac River to flush silt and sediment from the Washington Channel. Twice a day at high tide, 250 million gallons of water from the Potomac River enter the Tidal Basin through the inlet gates, according to the National Park Service (NPS). As the tide turns, water trying to flow out of the inlet gates causes the gates to close, and the outlet gates on the Washington Channel side of the Basin open. The rush of water out of the Tidal Basin sweeps away any silt or sediment built up inside the Washington Channel, keeping it navigable. Water from the Tidal Basin is also used (via a pumping system) to maintain water levels in the Lincoln Memorial Reflecting Pool.

Unfortunately, today the Tidal Basin is threatened by rising sea levels, crumbling sea walls, and outdated infrastructure. Currently, walkways surrounding the Tidal Basin are flooded daily at high tide, making them impassable for visitors and damaging the roots of the cherry trees. It's estimated that as much as \$500 million is needed to upgrade and maintain the park. This year, it was added to the National Trust for Historic Preservation's list of America's 11 Most Endangered Historic Places.

The Ideas Lab

As a result, a national campaign was launched last April by the National Trust for Historic Preservation and the Trust for the National Mall—in collaboration with NPS—to address these pressing issues. The centerpiece of the initiative is the Tidal Basin Ideas Lab. This 18-month initiative, presented by American Express, is a forum for architectural and structural engineering firms, a wide range of stakeholder groups, and the public at large to contribute to the development of a vision to preserve the Tidal



Basin for the next 150 years.

Specifically, five landscape architecture firms were named this past October to join the Ideas Lab. The firms include: DLANDstudio; GGN; Hood Design Studio; James Corner Field Operations; and Reed Hilderbrand. The firms will propose solutions to major challenges such as security, circulation, civic stage, cultural landscape, connectivity, conservation, resilience,

infrastructure, and visitor experience. According to a release from Reed Hilderbrand, “Unlike a traditional design competition, the Ideas Lab, will be an incubator for innovative, big-picture ideas and solutions.”

It continues, “The Tidal Basin allows Reed Hildebrand to address the impact of sea-level rise on a significant cultural landscape. Founding principal and project lead Gary Hilderbrand explained, ‘With the Ideas Lab, our generation can demonstrate how to negotiate the forces of change affecting this place – which are larger than we are – but can be addressed through the work of landscape architecture.’”



At high tide, the walkway surrounding the National Mall Tidal Basin becomes impassable in places. Flooding, erosion, and tree preservation are some of the challenges five landscape architecture firms will address in the Ideas Lab. (Photos: Sam Kittner/National Trust for Historic Preservation)

Catherine Townsend, President and CEO of the Trust for the National Mall, said, “These five visionary teams are a prime example of how collaboration between distinguished experts in fields aligned with our project needs, will create solutions to help overcome the complex preservation issues affecting the treasured Tidal Basin.”

Past Project: America’s Front Lawn

Previously, the Trust for the National Mall and Parks staff oversaw the enormous task of renovating the huge stretches of turf in the National Mall. From 2010 to 2016, as work was being done, the Mall continued to be one of the most popular tourist spots in the nation.

To make the restoration as sustainable as possible, three “legs” were addressed: infrastructure, agronomy, and use management.

- The renovation of the infrastructure included engineering soils to resist compaction, choosing turf varieties that could resist foot traffic, drainage to keep the soil at optimum moisture for plant growing and avoid compaction, and an irrigation system to promote growth and

help with recovery. Hardscape was widened and increased in order to create places for event setup that is not on turf.

- The agronomy program is a continuing regimen of aerifying, fertilization, water management, regular mowing, and seeding. All of these are aimed at providing everything the turf needs – air, water, pore space, nutrients, succession, and grooming.
- Use management was in many ways the most challenging. Landscapes are generally not seen as having capacity issues or use limitations, so a great deal of outreach and education was required. Strategies included: limitations to how long stages, tents, and other structures are allowed on turf; prescribed turf protective decking; and vehicle/weight limitations.

Completed in time for the 2017 Inauguration, the young grass stood up to the intense use with the help of protective decking. Today, National Mall Park staff continue to learn more about turf durability and sustainability.

The Future

Unfortunately, preserving the Tidal Basin will prove to be even more challenging than turf restoration, but it is one its advocates are prepared to meet. Katherine Malone-France, chief preservation officer of the National Trust for Historic Preservation, commented of the national campaign, “The National Mall Tidal Basin embodies freedom, perseverance, and democratic values, and it is a place where people come together from around the country and around the world to celebrate these ideals. That is why we must bring our best innovation and ingenuity to meet the challenges it is facing.”

The Ideas Lab exhibition will continue through the fall of 2020 at which point the public will be given the opportunity to engage with the final design concepts generated by the landscape architecture firms.

For more information or to donate to the preservation, visit www.nationalmall.org.