



Maryland
Green Registry
MEMBER

The Maryland Green Registry promotes and recognizes sustainable practices at organizations of all types and sizes. Members agree to share at least five environmental practices and one measurable result while striving to continually improve their environmental performance.

National Aquarium



**NATIONAL
AQUARIUM**®

Pier 3/501 East Pratt Street
Baltimore, MD 21202
410-659-4207
www.aqua.org
Non-Profit
Member since January 2011

Management and Leadership

Environmental Policy Statement

We connect people with nature to drive conservation action for the benefit of people, animals and the planet. The National Aquarium's mission—to inspire conservation of the world's aquatic treasures—begins within the walls of our buildings, but it does not end there. We protect, enhance and restore natural resources through education and engagement, habitat restoration, animal rescue and sustainable business practices.

Environmental Team

The National Aquarium is committed to combatting climate change, saving wildlife and habitats, and stopping plastic pollution. We will accomplish these goals by protecting and restoring the environment, caring and advocating for animals, and educating and empowering people. As we work towards these important goals, we understand that to establish effective change, our sustainability efforts need to be woven into the very fabric of our work and be the shared responsibility of all staff and volunteers. The work of protecting our natural resources is integrated into departments, goals and job descriptions. Every person is an environmental steward with opportunities to learn, grow, challenge, and innovate in order to create a positive conservation impact. Interdepartmental support is provided to share knowledge and resources, develop and deliver trainings, and enhance the conversation of conservation.

In 2022, the National Aquarium committed to being net zero greenhouse gas emissions by 2035 and all departments will be working on strategies to accomplish this important benchmark for the next decade.

Annual Environmental Goals

Annual conservation goals are developed within the context of our Conservation Action Plan and include work focused on providing opportunities for conservation action to both external and internal audiences, remaining a leader in environmental stewardship and animal care and welfare, and improving environmental conditions for both wildlife and humans. We have created a mix of both long-term goals and short-term metrics aligned with our priorities that focus our efforts and address our impact.

We seek to empower each person we encounter with the knowledge and resources necessary to engage in proactive, solutions-focused work to combat climate change, save wildlife and habitats and stop plastic pollution. Through millions of interactions, and through a lens of environmental justice, we help people discover that they are very much a part of—not apart from—nature. Small actions embraced by many people have the potential to create real change.

Throughout each year, every department records and reports their conservation efforts. This information is used to create an annual Conservation Action Plan Report to highlight our successes and to measure progress from year to year. Routine meetings and a safe environment provide opportunities for innovative solutions in implementing sustainable practices.

Environmentally Preferable Procurement

In addition to sustainable procurement language included in our capital project RFPs and procurement policies, National Aquarium has set several internal standards that depend upon aligned procurement strategies. For example, we committed to getting rid of all single-use plastic water bottles within our operations in 2014 and installed water refilling stations. As of this writing we've removed 2.9 million plastics bottles from the waste stream. SSA Group, our food service providers, are well on their way to zero-waste, providing reusable, compostable or recyclable options for over 90% of our food options in our building. They also prioritize local food and only offer seafood items on the green list of the Seafood Watch recommendations. Event Network, our gift shop partners are also helping us meet our sustainability goals by enhancing transparency in their supply chain, prioritizing sustainable products and vendors and reducing plastic in shipping practices.

Environmental Restoration or Community Environmental Projects

The National Aquarium promotes conservation through research and action projects designed to restore, protect, and manage critical species or ecosystems.

- *Under leadership of the Conservation Department and a core group of volunteers, the Aquarium Conservation Team (ACT!), the Aquarium provides hands-on opportunities for volunteers to restore habitats and increase environmental awareness in the region. The goal of this action-based program is to foster awareness, inspire leadership, and promote stewardship of aquatic habitats.*
- *Since its establishment in 1999 more than 275 acres of wetland forests, marshes, sand dunes, and riparian buffers have been restored with the assistance of 17,000 volunteers. Volunteers include individuals from various environmental groups, school students, scout groups and community volunteers. These volunteers have dedicated more than 105,000 hours to the conservation of important habitats by removing over 1 million pieces of marine debris and planting more than 1.9 million native plants creating vital habitat promoting a healthy diverse ecosystem. The Conservation Department continues to provide restoration opportunities to both the Aquarium Staff and community volunteers.*
- *Waterfront Campus - After five years of experimenting with the Aquarium's newest prototype, this one-of-a-kind floating wetland has proven successful in attracting wildlife and improving the habitat and water quality in the Inner Harbor. Extensive water quality testing shows that water within the wetland stream consistently has 15% more dissolved oxygen than the water in the rest of the harbor, providing a safe haven for many species. We will build on this success by installing an additional 10,000 square feet on floating wetlands in the Inner Harbor in 2024.*
- *In 2022, the harbor also saw the installation of a newly constructed microhabitat. In collaboration with the Waterfront Partnership in Baltimore, a 100-square-foot floating island was created for turtle basking, foraging and underwater sleeping. Turtles were observed basking on "turtle island" the day after it was installed. During the spring months of April and May, it was common to see over 50 turtles basking there on warm, sunny days.*
- *The National Aquarium has partnered with The Nature Conservancy for the past 13 years to restore Atlantic white cedar habitat at the Nassawango Creek Preserve. In total, 2,505 volunteers have aided in replanting this habitat and 2022 saw the first recording of second-generation growth, meaning the saplings planted by our volunteers are now reproducing on their own.*
- *The National Aquarium is a proud Masonville Cove partner. As the United States' first Urban Wildlife Refuge Partnership, the aquarium works with*

countless others to restore the area, coordinate cleanups, engage the surrounding communities, and document it's amazing wildlife.

- *The most current restoration projects are listed on the Aquarium's website (aqua.org) in an effort to reach out and recruit individuals/environmental groups to participate.*

Waste



Solid Waste/Material Use Reduction and Reuse

All departments at the Aquarium work to find ways of reusing materials they no longer have a need for. Below are a few examples of how the Aquarium reused items already in existence extending their usefulness while keeping them out of a landfill.

Recycling Project Examples:

- *In 2006, Bleachers in the Dolphin Discovery amphitheater needed replacing and the Aquarium's facility team researched and found a manufacturer that was able to build the new bleachers from 100% recycled plastic materials. The old wooden bleachers were repurposed by turning them into shipping pallets.*
- *In 2008, the Aquarium replaced and repaired outdoor sections of the Pier creating a bulk waste of pavers. The pavers in turn were used by a local Eagle Scout (son of an Aquarium employee) who used them in a project to create an interpretive nature trail. The pavers were also used for a walkway along the B&A bike trail. The trail included a native plant flower box.*
- *In 2009, the Facilities Department replaced the carpeting throughout the institution and the Aquarium was left with 3200 square yards of old carpeting. The carpet was recycled through Mannington Commercial's "Closing the Loop", a carpet and tile recycling program. Through "LOOP", Mannington diverts waste by utilizing recycled carpet tile material for their commercial flooring products.*
- *Also in 2009, the Aquarium worked with the company Green Guru to repurpose 35 worn-out Aquarium staff wetsuits into 575 usable beverage cozies that were sold in the Aquarium Gift Shop for purchase. This material reuse kept 92 lbs of neoprene out of the landfill.*

- *Since 2014, all vinyl marketing banners were repurposed into bags and other accessories by the company Rareform. These are then sold in our gift shop and all proceeds support further internal conservation initiatives.*
- *In 2022, the glass pyramid over the Upland Tropical Rainforest exhibit needed replacing after 40 years. After an eight-month closure, the glass pyramid on the Upland Tropical Rain Forest was replaced with 684 energy efficient panes. Nearly 46 tons of the old pyramid glass were recycled and processed into cullet for use in fiberglass insulation used in buildings and reflective road striping.*

Waste Reduction Examples:

- *No single use plastic water bottles are sold in the Aquarium. Instead, drinking fountains with special water bottle fillers were installed and track the number of single use bottles kept out of a landfill. More than 2.9 million plastic water bottles have been saved since installation. Our gift shops and cafes use no plastic bags, straws, or lids. Instead, reusable or biodegradable options are provided.*
- *In 2022, National Aquarium co-hosted the annual AZA conference along with the Maryland zoo. As such the Aquarium held a zero-waste ice-breaker event for all conference participants. During which, 4,340 pounds of waste was composted, recycled, or donated.*
- *To reduce waste, our cafe partner, SSA Group, installed machines that recycle cooking oil onsite for reuse.*



Recycling

The Aquarium is involved in several recycling programs with various community partners to decrease the number of items that end up in the landfill. These partnerships include:

- *The Aquarium works with A Better Way Computer Recycling, a local company, to collect larger unwanted electronic equipment (computers, TVs, printers, VCRs, etc). No electronic equipment processed there enters a landfill. The primary goal is placing back into service as much equipment as feasible through repair and restoring of useable equipment and dismantling of obsolete equipment for parts.*
- *Battery Solutions Inc. This battery recycling and disposal company takes old batteries and recycles them, keeping materials such as lead, nickel,*

cadmium, and mercury out of landfills. The Aquarium has recycled 4,570 lbs. of batteries with Battery Solutions Inc. since 2011.

Composting

All food waste in the Aquariums cafes and animal food prep areas is composted with our partner, Veteran Compost.

Hazardous Waste/Toxic Use Reduction

As an aquarium, the reduction or elimination of toxic substances in our facility is a priority. We choose safe, non-toxic, or less-toxic alternatives whenever possible. As an example, under the lead of the Facilities Department, all fluorescent bulbs and other bulbs containing mercury are shipped to US Lamp and Ballast for recycling and low VOC paint is used for all maintenance needs. Our cleaning supplies are also non-toxic we prioritize integrated pest management.

Energy

Energy Efficiency

To combat climate change, the National Aquarium translates ocean and climate science, builds resilience through community empowerment and nature-based solutions, and minimizes our own carbon footprint.

- In 2015, National Aquarium worked with Constellation Energy to create an energy performance management plan. As of the latest 2021 report, we saved over a million kWh and reduced our natural gas consumption by 9,100 MCF over the year. This was accomplished through a variety of projects including boiler and transformer replacement, kitchen updates, and lighting improvements.*
- In 2021 this work was continued with an energy audit through an outside consultant, Verdis Group. This collaboration detailed current use and mapped out a pathway for the Aquarium to reduce energy use. On Earth Day 2022, we made the announcement that the National Aquarium will be net-zero carbon emissions by 2035.*
- In 2018, we opened the new Animal Care and Rescue Center, an offsite facility dedicated to animal care and welfare. During planning and construction, steps were taken to maximize sustainable existing building practices and LEED Silver certification was achieved. This included ensuring 100% of the electricity for the building came from wind power.*

The Facilities Department at the Aquarium has made a number of simple changes that go a long way to saving energy and natural resources.

- *Upgrades to the indoor lighting system, wherever possible, in many non-public areas to use occupancy sensor controls. Occupancy sensors reduce lighting energy use by turning lights off soon after the last occupant has left the area.*
- *All bathrooms now have automatic toilets and sink faucets (previously powered by alkaline batteries) that run on valves generating their own electricity. These faucets, made by Toto, are equipped with a hydro-powered turbine that charges the power supply during usage, eliminating the need for battery replacement.*
- *All of our higher horsepower pumps now have variable frequency drives added. In some cases electric usage was reduced by half.*
- *Approximately 95% of non-exhibit indoor spaces are now lit with LED bulbs. Additionally, LED panels have been added to the back lighting of our graphic panels in our exhibits.*
- *The Aquarium's much recognized landmark blue wave located on the exterior of the building was replaced in 2010 with LED lights. The replacement of the aging "wave" neon will save on its energy consumption by 70%.*



Renewable Energy

- *By partnering with Constellation Energy and OneEnergy Renewables on a 4.3-megawatt grid-connection solar generator, the National Aquarium is receiving a significant portion of renewable energy credits from the project. The solar farm project is part of a 25-year electric supply agreement with Constellation to help the Aquarium manage utility costs and encourage the development of renewable energy in Maryland. As a result of this agreement and additional measures, 40% of the aquarium's electricity is powered by green energy each year.*
- *In partnership with Constellation Energy, a solar tree was installed at the National Aquarium in spring 2022. The solar tree is a large-scale sculpture, a functioning solar power collector and a symbol of energy stewardship. In 2022, it produced 2590 kWh.*

Transportation

Employee Commute

The National Aquarium encourages all staff and volunteers to utilize green transportation including public transportation, carpooling, walking, and biking. As of 2022, 48% of employees report using green transportation practices.

Fleet Vehicles

As part of the net zero goal, the Aquarium will begin electrifying the fleet over the next decade. Plans for installing charging infrastructure are already being implemented.

Water

Water Conservation

- *The Aquarium is equipped with low flow toilets. Their function provides the best choice when striving to be environmentally responsible and effective in saving water costs.*
- *All public area faucets are on motion sensing timers.*
- *Denitrification: National Aquarium has found success in keeping exhibit water clean and healthy for our animals, with autotrophic denitrification, a biological process that converts water bound nitrate into nitrogen gas. Before implementing denitrification, the Aquarium was changing 30% of its major exhibits every quarter. Denitrification saves the Aquarium roughly 344,000 gallons of water a year, reduces annual seawater cost by about \$48,000, and provides a healthier environment for animals both inside and outside of the aquarium by preventing nitrate buildup within the aquarium's habitats and by preventing nitrate discharge to the natural environment.*

Storm water Management and Site Design

- *A 40,000-gallon cistern captures rainwater from our Pier 3 building. The Harry and Jeannette Weinberg Waterfront Park is watered from this cistern. This park is planted with only native plants, meaning they require less watering, and are ideal for our area. Additionally, the excess water produced by legally required fire equipment testing is diverted to the cistern. In 2022, we saved 79,000 gallons of water.*

Environmental Certification Programs, Awards, and Other Activities

- ☑ **Conservation Messaging for Visitors:** *Thousands of guests explore the aquarium each day. Throughout their journey they can find a number of educational programs and speak with Guest Engagement staff to learn more about animals, our planet, and conservation. Conservation Currents, a toolkit and part of an internal resource library, were developed to enhance the guest experience and allow them to dive deeper into our conservation subject focuses of combatting climate change, saving wildlife and habitats, and stopping plastic pollution. Conservation Currents center the daily programs around one of our focuses at a time. This ensures that guests have the opportunity to have a deeper understanding and greater knowledge of how they can take action.*

Paid Conservation Day: *Each Aquarium employee is given 8 hours (full-time) or 4 hours (part-time) of paid leave every year to participate in a conservation activity or event. To date 589 days have been taken.*

Green Hero Award: *Each year an award is given to an Aquarium staff member that practices conservation in a small or big way in their daily lives.*

Profile Updated April 2023



Help build a greener, more sustainable Maryland through voluntary practices that reduce environmental impacts and save money.

Learn more at green.maryland.gov

